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OF THE

# TRANSACTIONS

PATHOLOGICAL SOCIETY OF LONDON.

VOLUME TWENTY-FIRST.

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COMPRISING THE REPORT OF THE PROCEEDINGS FOR  
THE SESSION 1869-70.

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LONDON.

PRINTED FOR THE SOCIETY BY J. E. ADLARD, BARTHOLOMEW CLOSE.  
1870.



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THE present publication, being the Twenty-first Volume of Transactions, constitutes the Twenty-fourth published Annual Report of the Pathological Society's Proceedings.

THE COUNCIL think it right to repeat, that the exhibitors are alone responsible for the descriptions given of the Specimens exhibited by them, the only change made in the Reports furnished by the authors being such verbal alterations as were absolutely necessary.

53, BERNERS STREET, OXFORD STREET;  
*October, 1870.*

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### ELECTED

- 1846 CHARLES J. B. WILLIAMS, M.D. F.R.S.
- 1848 CHARLES ASTON KEY, Esq.
- 1850 PETER MERE LATHAM, M.D.
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- 1863 PRESCOTT G. HEWETT, Esq.
- 1865 THOMAS BEVILL PEACOCK, M.D.
- 1867 JOHN SIMON, D.C.L., F.R.S.

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ELECTED AT  
THE GENERAL MEETING, JANUARY 4, 1870.

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\* \* \* *Members are requested to indicate to the Secretaries corrections when necessary.*

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### Honorary Members.

- ANDRAL, G., M.D., late Professor in the Faculty of Medicine, Paris.  
ARNOTT, JAMES MONCRIEFF, F.R.S., Chapel House, Lady Bank, Fifeshire.  
BERNARD, CLAUDE, M.D., Professor of Physiology in the Faculty of Medicine, Paris.  
BILLROTH, THEODOR, M.D., Professor of Surgery in the University of Vienna.  
BRUECKE, ERNST, M.D., Professor of Physiology in the University of Vienna.  
CRUVEILHIER, J. C., M.D., late Professor in the Faculty of Medicine, Paris.  
HELMHOLTZ, H., M.D., Professor of Physiology in the University of Heidelberg.  
HENLE, J., M.D., Professor of Anatomy and Physiology in the University of Göttingen.  
LOUIS, P. C. A., M.D., Honorary Physician to the Hôtel-Dieu, 8, Rue Menars, Paris.  
LUDWIG, C., M.D., Professor of Physiology in the University of Leipzig.  
ROKITANSKY, CARL, M.D., Professor of Pathological Anatomy in the University of Vienna.  
STOKES, WILLIAM, M.D., D.C.L., LL.D., F.R.S., M.R.I.A., Regius Professor of Physic in the University of Dublin, Physician in Ordinary to the Queen in Ireland.  
VIRCHOW, RUDOLF, M.D., Professor of Pathological Anatomy in the University of Berlin.  
VOGEL, JULIUS, M.D., Professor of Pathological Anatomy in the University of Halle.
- 

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- |   |   |
|---|---|
| (C.) Present Members of Council.                      | * Former Members of Council.                  |
| † Have paid Composition Fee for Annual Subscriptions. | ‡ Have paid Composition Fee for Transactions. |
- 

## GENERAL LIST OF MEMBERS.

Elected Session

- 1858-59 Acland, Henry Wentworth, M.D., F.R.S., Physician to the Radcliffe Infirmary, Oxford.  
‡1865-66 Adams, Arthur Bayley, Esq.  
1868-69 Adams, James Edward, Esq., Assistant Surgeon to the London Hospital, 10, Finsbury-circus, E.C.  
\* *Orig. Memb.* Adams, William, Esq. (late V.P.), Surgeon to the Royal Orthopædic Hospital, 5, Henrietta-street, Cavendish-square, W.

## Elected Session

- 1858-59 Adams, William, Esq., 37, Harrington-square, N.W.
- \*1847-48 Aikin, Charles A., Esq., 7, Clifton-place, Sussex-square, Hyde-park, W.
- 1857-58 Alison, S. Scott, M.D., 85, Park-street, Grosvenor-square, W.
- 1868-69 Allbutt, Thomas Clifford, M.D., Physician to the Leeds General Infirmary, 38, Park-square, Leeds.
- 1867-68 Anderson, J. Ford, M.D., 28, Buckland-crescent, Belsize-park, N.W.
- 1859-60 Andrew, Edwin, M.D., Windsor-house, Castle-street, Shrewsbury.
- 1862-63 Andrew, James, M.D. (C.), Physician to St. Bartholomew's Hospital, 59, Russell-square, W.C.
- 1857-58 Anstie, Francis E., M.D. (C.), Assistant-Physician to the Westminster Hospital, 16, Wimpole-street, W.
- 1866-67 Arnott, Henry, Esq., Assistant-Surgeon to, and Lecturer on Pathology at, the Middlesex Hospital, 6, Nottingham-place, Marylebone-road, W.
- 1851-52 Ashton, T. J., Esq., Consulting Surgeon to the St. Marylebone Infirmary, 31, Cavendish-square, W.
- 1857-58 Avent, Nicholas, Esq.
- 1863-64 Bagshawe, Frederick, Esq., M.A., M.B., 16, Warrior-square, Hastings.
- 1864-65 Baker, William Marrant, Esq., Lecturer on Physiology and Warden of the College, St. Bartholomew's Hospital, E.C.
- †1856-57 Balding, Daniel Barley, Esq., Royston, Herts.
- \*1849-50 Ballard, Thomas, M.D., 10, Southwick-place, Hyde-park, W.
- \*1851-52 Barclay, A. Whyte, M.D., Physician to St. George's Hospital, 23A, Bruton-street, Berkeley-square, W.
- 1852-53 Bartlett, William, Esq., Surgeon to the Kensington Dispensary, Ladbroke Lodge, Ladbroke-square, Notting-hill, W.
- 1862-63 Barratt, Joseph Gillman, M.D., Accoucheur to the St. George's and St. James's Dispensary, 8, Cleveland-gardens, Bayswater, W.
- \*1852-53 Barwell, Richard, Esq., Surgeon to the Charing Cross Hospital, 32, George-street, Hanover-square, W.
- 1866-67 Basan, Horace, Esq., L.R.C.P. Ed., Prebyn, Bedford.
- 1857-58 Basham, William R., M.D., Senior Physician to the Westminster Hospital, 17, Chester-street, Belgrave-square, S.W.
- 1861-62 Bastian, H. Charlton, M.A., M.D., F.R.S. (C.), Professor of Pathological Anatomy in University College, and Assistant-Physician to University College Hospital, 20, Queen Anne-street, W.
- 1869-70 Bäumler, Christian G. H., M.D., 10, Finsbury Place North, E.C.
- \*1851-52 Beale, Lionel S., M.B., F.R.S., Physician to King's College Hospital, 61, Grosvenor-street, W.
- 1855-56 Bealey, Adam, M.D., M.A., Birch-lea, Harrogate.
- 1869-70 Beck, Marcus, Esq., M.S., Surgeon to the St. George's and St. James's Dispensary, 8, Old Cavendish-street, W.
- 1852-53 Beck, Thomas Snow, M.D., F.R.S., 71, Portland-place, W.
- 1865-66 Beeby, Walter, M.D., Bromley, Kent.

## Elected Session

- 1864-65 Beigel, Hermann, M.D., Physician for the Department of Skin Diseases at the Charing Cross Hospital, and Physician to the St. Pancras Dispensary, 39, Queen's-road, Brownswood-park, N.
- 1864-65 Bellamy, Edward, Esq., Surgeon to the St. George's and St. James's Dispensary, Assistant-Surgeon to the Charing Cross Hospital, 22, Margaret-street, Cavendish-square, W.
- 1846-47 Bennet, James Henry, M.D., Weybridge, Surrey.
- \**Orig. Memb.* Bennett, James Risdon, M.D. (formerly V.P.), Consulting Physician to St. Thomas's Hospital, and to the City of London Hospital for Diseases of the Chest, 15, Finsbury-square, E.C.
- †1856-57 Bickersteth, Edward R., Esq., Surgeon to the Liverpool Royal Infirmary, 2, Rodney-street, Liverpool.
- 1855-56 Bird, W., Esq., Surgeon to the West London Hospital, Bute House, Hammersmith.
- \*1849-50 Birkett, Edmund Lloyd, M.D., Physician to the City of London Hospital for Diseases of the Chest, 48, Russell-square, W.C.
- \**Orig. Memb.* Birkett, John, Esq. (late V.P.), Surgeon to Guy's Hospital, 59, Green-street, Grosvenor-square, W.
- 1865-66 Bisshopp, James, Esq., Cheshunt, Herts.
- 1853-54 Black, Cornelius, M.D., Physician to the Chesterfield Dispensary, St. Mary's-gate, Chesterfield.
- 1849-50 Blagden, Robert, Esq., Stroud, Gloucestershire.
- 1863-64 Blanchet, Jean B., M.D., M.S., Montreal, Quebec, Canada.
- 1868-69 Bourne, Walter, M.D.
- 1861-62 Bower, Richard Norris, Esq., 14, Doughty-street, Mecklenburg-square, W.C.
- \*1850-51 Bowman, William, Esq., F.R.S., Surgeon to the Royal Ophthalmic Hospital, 5, Clifford-street, Bond-street, W.
- 1862-63 Braine, Francis Woodhouse, Esq., 56, Maddox-street, Hanover-square, W.
- †1867-68 Bridgewater, Thomas, Esq., M.B. Lond., Harrow-on-the-hill, Middlesex.
- 1867-68 Bright, G. C., M.B. Oxon., 8, Southwick-crescent, Hyde-park, W.
- 1856-57 Briscoe, John, Esq., 12, Broad-street, Oxford.
- \*†1850-51 Bristowe, John S., M.D. (V.P.) (late Hon. Secretary), Physician to, and Lecturer on Pathology at, St. Thomas's Hospital, 11, Old Burlington-street, W.
- 1859-60 Broadbent, William Henry, M.D. Lond., Assistant-Physician to St. Mary's Hospital, and Physician to the London Fever Hospital, 44, Seymour-street, Portman-square, W.
- \*1851-52 Brodhurst, Bernard E., Esq., Orthopædic Surgeon to St. George's Hospital, and Assistant-Surgeon to the Royal Orthopædic Hospital, 20, Grosvenor-street, W.
- 1863-64 Brodie, George Bernard, M.D., 56, Curzon-street, May-fair, W.
- \*1846-47 Brooke, Charles, M.B., F.R.S. (late V.P.), Consulting Surgeon to the Westminster Hospital, 16, Fitzroy-square, W.
- 1864-65 Brown, Augustus, M.D., 30, Belitha-villas, Barnsbury-park, N.

Elected Session.

- 1866-67 Browne, J. Lennox, Esq., 41, Welbeck-street, Cavendish-square, W.  
 \**Orig. Memb.* Browne, Joseph Hullett, M.D., Physician to the St. Pancras Royal General Dispensary, 55, Gordon-square, W.C.  
 \*1855-56 Bryant, Thomas, Esq., Assistant-Surgeon to Guy's Hospital, 2, Finsbury-square, E.C.  
 \*1854-55 Buchanan, George, M.D., Medical Inspector to the Privy Council, 24, Nottingham-place, Marylebone-road, W.  
 1861-62 Buchanan, Albert, M.B. Lond., 382, Camden-road, N.  
 \*1858-59 Budd, George, M.D., F.R.S., Ashleigh, Barnstaple.  
 \*1850-51 Bullock, Henry, Esq., 61, Cumberland-street, Bryanston-square, W.  
 1859-60 Burton, Alfred, Esq., 13, Dover-street, Piccadilly, W.  
 1852-53 Burton, John M., Esq., Lee-park-lodge, Lee, Kent.  
 \**Orig. Memb.* Busk, George, Esq., F.R.S. (late V.P.), Consulting Surgeon to the Seamen's Hospital Ship "Dreadnought," 32, Harley-street, Cavendish-square, W.  
 1865-66 Butt, William Frederick, Esq., 12, South-street, Park-lane, W.  
 1856-57 Buzzard, Thomas, M.D. (C.), Physician to the National Hospital for the Epileptic and Paralysed, 56, Grosvenor-street, W.  
 \*1856-57 Callender, G. W., Esq., Assistant-Surgeon to St. Bartholomew's Hospital, 47, Queen Anne-street, Cavendish-square, W.  
 †1862-63 Campbell, Charles, M.D., Kingston, Jamaica [Agent: Mr. H. K. Lewis, 136, Gower-street].  
 \*†*Orig. Memb.* Camps, William, M.D.  
 \*1849-50 Canton, Edwin, Esq., Surgeon to the Charing Cross Hospital, 30, Montague-place, Russell-square, W.C.  
 †1854-55 Carpenter, Alfred, M.D., High-street, Croydon.  
 1848-49 Carpenter, William Guest, Esq., Amersham, Bucks.  
 1855-56 Carter, H. V., M.D., Professor of Anatomy and Physiology, Grant Medical College, Bombay.  
 †1867-68 Cavafy, John, Esq., M.B., Lecturer on Comparative Anatomy at St. George's Hospital, 5, Whitehall, S.W.  
 1863-64 Cay, Charles Vidler, Esq., Coldstream Guards' Hospital, Vincent-square, Westminster, S.W.  
 1863-64 Cayley, William, M.D. (C.), Assistant-Physician to, and Lecturer on Pathological Anatomy and Histology at, the Middlesex Hospital, 58, Welbeck-street, Cavendish-square, W.  
 1869-70 Chaffers, Edward, Esq., Keighley, Yorkshire.  
 \*1848-49 Chalk, William Oliver, Esq., 3, Nottingham-terrace, Regent's-park, N.W.  
 1866-67 Chater, Sidney, Esq., 18, St. Helen's-place, E.C.  
 \**Orig. Memb.* Chevers, Norman, M.D., India.  
 †1858-59 Child, Gilbert W., Esq., The Elms, Great Missenden, Bucks.  
 1854-55 Cholmeley, William, M.D., Physician to the Great Northern Hospital, 40, Russell-square, W.C.



## Elected Session

- 1865-66 Church, William Selby, M.D., Assistant-Physician to St. Bartholomew's Hospital, 2, Upper George-street, Bryanston-square, W.
- †1867-68 Churchill, F., Esq., M.B., Surgeon to the Westminster General Dispensary, 19A, Great George-street, Westminster, S.W.
- 1860-61 Clapton, Edward, M.D., Physician to St. Thomas's Hospital, 10A, St. Thomas's-street, Southwark, S.E.
- \*1853-54 Clark, Andrew, M.D., Physician to the London Hospital, 16, Cavendish-square, W.
- 1864-65 Clarke, Jacob Lockhart, M.D., F.R.S. (C.), 60, Warwick-street, Pimlico, S.W.
- 1849-50 Clarke, John, M.D., Obstetric Physician to St. George's Hospital, and Physician-Accoucheur to the General Lying-in Hospital, 42, Hertford-street, May-fair, W.
- 1866-67 Clarke, William Fairlie, M.A., Assistant-Surgeon to the West London Hospital, and to the Central London Ophthalmic Hospital, 1, Curzon-street, May-fair, W.
- †1865-66 Coates, Charles, M.D., Physician to the Bath United General Hospital, 10, Circus, Bath.
- \**Orig. Memb.* Cock, Edward, Esq. (late V.P.), Surgeon to Guy's Hospital, 36, Dean-street South, Tooley-street, S.E.
- 1857-58 Cockerton, Richard, Esq., Surgeon to the Kensington Dispensary, 83, Cornwall-gardens, Queen's Gate, W.
- 1855-56 Cockle, John, M.D., M.A., Physician to the Royal Free Hospital, 7, Suffolk-place, Pall Mall, S.W.
- Orig. Memb.* Cohen, Daniel Whitaker, M.D., South-bank, North Down-lane, Bideford, Devon.
- 1866-67 Coles, George Charles, Esq., Surgeon to the Infirmary for Epilepsy and Paralysis, 20, Great Coram-street, Russell-square, W.C.
- 1868-69 Colley, J. N. C. Davies, M.B., Guy's Hospital, S.E.
- 1867-68 Connor, James Henthorne Todd, Esq., St. John's-hill, Battersea Rise, S.W.
- 1858-59 Cooke, Robert Thomas, Esq., Surgeon to the Scarborough Dispensary, 15, St. Nicholas Cliff, Scarborough, Yorkshire.
- 1866-67 Cooke, T. C. Weeden, Esq., Surgeon to the Cancer Hospital, 76, Upper Berkeley-street, W.
- 1866-67 Coombs, Rowland Hill, Esq., Mill-street, Bedford.
- \*1850-51 Cooper, William White, Esq., Consulting Ophthalmic Surgeon to St. Mary's Hospital, 19, Berkeley-square, W.
- 1853-54 Cornish, William Robert, Esq., Madras.
- 1858-59 Coulson, Walter J., Esq., Surgeon to the Lock Hospital, 29, St. James's-place, S.W.
- \**Orig. Memb.* Coulson, William, Esq. (late V.P.), Consulting Surgeon to St. Mary's Hospital, 1, Chester-terrace, Regent's-park, W.
- †1861-62 Couper, John, Esq. (C.), Surgeon to the London Hospital, 80, Grosvenor-street, Grosvenor-square, W.
- \**Orig. Memb.* Crisp, Edwards, M.D. (V.P.), 29, Beaufort-street, Chelsea, S.W.

## Elected Session

- \*1848-49 Critchett, George, Esq. (late V.P.), (formerly Hon. Sec.), Surgeon to the Royal London Ophthalmic Hospital, Moorfields, 21, Harley-street, W.  
1855-56 Croft, John, Esq. (C.), Assistant-Surgeon to St. Thomas's Hospital, St. Thomas's Hospital, Newington, S.E.
- ‡1865-66 Cromarty, James Pattison, Esq., Civil Surgeon, Tavoy, Burmah.  
[Agents: Messrs. Fergusson and Co., 77, Clive-street, Calcutta.]  
1860-61 Crosby, Thomas Boor, M.D., 21, Gordon-square, W.C.  
1853-54 Cross, Robert, M.D., Physician to the Brewer's-court Dispensary, 42, Craven-street, Strand, W.C.
- 1864-65 Cruicknell, Henry, Esq., M.B., Physician to the Royal Infirmary for Diseases of the Chest, City-road, 58, Welbeck-street, Cavendish-square, W.
- 1857-58 Cumberbatch, Laurence T., M.D., 25, Cadogan-place, Sloane-street, S.W.
- \*1854-55 Curling, Thomas Blizard, Esq., F.R.S. (late V.P.), Consulting Surgeon to the London Hospital, 39, Grosvenor-street, W.
- ‡1865-66 Curran, William, M.D., Assistant-Surgeon, 88th Regiment (Connaught Rangers), Ramel Pindie, India. [Agent: Mr. H. K. Lewis, 136, Gower-street.]
- 1863-64 Dane, Thomas, Esq., 24, New Finchley-road, N.W.
- \**Orig. Memb.* Davies, Herbert, M.D., Consulting Physician to the Infirmary for Asthma, &c., and Physician to the London Hospital, 23, Finsbury-square, E.C.
- \*1846-47 Davis, John Hall, M.D., Physician-Accoucheur to the Middlesex Hospital, and to the Royal Maternity Charity, 24, Harley-street, Cavendish-square, W.
- ‡1859-60 Davis, Francis William, Esq., R.N., 11 and 12, Love-lane, Aldermanbury, E.C.
- 1867-68 Davy, Richard, Esq., Surgical Registrar and Demonstrator of Anatomy at the Westminster Hospital, 33, Welbeck-street, Cavendish-square, W.
- \**Orig. Memb.* Day, George E., M.D., F.R.S., Emeritus Professor of Medicine in the University of St. Andrew's, Furzevell House, Torquay.
- 1866-67 Day, William Henry, M.D., Physician to the Margaret-street Infirmary for Consumption, 10, Manchester-square, W.
- \*1865-66 De Morgan, Campbell, Esq., F.R.S., Surgeon to the Middlesex Hospital, 29, Seymour-street, Portman-square, W.
- 1862-63 Devereux, Daniel, Esq., Tewkesbury.
- 1855-56 Dick, H., M.D., 59, Wimpole-street, Cavendish-square, W.
- \*1858-59 Dickinson, William Howship, M.D. (HON. SECRETARY), Physician to the Hospital for Sick Children, Assistant-Physician to St. George's Hospital, 11, Chesterfield-street, May-fair, W.
- 1867-68 Dickson, John Thompson, Esq., M.B., B.A., 33, Harley-street, Cavendish-square, W.
- \**Orig. Memb.* Dixon, James, Esq. (late V.P.), Consulting Surgeon to the Royal Ophthalmic Hospital, Moorfields, 29, Lower Seymour-street, Portman-square, W.

## Elected Session

- 1869-70 Donkin, Arthur Scott, M.D., Physician to the Sunderland Infirmary and Dispensary, 30, Villiers-street, Sunderland.
- †1865-66 Down, John Langdon H., M.D., Physician to the London Hospital, 39, Welbeck-street, Cavendish-square, W.
- 1865-66 Drewry, George Overend, M.D., Walsall, Stafford.
- 1864-65 Duckworth, Dyce, M.D., Assistant-Physician to St. Bartholomew's Hospital, 11, Grafton-street, Bond-street, W.
- 1863-64 Dudfield, Thomas Orme, M.D., 8, Upper Phillimore-place, Kensington, W.
- 1846-47 Dudgeon, Robert E., M.D., 53, Montagu-square, W.
- 1851-52 Duff, George, M.D., High-street, Elgin.
- 1865-66 Duffin, Alfred Baynard, M.D., Assistant-Physician to King's College Hospital, 18, Devonshire-street, Portland-place, W.
- 1867-68 Duke, Oliver Thomas, Esq., M.B., India.
- 1860-61 Dunn, Robert William, Esq., 13, Surrey-street, Strand, W.C.
- 1864-65 Du Pasquier, Claudius Francis, Esq., Surgeon Apothecary to the Queen, 62, Pall-mall, S.W.
- 1858-59 Durham, Arthur Edward, Esq. (C.), Assistant-Surgeon to Guy's Hospital, 82, Brook-street, Grosvenor-square, W.
- 1866-67 Eastes, George, Esq., M.B., 5, Albion-place, Hyde-park-square, W.
- 1848-49 Eden, Thomas E., Esq., Surgeon-Dentist to the Farringdon General Dispensary, Auckland-house, Lower Norwood, Surrey, S.E.
- 1867-68 Edis, Arthur W., M.D., Physician-Accoucheur to the St. James's and St. George's Dispensary, 23, Sackville-street, Piccadilly, W.
- 1867-68 Elkington, Arthur Guy, Esq., Surgeon, 1st Battalion, Grenadier Guards, 52, Gillingham-street, Pimlico, S.W.
- 1867-68 Ellis, James, M.D., 2, Langton-villas, St. John's-road, Blackheath, S.E.
- 1846-47 Ellis, James, Esq., Sudbrook-park, Richmond, Surrey. [Agent: Mr. Tweedie, 337, Strand.]
- \*1846-47 Erichsen, John, Esq. (late V.P.), Surgeon to University College Hospital, 6, Cavendish-place, Cavendish-square, W.
- \*1853-54 Evans, Conway, M.D., 5, Tavistock-street, Covent-garden.
- †1858-59 Ewens, John, Esq., Barton Lodge, Cerne Abbas, Dorset.
- 1864-65 Fagge, Charles Hilton, M.D. (C.), Assistant-Physician to Guy's Hospital, 11, St. Thomas's-street, Southwark, S.E.
- 1861-62 Farquharson, Robert, M.D., Medical Officer to Rugby School, Horton Crescent, Rugby.
- 1863-64 Fenwick, Samuel, M.D., Assistant-Physician to the London Hospital, 29, Harley-street, W.
- \*1847-48 Fergusson, Sir William, Bart., F.R.S. (late President), Surgeon to King's College Hospital, 16, George-street, Hanover-square, W.
- \*1846-47 Fincham, George T., M.D., Physician to the Westminster Hospital, 13, Belgrave-road, S.W.

## Elected Session

- 1869-70 Fish, John Crockett, Esq., M.B., Physician to the Royal Hospital for Diseases of the Chest, City-road, 92, Wimpole-street, W.
- 1853-54 Fisher, W. Webster, M.D., Downing Professor of Medicine, Cambridge.
- 1859-60 Fisher, Alexander, M.D., Assistant-Surgeon, R.N., Her Majesty's Ship "Endymion."
- \*1855-56 Flower, William H., Esq., F.R.S., Conservator of the Museum, Royal College of Surgeons; 39, Lincoln's-inn-fields, W.C.
- \*1851-52 Forbes, J. Gregory, Esq., 82, Oxford-terrace, Hyde-park, W.
- 1849-50 Foreman, Robert Clifton, M.D., Resident Physician to the Asylum for Imbecile Children of the Upper Classes, Church-hill House, Brighton.
- \*† *Orig. Memb.* Forster, John Cooper, Esq., Surgeon to Guy's Hospital, 29, Upper Grosvenor-street.
- ‡1865-66 Foster, Balthazar Walter, M.D., Physician to the General Hospital, Birmingham, 4, Old-square, Birmingham.
- 1866-67 Foster, John B., Esq., 35, Wimpole-street, W.
- 1862-63 Fox, Wilson, M.D. (C.), Professor of Clinical Medicine in University College, and Assistant-Physician to University College Hospital, 67, Grosvenor-street, W.
- 1865-66 Fox, W. Tilbury, M.D., Physician to the Skin Department of University College Hospital, 43, Sackville-street, Piccadilly, W.
- 1858-59 Francis, Charles Richard, M.B., Bengal Medical Establishment, Indian Army.
- Orig. Memb.* Frere, J. C., Esq.
- 1863-64 Frodsham, John Mill, M.D., Streatham.
- \*1846-47 Fuller, Henry W., M.D., Physician to St. George's Hospital, 13, Manchester-square, W.
- 1867-68 Fyfe, Andrew, M.D., 42, Montpellier-square, Brompton, S.W.
- ‡1858-59 Gairdner, William Tennant, M.D., Professor of Medicine in the University of Glasgow, 225, St. Vincent-street, Glasgow.
- 1855-56 Gamgee, Joseph Sampson, Esq., Surgeon to the Queen's Hospital, Birmingham, 20, Broad-street, Birmingham.
- 1855-56 Gamgee, J., Esq.
- \*1846-47 Garrod, Alfred Baring, M.D., F.R.S. (late V.P.), Physician to King's College Hospital, 11, Harley-street, Cavendish-square, W.
- 1858-59 Gascoyen, George Green, Esq., Surgeon to the Lock Hospital, and Assistant-Surgeon to, and Lecturer on Anatomy at, St. Mary's Hospital, 48, Queen Anne-street, Cavendish-square, W.
- 1855-56 Gaskoin, George, Esq., 7, Westbourne-park, Paddington, W.
- \**Orig. Memb.* Gay, John, Esq. (V.P.), Senior Surgeon to the Great Northern Hospital, 10, Finsbury-place South, E.C.
- 1853-54 Gibbon, Septimus, M.D., 11, Finsbury-place South, E.C.
- ‡1857-58 Godfrey, Benjamin, M.D., Carlton-house, Enfield.
- \*1854-55 Goodfellow, Stephen Jennings, M.D., Physician to the Middlesex Hospital, 5, Savile-row, Burlington-gardens, W.
- 1869-70 Gowers, William Richard, M.B., 32, Mornington Crescent, N.W.

## Elected Session

- 1857-58 Gowland, Peter Y., Esq., Surgeon to St. Mark's Hospital, 34, Finsbury-square, E.C.
- \*1846-47 Gream, George T., M.D., 2, Upper Brook-street, Grosvenor-square, W.
- 1866-67 Green, Thomas H., M.D., Assistant-Physician to Charing Cross Hospital, 74, Wimpole-street, W.
- 1856-57 Greenhalgh, Robert, M.D., Physician-Accoucheur to St. Bartholomew's Hospital, 77, Grosvenor-street, W.
- †1854-55 Greenhill, William Alexander, M.D., Carlisle-parade, Hastings.
- \*1863-64 Greenhow, Edward Headlam, M.D., F.R.S., Physician to the Middlesex Hospital, 77, Upper Berkeley-street, Portman-square, W.
- 1860-61 Gueneau de Mussy, Henri, M.D., 55, Wimpole-street, Cavendish-square, W.
- 1863-64 Gull, William Withey, M.D., F.R.S., 74, Brook-street, Grosvenor-square, W.
- 1851-52 Hacon, E. Dennis, Esq., 249, Mare-street, Hackney, N.E.
- †1851-52 Halley, Alexander, M.D., 16, Harley-street, Cavendish-square, W.
- \*1847-48 Hare, Charles John, M.D., 57, Brook-street, Grosvenor-square, W.
- \*†1855-56 Harley George, M.D., F.R.S., 25, Harley-street, Cavendish-square, W.
- 1862-63 Harling, Robert Dawson, M.D. Lond., 16, Seymour-street, Portman-square, W.
- †1859-60 Hastings, Cecil William, M.B., 13, Queen Anne-street, Cavendish-square, W.
- \**Orig. Memb.* Hawkins, Cæsar H., Esq., F.R.S. (formerly President), Consulting-Surgeon to St. George's Hospital, 26, Grosvenor-street, W.
- 1856-57 Hawksley, Thomas, M.D., Physician to the Margaret-street Dispensary for Consumption, 6, Brook-street, Hanover-square, W.
- 1868-69 Hay, Thomas Bell, L.R.C.P. Ed., 43, Caledonian-road, N.
- \*1856-57 Heath, Christopher, Esq., Assistant-Surgeon to University College Hospital, 9, Cavendish-place, Cavendish-square, W.
- 1866-67 Heckford, Nathaniel, Esq., East London Children's Hospital, Ratcliff Cross, E.
- 1869-70 Hensley, Philip H., M.B., 4, Henrietta-street, Cavendish-square, W.
- †1867-68 Heslop, Thomas P., M.D., Physician to the Children's Hospital, Birmingham.
- \**Orig. Memb.* Hewett, Prescott G., Esq. (late V.P. and late President), Surgeon to St. George's Hospital, 1, Chesterfield-street, May-fair, W.
- \*1854-55 Hewitt, Graily, M.D., Obstetric Physician to University College Hospital, 36, Berkeley-square, W.
- 1863-64 Hickman, William, M.B., Surgeon to the Samaritan Free Hospital, and to the Western General Dispensary, 1, Dorset-square, N.W.
- 1863-64 Hicks, J. Wale, M.D., Lecturer on Morbid Anatomy at St. Thomas's Hospital, 9, The Crescent, Moss Hall Estate, Finchley, N.
- 1868-69 Hill, John Daniel, Esq., Surgeon to the Royal Free Hospital, and Assistant-Surgeon to the Royal Orthopaedic Hospital, 17, Guilford-street, Russell-square, W.C.

- 1859-60 Hill, M. Berkeley, M.B., Assistant-Surgeon to University College Hospital, and Surgeon to the Lock Hospital, 14, Weymouth-street, Portland-place, W.
- 1866-67 Hill, Samuel, M.D., 22, Mecklenburg-square, W.C.
- \**Orig. Memb.* Hillman, William Augustus, Esq., Surgeon to the Westminster Hospital, 1, Argyll-street, Regent-street, W.
- \*†*Orig. Memb.* Hilton, John, Esq., F.R.S. (late V.P.), Consulting Surgeon to Guy's Hospital, 10, New Broad-street, E.C.
- 1855-56 Hinton, James, Esq. (C.), Aural Surgeon to Guy's Hospital, 18, Savile-row, W.
- \*1852-53 Hogg, Jabez, Esq., Assistant-Surgeon to the Westminster Ophthalmic Hospital, 1, Bedford-square, W.C.
- 1846-47 Holman, H. Martin, M.D., Hurstpierpoint, Sussex.
- \*1854-55 Holmes, Timothy, Esq. (V.P., late Secretary), Surgeon-in-Chief to the Metropolitan Police, Surgeon to St. George's Hospital, 31, Clarges-street, Piccadilly, W.
- \*1849-50 Holt, Barnard Wight, Esq., Senior Surgeon to the Westminster Hospital, 14, Savile-row, W.
- \**Orig. Memb.* Holthouse, Carsten, Esq., Surgeon to, and Lecturer on Surgery at, the Westminster Hospital, 3, George-street, Hanover-square, W.
- 1863-64 Hood, Wharton P., M.D., 65, Upper Berkeley-street, Portman-square, W.
- 1864-65 Hooper, John Harward, Esq., M.B., Auckland, New Zealand.
- 1869-70 Hope, William, Esq., M.B., 42, Curzon Street, May-fair, W.
- 1850-51 Hore, Henry A., Esq., Surgeon to the Bristol Royal Infirmary, 31, Park-street, Bristol.
- 1865-66 Howard, Edward, M.D., Oaklands, Penge, Surrey.
- †1855-56 Hudson, John, M.D., 11, Cork-street, Bond-street, W.
- \*1854-55 Hulke, John Whitaker, Esq., F.R.S. (HON. SECRETARY), Surgeon to the Middlesex Hospital, and Surgeon to the Royal London Ophthalmic Hospital, 10, Old Burlington-street, W.
- 1854-55 Hulme, Edward Charles, Esq., Ophthalmic Surgeon to the Great Northern Hospital, Woodbridge-road, Guildford.
- 1852-53 Humby, Edwin, M.D., 83, Hamilton-terrace, St. John's-wood, N.W.
- 1865-66 Hunter, Charles, Esq., 30, Wilton-place, Belgrave-square, S.W.
- \*1852-53 Hutchinson, Jonathan, Esq., Surgeon to the London Hospital, and to the Royal London Ophthalmic Hospital, Moorfields, 4, Finsbury-circus, E.C.
- 1865-66 Jackson, J. Hughlings, M.D., Assistant-Physician to the London Hospital, Physician to the National Hospital for the Paralysed and Epileptic, 28, Bedford-place, Russell-square, W.C.
- 1859-60 Jackson, Thomas Carr, Esq., Surgeon to the Great Northern Hospital, 3, Weymouth-street, Portland-place, W.
- †1853-54 Jardine, John Lee, Esq., Capel, near Dorking, Surrey.
- 1846-47 Jay, Edward, Esq., 112, Park-street, Grosvenor-square, W.

## Elected Session

- \**Orig. Memb.* Jenner, Sir William, Bart., M.D., D.C.L., F.R.S. (late V.P.), Physician to University College Hospital, 63, Brook-street, Grosvenor-square, W.
- 1861-62 Jephson, John Holmes, M.D., Physician to the Great Northern Hospital, 22, Connaught-square, Hyde Park, W.
- 1865-66 Jessop, Thomas Richard, Esq., 31, Park-square, Leeds.
- 1854-55 Johnson, Athol A. W., Esq., 20, Regency-square, Brighton.
- 1854-55 Johnson, Edward, M.D., 19, Cavendish-place, Cavendish-square, W.
- \**Orig. Memb.* Johnson, George, M.D. (late V.P.), Physician to King's College Hospital, 11, Savile-row, W.
- \*†*Orig. Memb.* Jones, Henry Bence, M.D., F.R.S. (formerly V.P.), Consulting Physician to St. George's Hospital, 84, Brook-street, Grosvenor-square, W.
- \*1853-54 Jones, Sydney, M.B., Assistant-Surgeon to St. Thomas's Hospital, 10b, St. Thomas's-street, Southwark, S.E.
- 1861-62 Jones, Thomas, Esq., St. George's Hospital, S.W.
- 1858-59 Jones, William Price, M.D., Claremont-road, Surbiton, Kingston.
- 1859-60 Jones, Walter, Esq., College-yard, Worcester.
- 1866-67 Kelly, Charles, M.D., Curator of the Museum at King's College, and Assistant-Physician to King's College Hospital, 94, Wimpole-street, W.
- 1846-47 Kent, Thomas J., Esq., 60, St. James's-street, S.W.
- 1852-53 Kershaw, W. Wayland, M.D., Kingston-on-Thames.
- 1859-60 Kiallmark, Henry Walter, Esq., 66, Prince's-square, Bayswater, W.
- 1867-68 King, Edwin Holborow, Esq., 18, Stratford-place, Oxford-street, W.
- 1851-52 Kingdon, J. Abernethy, Esq., Surgeon to the City Dispensary, and to the City of London Truss Society, 2, New Bank-buildings, Lothbury, E.C.
- ‡1856-57 Kingsley, Henry, M.D., Physician to the Stratford Infirmary, Stratford-on-Avon, Warwickshire.
- ‡1865-66 Lanchester, Henry Thomas, M.D., 53, High-street, Croydon.
- \*1850-51 Langmore, John C., M.B., 12, Sussex-gardens, Hyde-park, W.
- 1865-66 Langton, John, Esq., Assistant-Surgeon to St. Bartholomew's Hospital; The College, St. Bartholomew's Hospital, E.C.
- 1868-69 Larcher, O., M.D. Par., 95 bis, Rue de Passy, Paris.
- \*1849-50 Latham, Peter Mere, M.D. (formerly President), late Physician to St. Bartholomew's Hospital, Torquay.
- 1867-68 Lawrence, Henry Cripps, Esq., Registrar, Queen Charlotte's Lying-in Hospital, Marylebone-road, 58, Kensington Park-road, Ladbrooke-square, W.
- 1853-54 Lawrence, Henry John Hughes, Esq., Assistant-Surgeon, Grenadier Guards; Hospital, Rochester-row, Westminster, S.W.
- 1858-59 Lawson, George, Esq. (C.), Assistant-Surgeon to the Middlesex Hospital, and Surgeon to the Royal London Ophthalmic Hospital, Moorfields, 12, Harley-street, Cavendish-square, W.

## Elected Session

- 1864-65 Leach, Harry, Esq., H.M.S. "Dreadnought."  
 1857-58 Leared, Arthur, M.D., Senior Physician to the Great Northern Hospital,  
 12, Old Burlington-street, W.  
 \*1851-52 Lee, Henry, Esq., Surgeon to St. George's Hospital, 9, Savile-row, W.  
 1866-67 Lees, Joseph, M.D., Demonstrator of Anatomy at St. Thomas's Hospital,  
 112, Walworth-road, S.E.  
 1868-69 Legg, John Wickham, M.D., Physician to the Casualty Department,  
 St. Bartholomew's Hospital, 11, South-street, Park-lane, W.  
 \*1852-53 Leggatt, Alfred, Esq., 13, William-street, Lowndes-square, S.W.  
 1864-65 Leighton, Edmund Thomas, M.B., 24, Gloucester-place, Hyde Park, W.  
 †1867-68 Leudet, T., M.D. Par., Professor of Clinical Medicine, Rouen, France.  
 [M. Kliensieck, Libraire, Rue de Lille, 11, Rouen, per Messrs.  
 Longman.]  
 1861-62 Lichtenberg, George, M.D., 47, Finsbury-square, E.C.  
 1848-49 Little, William John, M.D. (formerly V.P.), 71, Brook-street, Grosvenor-  
 square, W.  
 †1862-63 Little, Louis S., Esq., China.  
 1863-64 Liveing, Robert, M.D., Assistant-Physician to the Middlesex Hospital,  
 14, Manchester-square, W.  
 †1860-61 Lund, George, M.D.  
  
 1858-59 Mackay, Allan Douglas, M.B., Stony-Stratford, Bucks.  
 1869-70 Mackenzie, John, M.D., Staff Assistant-Surgeon, Army.  
 1869-70 Mackenzie, John T., Esq., Bombay, India [East India United Service  
 Club, 14, St. James's-square.]  
 1863-64 Mackenzie, Morell, M.D., Assistant-Physician to the London Hospital,  
 13, Weymouth-street, Portland-place, W.  
 1865-66 MacLaurin, H. N., M.D., H.M. Ship "Nelson."  
 1857-58 Marcet, William, M.D., F.R.S. (C.), Assistant-Physician to the Hospital  
 for Consumption, Brompton, 48, Harley-street, Cavendish-square, W.  
 1867-68 Marsh, F. Howard, Esq., Assistant-Surgeon to the Hospital for Sick  
 Children, 4, Furnival's-inn, Holborn, E.C.  
 \*1846-47 Marshall, John, Esq., F.R.S., Surgeon to University College Hospital,  
 10, Savile-row, W.  
 †1860-61 Martin, John, Esq., Cambridge House, Portsmouth.  
 1869-70 Martin, John Henry C. Erridge, M.D., Cambridge House, Portsmouth.  
 1856-57 Martin, Robert, M.D., 6, Old Cavendish-street, Cavendish-square, W.  
 1852-53 Martyn, Samuel, M.D., Senior Physician to the Bristol General Hospital,  
 8, Buckingham-villas, Clifton, Bristol.  
 1858-59 Martyn, William, M.D., 6, Trevor-terrace, Rutland-gate, Brompton,  
 S.W.  
 1860-61 Mason, Francis, Esq., Assistant-Surgeon to the Westminster Hospital,  
 10, Conduit-street, Regent-street, W.  
 1866-67 Mason, Philip Brookes, Esq., Burton-on-Trent.



## Elected Session

- †1858-59 Maunder, Charles F., Esq. (C.), Surgeon to the London Hospital, 29, New Broad-street, E.C.
- †1851-52 May, George, Jun., M.B., Surgeon to the Royal Berkshire Hospital, Reading.
- 1859-60 Messer, John Cockburn, M.D., Assistant-Surgeon, R.N., Her Majesty's Ship "Edinburgh," Queensferry, N.B.
- †1867-68 Mickley, Arthur George, M.B. Lond., House Surgeon, General Hospital, Nottingham.
- 1865-66 Mickley, George, M.A., M.B., Three Counties Asylum, near Arlesey, Bedfordshire.
- †1858-59 Montefiore, Nathaniel, Esq., 36, Hyde-park-gardens, W.
- 1861-62 Morehead, Charles, M.D., 6, Chester-street, Edinburgh.
- 1846-47 Morgan, John, Esq., 3, Sussex-place, Hyde-park-gardens, W.
- 1869-70 Morris, Henry, Esq., M.B., Middlesex Hospital.
- 1859-60 Moxon, Walter, M.D. (C.), Assistant-Physician to Guy's Hospital, 6, Finsbury-circus, E.C.
- \*1854-55 Murchison, Charles, M.D., LL.D. Edinb., F.R.S. (TREASURER, late Hon. Secretary), Physician to, and Lecturer on the Practice of Medicine at, the Middlesex Hospital, and Senior Physician to the London Fever Hospital, 79, Wimpole-street, W.
- 1867-68 Murray, John, M.D., Demonstrator of Pathological Anatomy at the Middlesex Hospital, 40, Bryanston-street, Portman-square, W.
- 1861-65 Myers, Arthur B. R., Esq., Coldstream Guards' Hospital, Vincent-square, Westminster, S.W.
- 1864-65 Newman, William, M.D., Stamford, Lincolnshire.
- 1868-69 Nicholls, James, M.D., Chelmsford, Essex.
- 1865-66 Nicoll, Charles R., M.D., Resident Medical Officer to the Charter House, 17, Charter-house-square, E.C.
- 1863-64 Norton, Arthur T., Esq., Assistant-Surgeon to St. Mary's Hospital, 6, Wimpole-street, Cavendish-square, W.
- \*1856-57 Nunn, Thomas William, Esq., Surgeon to the Middlesex Hospital, 8, Stratford-place, Oxford-street, W.
- \*1850-51 Ogle, John W., M.D. (late V.P. and late Honorary Secretary), Physician to St. George's Hospital, 13, Upper Brook-street, Grosvenor-square, W.
- †1855-56 Oldfield, Edmund, Esq., Boscomb Lodge, 45, Finchley-road.
- 1859-60 Orange, William, M.D., Broadmoor, Berkshire.
- 1864-65 Owles, James Alden, M.D., 204, Burlington-street, Liverpool.
- 1869-70 Paget, James, Esq., F.R.S., D.C.L., Surgeon to St. Bartholomew's Hospital, 1, Harewood-place, Hanover-square, W.
- 1863-64 Palfrey, James, M.D., Assistant-Obstetric-Physician to the London Hospital, 18, Finsbury-square, E.C.
- 1853-54 Parkinson, George, Esq., 50, Brook-street, Grosvenor-square, W.

## Elected Session

- 1853-54 Part, James, M.D., 89, Camden-road, Camden-town, N.W.
- \**Orig. Memb.* Partridge, Richard, Esq., F.R.S. (formerly V.P.), Consulting Surgeon to King's College Hospital, 17, New-street, Spring-gardens, S.W.
- 1865-66 Pavy, Frederick William, M.D., F.R.S., Assistant-Physician to Guy's Hospital, 35, Grosvenor-street, W.
- 1867-68 Payne, Joseph Frank, B.A., M.B., Assistant-Physician to the Hospital for Sick Children, 50, Green-street, Park-lane, W.
- \**Orig. Memb.* Peacock, Thomas Bevill, M.D. (V.P. late President), Physician to St. Thomas's Hospital, and Physician to the City of London Hospital for Diseases of the Chest, 20, Finsbury-circus, E.C.
- 1869-70 Pearse, George E. Legge, Esq., Assistant-Surgeon to the Westminster Hospital, 2, St. George's-square, Belgrave-road, S.W.
- 1862-63 Pearson, David R., M.D., 23, Upper Phillimore-place, Kensington, W.
- 1866-67 Phillips, John Jones, M.D., Assistant-Obstetric-Physician to Guy's Hospital, and Assistant-Physician to the Hospital for Sick Children, 26, Finsbury-square, E.C.
- 1863-64 Pick, Thomas Pickering, Esq. (C.), Assistant-Surgeon to St. George's Hospital, 7, South Eaton-place, S.W.
- 1867-68 Pitt, Edward G., M.D., Cowley-villas, Leytonstone.
- 1863-64 Playfair, W. S., M.D., Assistant-Physician for the Diseases of Women and Children, King's College Hospital, 5, Curzon-street, May-fair, W.
- \**Orig. Memb.* Poland, Alfred, Esq., Surgeon to Guy's Hospital, 48, Finsbury-circus, E.C.
- 1861-62 Pollock, Arthur Julius, M.D., Assistant-Physician to Charing-cross Hospital, 21, Montague-place, Russell-square, W.C.
- 1867-68 Pollock, Edward J., Esq.
- \*1846-47 Pollock, George D., Esq. (late V.P. and Hon. Sec.), Surgeon to St. George's Hospital, 36, Grosvenor-street, W.
- \*1850-51 Pollock, James Edward, M.D., Physician to the Hospital for Consumption and Diseases of the Chest, Brompton, 52, Upper Brook-street, W.
- 1869-70 Poore, George Vivian, Esq., M.B.
- 1854-55 Potts, William, Esq. (C.), 12, North Audley-street, Grosvenor-square, W.
- 1865-66 Powell, Richard Douglas, M.D., Assistant-Physician to the Hospital for Consumption, Brompton, 6, Nottingham-place, Marylebone-road, W.
- 1865-66 Power, Henry, Esq., M.B., Ophthalmic Surgeon to St. Bartholomew's Hospital, 45, Seymour-street, Portman-square, W.
- 1856-57 Priestley, William Overend, M.D., Physician for the Diseases of Women and Children to King's College Hospital, Consulting Physician-Accoucheur to the St. Marylebone Infirmary, 17, Hertford-street, May-fair, W.

## Elected Session

- \*†1848-49 Purnell, John James, Esq., Surgeon to the Royal General Dispensary, Woodlands, Streatham-hill, S.W.
- \**Orig. Memb.* Quain, Richard, M.D. (PRESIDENT, formerly Treasurer), Physician to the Hospital for Consumption and Diseases of the Chest, Brompton, 67, Harley-street, Cavendish-square, W.
- 1859-60 Radcliffe, Charles Bland, M.D., Physician to the Westminster Hospital, 25, Cavendish-square, W.
- 1856-57 Ramskill, J. Spence, M.D., Physician to the London Hospital, Physician to the National Hospital for the Paralysed and Epileptic, 5, St. Helen's-place, Bishopsgate-street, E.C.
- \*1847-48 Randall, John, M.D., Medical Officer, St. Marylebone Infirmary, 14, Portman-street, Portman-square, W.
- 1856-57 Ranke, Henry, M.D., Munich.
- 1864-65 Rasch, Adolphus, M.D., 7, South-street, Finsbury-square, E.C.
- 1869-70 Ray, Edward Reynolds, Esq., Dulwich.
- 1858-59 Reed, Frederick George, M.D., 46, Hertford-street, May-fair, W.
- 1866-67 Reeves, Henry Albert, Esq., Assistant-Surgeon to the London Hospital, 36, Gordon-square, W.C.
- 1866-67 Rendle, James Davy, M.D., Park-hill, Clapham-park, S.W.
- \*1854-55 Reynolds, J. Russell, M.D., F.R.S., Physician to University College Hospital, 38, Grosvenor-street, W.
- \**Orig. Memb.* Ridge, Joseph, M.D., 39, Dorset-square, N.W.
- 1865-66 Rivington, Walter, Esq., M.S. Lond., Surgeon to the London Hospital 22, Finsbury-square, E.C.
- 1863-64 Roberts, Arthur, Esq., 37, Kensington-square, W.
- †1865-66 Roberts, David Lloyd, M.D., Surgeon in Ordinary to St. Mary's Hospital, Manchester, 23, St. John's-street, Manchester.
- 1855-56 Roberts, John Henry, Esq., 20, New Finchley-road, St. John's-wood, N.W.
- 1863-64 Robinson, Charles, Esq., F.R.C.P. Edinb., 11, Montagu-street, Portman-square, W.
- 1859-60 Robinson, Frederick, M.D., Surgeon Major, 1st Battalion, Scots Fusilier Guards, 161, Vauxhall Bridge-road, S.W.
- 1856-57 Robinson, Thomas, M.D., 35, Lamb's Conduit-street, W.C.
- 1865-66 Rogers, George Henry, Esq., 14, Old Burlington-street, W.
- 1858-59 Rolleston, George, M.D., F.R.S., Park Grange, Oxford.
- 1858-59 Rose, Henry Cooper, M.D., Surgeon to the Hampstead Dispensary, High-street, Hampstead.
- 1858-59 Rouse, James, Esq., Assistant-Surgeon to St. George's Hospital, 2, Wilton-street, Grosvenor-place, S.W.
- 1869-70 Rutherford, William, M.D., 28, Davies-street, Berkeley-square.
- \*1852-53 Salter, Henry Hyde, M.D., F.R.S., Physician to the Charing Cross Hospital, 14, Harley-street, Cavendish-square, W.
- \*1853-54 Salter, Samuel James A., M.B., F.R.S., Surgeon-Dentist to Guy's Hospital, 17, New Broad-street, City, E.C.
- 1852-53 Sanderson, Hugh James, M.D., Physician to the Hospital for Women, 26, Upper Berkeley-street, Portman-square, W.

## Elected Session

- \*1854-55 Sanderson, John Burdon, M.D., F.R.S., Professor of Practical Physiology at University College, 49, Queen Anne-street, Cavendish-square, W.
- ‡1866-67 Sankey, W. H. Octavins, M.D., Sandywell-park, near Cheltenham.  
1857-58 Schulhof, Maurice, M.D., 46, Brook-street, W.  
1853-54 Scott, John, Esq., Surgeon to the Hospital for Women, Soho-square, 49, Harley-street, Cavendish-square, W.
- ‡1858-59 Scratchley, George, M.D., B.L.S., Member of the University of France, New Orleans, Louisiana, U.S. [A. Scratchley, Esq., 8A, Waterloo-place, S.W.]
- \*‡1846-47 Seaton, Edward C., M.D., Rochester-house, Surbiton.  
1856-57 Sedgwick, William, Esq., Surgeon to the Marylebone Provident Dispensary, 12, Park-place, Upper Baker-street, N.W.
- \*1852-53 Semple, Robert Hunter, M.D., Physician to the Bloomsbury Dispensary, 8, Torrington-square, W.C.
- \**Orig. Memb.* Shaw, Alexander, Esq. (late V.P.), Consulting Surgeon to the Middlesex Hospital, 40, Abbey-road West, Kilburn, N.W.  
1856-57 Shillitoe, Buxton, Esq., Surgeon to the Great Northern Hospital, and to the Lock Hospital, 34, Finsbury-circus, E.C.
- \*1855-56 Sibley, Septimus W., Esq., 12, New Burlington-street, W.
- \*1848-49 Sibson, Francis, M.D., F.R.S. (late V.P.), Physician to St. Mary's Hospital, 59, Brook-street, Grosvenor-square, W.
- \*1847-48 Sieveking, Edward H., M.D. (late V.P.), Physician to St. Mary's Hospital, 17, Manchester-square, W.
- \**Orig. Memb.* Simon, John, Esq., F.R.S., D.C.L., V.P. (late PRESIDENT), Surgeon to St. Thomas's Hospital, 8, Richmond-terrace, Whitehall, and 40, Kensington-square, W.  
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# REPORT.

SESSION, 1869-70.

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## I.—DISEASES, ETC., OF THE NERVOUS SYSTEM.

### 1. *An unusual form of spina bifida.*

By T. SMITH.

THIS specimen differs from the ordinary Spina Bifida in that the cyst is compound—consisting of two distinct sacs.

The appearance during life was that of a very large and somewhat pendulous cystic tumour attached to the sacral region of a child aged fourteen months. The patient, though suffering somewhat severely from dentition, was in other respects a healthy child. The anterior fontanelle was natural, there was no paralysis: at birth the tumour was the size of a cricket ball; it had gradually increased since until it measured four inches across, either way; it was translucent, there was no impulse on crying; the skin over the swelling was natural. On examination per anum nothing unnatural was to be felt except an undue projection of the promontory of the sacrum. Moderate pressure on the tumour seemed to produce no inconvenience. The disease was thought to be congenital cystic hygroma, but, to exclude the possibility of error, a puncture was made with a fine trocar; eight ounces of clear fluid being drawn off, having all the characteristics of cerebro-spinal fluid, except that it gave no reaction with copper.

The cyst was compound; for after tapping a considerable portion remained still distended; an opening could now be felt in the spinal column over the last lumbar vertebra, and the true nature of the disease was evident. Ten days after the puncture the child died, with symptoms of spinal meningitis.

The spina bifida is composed of two distinct cysts, one smaller, which had not been punctured, lying on the upper or lumbar aspect of the swelling: the other, the larger, situated on the sacral or under surface—this cyst had been punctured. These cysts are separated by a strong membrane (apparently the dura mater of the cord), and in this partition, between the cysts, runs the cauda equina.

There are a few small nerves traversing the larger cyst, and this cyst communicates directly and freely with the spinal canal and sac of the arachnoid through the hole formed by the absence of the arch of the last lumbar vertebra. The smaller, or upper cyst, leads by a narrow funnel-shaped opening into the centre of the cauda equina and the subarachnoid space.

.November 2, 1869.

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## 2. *Disseminated cancer.*

By J. ANDREW, M.D.

MARY Y—, æt. 45, admitted into St. Bartholomew's Hospital on July 6th, 1869, died Oct. 13, 1869.

Had had the left breast removed about three months before admission, it is presumed for cancer.

She complained chiefly of weakness with severe pain about the cicatrix left by the operation, in which there were one or two hard nodules. She soon began to complain of violent pain in the back of the head, and this, with uncontrollable vomiting, was the chief symptom throughout her illness. Before her death numerous nodules made their appearance in the skin of both back and front of trunk: the blood was several times examined microscopically, but no increase in the number of white corpuscles was detected.

*Post-mortem thirty-four hours after death.*—Body much wasted, rigor mortis absent, skin dry and scaly, several hard nodules to be felt just beneath it, which on section present a white glistening fibrous appearance, and are very firm.

Pericardium irregularly thickened in part with similar growths, most numerous along the course of the vessels, but not affecting

their coats. The change was greatest at the base of the heart, and the parietal layer was only very slightly altered.

Both pleuræ contained similar growths, but there were none in the substance of the lungs.

Liver contained several moderately firm yellow, fibro-cellular growths, the largest the size of a walnut: those on the surface of the liver were hemispherical, and with their centres depressed.

Kidneys: in them also were similar but much smaller firm white glistening growths.

Similar growths were found in the supra-renal capsules, the ovaries, and in the wall of both small and large intestine.

The mesenteric, cervical, and inguinal glands appeared to be infiltrated by similar material, but were not much enlarged.

In the lower part of the right lobe of the cerebellum were three masses, each about  $\frac{1}{3}$  of an inch in diameter; in the left lobe was one about the size of a pigeon's egg, of somewhat yellow tint.

The tumours were fibro-cellular, and the cells unequal in size and irregular and dissimilar in outline.

November 2, 1869.

### 3. *Tumour of pons and of upper part of medulla oblongata.*

By J. ANDREW, M.D.

HERBERT JULIUS P—, æt. 11, admitted into St. Bartholomew's Hospital, August 26th, 1869; died October 26th, 1869. Always an irritable child, but enjoyed good health up to three months ago, when he complained of giddiness and dimness of eyesight, and had an attack of violent retching and sickness, which returned at uncertain intervals, and generally in the morning. All the muscles were wasted, but those of the left side more than of the right; *e.g.* he can use the right hand to feed himself, but not the left at all. Can stand and walk forward irregularly, throwing the left foot out and dropping it. Passes urine slowly and with difficulty. Bowels constipated; scybala are felt in the sigmoid flexure. Tongue deviates to the left, and the muscles of left side of face act imperfectly. He lies on the right side; his appearance is imbecile; cannot hold

his head up. Eyesight very defective; pupils dilated. Articulation indistinct. Does not appear to have much power of turning the eyes from side to side, but can move them upwards and downwards freely. The paralysis gradually increased, and he died comatose, but within a few days of his death his intellect seemed to be but slightly, if at all, impaired.

*Post-mortem thirty-six hours after death.*—Muscles of good colour. Scalp and calvaria natural. Convolutions of brain much flattened; a large quantity of clear fluid in the ventricles, the foramina dilated, and the cornua rounded off by the distension. At the base of the brain, in front of the medulla, the membranes are somewhat adherent, so that the brain is not removed as easily as usual. The pons Varolii was replaced by a growth the anterior free surface of which was marked by irregular, round, smooth, small convolutions. The upper part of the medulla and the lower portion of the crura were also affected. The mass which replaced the pons was of a prolate spheroidal form, having its longer diameter in the direction of the medulla, and about two inches in length; the shorter diameter about one and a half or one and three quarters of an inch. On section it somewhat resembled the natural appearance of the tissues of the part, but it was much firmer, and the bundles of nerve-fibres, as ordinarily seen, were not so readily made out.

There was no other disease in the body. *November 2nd, 1869.*

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#### 4. *Cysticercus in fourth ventricle.*

By J. ANDREW, M.D.

JOHN L—, æt. 32, wireworker, admitted into St. Bartholomew's Hospital, September 14th, died October 15th, 1869. Illness began, on September 13th, with vomiting, soon followed by pain at the back of the neck, and the head began to droop forward. He has had a discharge from the left ear for the last ten years, which stopped shortly before present illness. The pain in the neck continued unrelieved, except temporarily by cupping, the head drooped more and more, and he complained of inability to use his legs, but

there was no paralysis of face or upper extremities. A few hours before his death he had a slight convulsive attack and became comatose.

*Post-mortem thirty hours after death.*—Scalp and back of neck much congested, dark blood streamed from the latter. Convulsions of brain flattened; ventricles distended with perfectly clear fluid; substance of brain natural throughout, but on the under surface of the cerebellum, close to the medulla, was a small mass of what looked, at first sight, like fine soft lymph, but which proved to be part of a cysticercus escaping from the cavity of the fourth ventricle.

No other morbid appearances, except a little congestion, greatest in the kidneys, was detected in any other part of the body.

November 2nd, 1869.

## 5. *Illustrations of the variation of the dura mater in the insane.*

By J. THOMPSON DICKSON, M.B.

CASE 1.—C. W—, æt. 38, was admitted into St. Luke's Hospital, on the 29th October, 1869, the subject of melancholia. The attack was said to have then lasted for fifteen weeks, and the patient to have attempted suicide with a carving knife, also by jumping out of window, on which occasion he broke his leg.

On admission he was low spirited and very much depressed, but soon began to improve slightly. He nevertheless persisted in a delusion as to the identity of his mother and his housekeeper.

He was taken ill on November 18th, and died on November 26th.

The autopsy displayed cirrhosis of the lungs and old pleurisy. The remarkable pathological structure, however, was the *dura mater*, exhibited, which, as seen in comparison with another, is of extraordinary thickness. His brain was wasted.

After his death I learnt that he had for two years indulged in excess of alcoholic liquors. I would mention also that his mother bears some evidence of old syphilis.

CASE 2.—A. A—, æt. 32, was admitted into St. Luke's Hospital,

22nd October, the subject of acute dementia. It was stated that the attack was then of two months' duration, and that the first appearance of departure from her ordinary mental state was about three months after parturition. She was stated to have been at times violent. She appeared to me to be semi-imbecile, and unable to distinguish persons or to remember any circumstances regarding her home, her child, or her husband. She was unable to converse on any one subject for many minutes; and so impotent was her mind that she could hardly name ordinary coins, such as sovereigns, or shillings, or sixpences, and she was unable to calculate the amount or the sum of any few of such coins together. So childlike was her simplicity that it might almost have been thought to be wilful. She would accept with implicit confidence as fact any statement made to her, however absurd.

She was taken ill on the 12th November, and died on the 30th of the same month.

The *post-mortem* disclosed, as a cause of death, general tuberculosis. The remarkable pathological structure, however, was the *dura mater*, here exhibited, which was intimately adherent to the skull, and so closely was it attached that it was impossible to separate it until after the calvarium was removed. As is seen, the falx major is ossified, and there were several nodes protruding from the inner surface of the frontal bone, some of which are still attached to the membrane. The brain was atrophied.

I learnt from her friends, afterwards, that she had, for some years, been the subject of sudden outbursts, which they called fits, followed by violence and excitement; that these attacks were of frequent occurrence while she was sitting quietly with her family circle, when, suddenly, she would become incoherent in her speech and conversation; also that these outbursts were usually followed by sleep. The attacks appear to have been epileptiform, and probably had some association with the ossified falx, at all events with the nodes on the frontal bone.

*December 7th, 1869.*



6. *Case of cerebro-spinal meningitis; with disease of the kidneys.*

By J. F. PAYNE, M.D.

THE specimens exhibited consisted of one half of the brain and a portion of the spinal chord of a man, C. B., æt. 27, a painter, admitted into St. Mary's Hospital on Dec. 24, 1869, and dying one hour after admission. The brain weighed fifty-five ounces. The external surface of dura mater showed no morbid alteration. Its sinuses were filled, though not actually distended with soft dark coagula. The inner surface was somewhat injected. The cavity of the arachnoid was empty and the upper surface of the visceral layer of that membrane was unaffected, but the subarachnoid spaces, especially in the neighbourhood of the larger vessels, were filled with layers of firm greenish inflammatory lymph. This formed a zone of about  $\frac{1}{4}$  inch in width on each side of the vessels, and thus nearly filled up the sulci of the convolutions. These greenish masses thus formed a kind of rough network, in the meshes of which the pia mater was not thickened but vividly injected. The lymph was generally firm, in one place only beginning to soften, but was nowhere actually purulent. The inflammation was most intense over the convexity of the cerebral hemispheres on both sides, and in the longitudinal sulcus. It was much less marked at the sides and the under surfaces of the hemispheres, but became evident again at the base, where the arachnoid covering the under surface of the cerebellum, the pons, medulla oblongata, &c., was affected in the same way as on the summit. The same changes were found in the corresponding coverings of the spinal chord, where layers of greenish lymph were irregularly spread out between the arachnoid and the pia mater. There was here, however, a certain amount of purulent fluid contained in the theca spinalis. The veins of the spinal canal were enormously congested and dilated. The brain substance showed no abnormality to the naked eye, except that the puncta vasculosa were extremely numerous. The lateral ventricles contained a good deal of fluid: the choroid plexuses were anæmic.

The microscopic examination of the inflammatory lymph showed

it to consist of fibres, granular matter and scattered lymphoid corpuscles.

The post-mortem examination was made seventy-two hours after death in a hard frost. The body was in fair condition, though somewhat thin. There was a blue line on the gums. The *lungs* were much congested, especially the upper lobes, but not at all consolidated. *Liver* moderate size, with smooth surface. The substance firm, of a normal dark brown liver colour, not fatty, or showing any sign of cirrhosis. *Kidneys* of moderate size, dark red in colour, and containing a good deal of blood. The capsule separated easily, leaving a smooth surface. There was some yellow mottling at the bases of the pyramids, and the pyramids themselves were unusually pale.

On microscopical examination many of the straight tubes of the pyramids were found to be choked with granular or slightly fatty epithelium, so as to look quite opaque. They were not dilated, and no hyaline cylinders were observed. Some of the convoluted tubes from the cortex showed the same changes, but were not so completely obstructed. The general appearance was that of acute or subacute tubular (catarrhal) nephritis.

The other viscera were normal. The blood was normally coagulated; there were no ecchymoses internally or externally, and no kind of eruption on the skin.

*History.*—This man was brought to St. Mary's Hospital on December 24, 1869, in a dying state; he was quite insensible, his limbs flaccid and powerless; the respiration very rapid, and the temperature 100·2° F. The account given by his wife was, that he was a painter by occupation, and was habitually a very hard drinker. On the 19th (Sunday), after having been drunk all the previous day, he complained very much of his head. He was nevertheless able to return to his work the next day, but on the 22nd was led home by two men, who had found him in the street quite helpless and vomiting. He ate a good dinner, but could not retain it on his stomach, and soon became delirious, complaining of intense pain in the head. The last time he spoke was on the morning of the 23rd, and in the course of the day convulsions came on, which lasted till the morning of the 24th, when he was brought to the hospital. He died an hour after admission.

*Remarks.*—The most noticeable feature in this case was its great rapidity—not more than forty-eight hours elapsing from the first

acute symptoms till death. There can be little doubt that the chief determining cause of the disease was alcohol, though it may seem to require some explanation that a not unusual excess had so unusual a termination. Two causes may, however, be pointed out which must have been influential in aiding the operation of the poison. In the first place the kidneys were undoubtedly diseased, and must therefore have possessed a very much diminished power of elimination. In the second place the weather was, as will be remembered, remarkably cold, and had become so very rapidly. There would, therefore, have been very little, or perhaps no elimination by means of the skin. From both these causes, therefore, the alcohol ingested must have remained for a longer time and in larger quantity in the body than in ordinary cases of excessive drinking, and may thus have brought about textural changes of more than ordinary gravity. It is very possible that the kidney affection being, as it seemed, acute, may itself have been produced by alcohol, and this would fall in very well with the history of the case. The only other admissible cause, lead poisoning, is less likely to have been concerned on account of the character of the kidney disease. There was not, so far as could be seen in a fresh specimen, any interstitial fibrous growth, but considerable affection of the tubular epithelium.<sup>1</sup> It has already been mentioned that the appearance of the liver was not that of chronic alcoholism.

Jan. 4, 1870.

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*7. Large serous effusion into the ventricles of the brain, with small inflammatory tubercle in the fourth ventricle.*

By EDWARDS CRISP, M.D.

THE subjoined case occurred in the practice of my friend Dr. Henry Davis of Putney, with whom I performed the post-mortem examination. Dr. Davis has supplied me with the following outlines of the case:

“When visiting a patient, I was requested by the landlady of the house to see her daughter, fourteen years of age, whom she said had

<sup>1</sup> A careful examination subsequently made on the hardened specimen confirmed the description given above.

been unwell for three or four days with what she called a "bilious attack," and for which she had taken two antibilious pills and some castor oil, which failed to relieve her. I found the patient in bed, complaining of intense pain at the back of the neck, a flushed face, loaded tongue, rapid pulse, but the skin was moist and not very hot; the pupils of the same size, and rather dilated.

"On getting out of bed to the night commode, she suddenly lost all power of the extremities, and was unable to stand. The skin of both arms and legs was numbed, and she complained much of the feeling of 'pins and needles,' in the fingers especially. She could not feed herself, but swallowed food without much difficulty. A calomel purgative and a saline were prescribed, which acted in the course of the day.

"The next day, December 29th, 1869, the bowels had acted, and she had passed urine, but the pain in the back of the head persisted, and the numbness and loss of power had increased. The tongue was rather cleaner, and she had less thirst. Took tea and other fluid nourishment in small quantities. Ordered two grains of calomel every four hours.

"30th.—No improvement. Still complained of great pain in the occipital region. The loss of power and sensation in the limbs more complete. Respiration unaffected. Pupils acted naturally; no intolerance of light. Some difficulty of swallowing. A blister to the nape of the neck.

"31st.—Passed a restless night, but said 'she felt otherwise better,' although she had the same pain in the occiput, and also during the night acute pain over the root of the nose and frontal sinuses. The paralysis more complete. Soon after leaving the patient, she asked to be got out of bed (contrary to my express orders), when she appeared to become faint whilst having the blister dressed; she fell forward and requested to be put back into the bed, when in a few minutes, with only a slight convulsive movement of the face, she suddenly expired.

"It appears that for more than two months she had at times complained of giddiness and reeling; of pain also, always referred to the back of the head, and when she stooped and rose again, she was in the habit of putting her hands to the neck and holding the head. Her appetite was, however, unaffected, and no notice was taken of these symptoms. She had been regular for more than a year, but previous to the appearance of the menses she had been

very pale and anæmic, but had never been under medical treatment, nor had she ever had any illness."

I examined the body with Dr. Davis, thirty-six hours after death. It was well developed and very muscular. Unfortunately, permission was only granted to inspect the head.

The vessels on the surface rather vascular; no fibrinous clots in the arteries at the base or other part examined. All the ventricles of the brain much distended with clear amber-coloured serum, a part of which was measured, and we estimated the amount from eighteen to twenty ounces. The effusion was entirely confined to the ventricles; there was none in the spinal canal, nor was there any subarachnoid effusion. The lining membrane of the ventricles was rather more vascular than natural. In the fourth ventricle (as shown by preparation and by the wax cast), at the apex of the uvula, and implicating a small portion of the right tonsil, was a hard, elevated, rounded projection, about the size of a small nut, of a red colour, from great vascularity and thickening of the pia mater. Under this was a small quantity of cheesy matter, consisting of amorphous cells, a few granular cells, oil-globules, and cholesterine plates. The substance of the cerebellum was carefully sliced, but no abnormal condition was found.

*Remarks.*—The case related is, in some respects, peculiar. On looking over our 'Transactions,' I find only one example that bears a slight resemblance to it. This is one related by Dr. Ogle, vol. VII, page 33, in which there was a cyst in the fourth ventricle, containing about six ounces of serum, and about a pint of serum in the lateral ventricles. The patient was eight years of age.

The sudden prostration and paralysis three days before death, the girl, to use the mother's expression, "falling in a heap," and becoming powerless, the unclouded state of the intellect, the tingling sensation in the fingers, the pain at the root of the nose, the giddiness and unsteadiness of carriage, are features that are especially interesting. A few days before her death she had joined an evening party of young people, but she was obliged to leave in consequence of the intense pain at the back of the neck. The hearing was unimpaired, and her sight perfect, although she preferred a dull light. I learn that she lost one sister of spinal affection at the age of two years; another sister died a week after having intense pain in one knee. The rest of the family are healthy. Notwithstanding the large accumulation of fluid the brain, judging from the greater portion which I weighed.

was above the average weight at this age. Unfortunately, we were only permitted to examine the head; but supposing from the symptoms that there might be disease about the upper part of the spinal column, a *very careful examination* was made with the finger of the upper portion of the canal, and no abnormal condition of the membranes or bones could be detected. The immediate cause of death was probably pressure from the accumulation of fluid, or rather from the greater pressure of this fluid upon certain parts of the brain substance, owing to her attendants getting her out of bed. The pain was always referred to the spot affected, and the thickened state of the pia mater and its inflamed condition are, I think, sufficient to account for both the primary and secondary symptoms.

January 18th, 1870.

8. *Miliary tubercle of spinal dura mater in a case of tubercular meningitis.*

By WALTER MOXON, M.D.

THE dura mater shown was from the body of a girl, *æ*t. 17, a general servant, who had never menstruated. After being two months troubled with enlargement of the axillary glands, she was taken with violent sickness, thirst, and loss of appetite, and in two weeks was admitted to Guy's Hospital, under Dr. Rees's care. She then had the usual symptoms of tubercular meningitis, and amongst these extreme prostration, intense thirst, and severe pains over the whole body were noticed. She lapsed into a state of coma, and died in three days.

The cranium was thicker than natural at her age: the contents of it were in the state usual in tubercular meningitis, the tubercles being very small and numerous. There were tubercles scattered in lungs, ileum, liver, spleen, and kidneys.

The *spinal dura mater*, which is now exhibited, was thicker and more opaque than natural, and on cutting it open with the scissors it was found to be much thicker and more substantial than usual. The texture was three or four times as congested as an ordinary

*dura mater*. The inner surface was, however, the part of it that showed the most marked changes; it was studded in all parts with minute grains, which gave it an appearance as if sprinkled with coarse sand. The appearance was best observed when the internal surface was held obliquely to the light, so that these little grains were seen in shadow.

Although the girl had never menstruated, there was an old false corpus luteum in the right ovary.

It may be thought necessary to give evidence that these grains really are tubercles. I think the burden of proof lies with the side of the objector to this view of their nature, seeing, first, how variable are the characters of size, &c., that what are called tubercles in tubercular arachnitis present, sometimes being millet-like grains, sometimes a fine dust of particles clouding the *pia mater*, so that one must not be exacting in point of size and appearance, but find that the second criterion—that of association and circumstances—becomes the most significant. I doubt whether any one who sees these grains and knows their association with a like granular disease of the *pia mater*, the two together resulting from a course of rapid febrile disease of the nervous centres, will be able to doubt that the two sets of granules on the *pia mater* and *dura mater* respectively are of the same nature, and that if the first are viewed as tubercles so must the second be viewed; and this view becomes conclusive when we see that, thirdly, there is no other known state of the *dura mater* in which this granular disease is present.

As to any cause that would explain this curious occurrence of tubercles upon the *dura mater* of the cord in several cases where the *dura mater* of the brain did not show any, I am at a loss for a suggestion; yet it is plain that the spinal *dura mater* differs in its circumstances of connexion, &c., from the cranial in such a way that the former comes to partake much more of the characters of a special membrane of the nerve centre. The cranial *dura mater* represents the spinal *dura mater* coalesced with the periosteum of the vertebral canal, with the intervening veins (cranial sinuses) still separating the layer corresponding to the spinal diameter from that corresponding to the periosteum, as they separate these in the spinal canal. The fusion of the cranial *dura mater* with the spinal must place it in new circumstances of vascular supply, &c., and to these we must probably look for explanation of the difference I am alluding to.

January 18<sup>th</sup>, 1870.

9. *On the connection of tubercular meningitis and tuberculosis of the other serous membranes with the presence of caseous deposits in the body.*

By HERMANN WEBER, M.D.

THE specimens exhibited are caseous mesenteric glands from the body of an adult man who had died from tubercular meningitis; they are not exhibited as offering points of special interest in themselves, but only in obedience to a rule of the Society, as a means to introduce to the examination and discussion of the members the question of the connection of the *tuberculosis with the presence of caseous deposits in the body.*

It is perhaps advisable to give a very short survey of the development of the question during the last twenty years, before I communicate my own pathological experience. At the beginning of this period Professor Dittrich, of Erlangen, expressed the view that tuberculosis is frequently caused by the absorption of products of retrogressive metamorphosis after acute and during chronic diseases, and he has embodied his ideas in the dissertation of Dr. C. Martius, "On the Combination of Cancer and Tuberculosis" (1853). Dittrich's view appears to have attracted very little attention, although it contains an important clinical truth; it is perhaps, however, too vague for the pathological anatomist. In 1857, Professor *Buhl*, of Munich, inferred from a large number of post-mortem examinations, that acute miliary tuberculosis is a specific disease of infection, caused by the absorption of a specific poison contained in caseous deposits; he regarded the occurrence of tubercles and caseous masses in the same body, not as accidental, but as effect and cause ('Bericht über 280 Leichenöffnungen,' in Henle and Pfenfor's 'Zeitschrift f. Rat. Med. Neuc Folge viii,' 1857). *Buhl's* theory, although he had adduced sufficient proof for its probability, remained likewise almost unnoticed, until especially *Virchow*, *Niemeyer*, and *C. E. E. Hoffmann*, directed more general attention to it, though none of them altogether accepted it. *Virchow*, in various places, especially in his work on morbid tumours, acknowledges that in most cases of tuberculosis caseous deposits are found in the body, but he urges that there are some rare exceptions. *Niemeyer*, in his clinical lectures on



Phthisis, adopts Buhl's theory in so far that he regards tuberculosis in *most* cases as a secondary disease produced under the influence of caseous masses previously existing in the body. C. E. E. Hoffmann, in his excellent contributions to the question of tuberculosis ('Deutsches Archiv,' vol. ii, p. 67, 1867), considers miliary tuberculosis as depending entirely on the existence in the body of caseous masses, and the absorption of particles from such caseous masses, but he does not accept Buhl's view as to the *specific* nature of acute tuberculosis.

Since I have become acquainted with these views I have endeavoured to examine their correctness in every case of tuberculosis and in every case of phthisis in which I could obtain a post-mortem inspection. I may state that in many cases of phthisis I have not found any tubercles, but that in all cases of tubercular phthisis I have also found caseous masses either in the lungs or in other organs. In cases of tubercular phthisis, however, the morbid products are in general in various stages, and the changes are usually so manifold and so complicated, that it is more difficult to use them for this examination; but in tuberculosis of the serous membranes, and especially in tubercular meningitis, all observers mostly agree as to which morbid products are to be called tubercular and which not, and the changes in the other organs are generally much less advanced and much less complicated. I will, therefore, at present confine myself to the cases of tuberculosis of the serous membranes, and will give the outlines of all the cases which have come to my observation during the last six years, viz., eleven cases of tubercular meningitis, and four of tubercular peritonitis.

CASE 1.—C. H—, a girl, æt. 4, had measles with pneumonic complication in 1863; she had then been ill for two months, but had afterwards to all appearance recovered, with the exception of occasional cough, when she was seized in July, 1864, with diarrhœa, which yielded after a fortnight, but was followed by the well-known symptoms of acute hydrocephalus or tubercular meningitis, terminating fatally on about the seventeenth day. The post-mortem examination manifested a well-marked tubercular inflammation of the meninges, with turbid effusions into the dilated ventricles. In the lower lobe of the left lung there was a caseous mass of irregular shape, about the size of a walnut, round which there were numerous tubercular granules of different sizes, some being more yellow and

of the size of a millet or small hemp seed, others grey and very minute; they became less thickly studded and mostly of smaller size with the increasing distance from the caseous focus; in the left upper lobe there were only a few tubercles, and in the right lung scarcely any, excepting on the pleura, as well the pulmonary as the costal layer. The covering of the spleen and liver was likewise studded with tubercles.

CASE 2.—M. H—, a boy, æt. 6, enjoyed good health until he had scarlet fever in the autumn of 1865, with considerable enlargement of the cervical glands. He made a rather slow but apparently perfect recovery, with the exception of some cervical glands which remained large. In June and July, 1866, he had repeated attacks of diarrhœa, and was several times exposed to great sun heat, when the symptoms of tubercular meningitis supervened, leading to death at the termination of the second week. The post-mortem examination disclosed the phenomena of tubercular meningitis; there were tubercles on the pleura, the spleen, the liver, and kidneys, but none in the lungs and in the intestinal canal. Two of the enlarged cervical glands were caseous, one of them with softening in the middle, and with caseous substance in the surrounding thickened areolar tissue.

CASE 3.—C. B—, a boy, æt. 6, belonging to a scrofulous family, had measles in October, 1865, with broncho-pneumonia of the lower portion of the right lung. He frequently suffered from cough during the following winter and spring, became the subject of tubercular meningitis in April, 1866, and died on about the thirteenth day of the disease. In addition to the phenomena of tubercular meningitis the post-mortem inspection disclosed several confluent masses of the size of large beans and filberts in the lower lobe of the right lung, there were many larger, yellowish, and smaller grey tubercles in the immediate neighbourhood; the whole lower lobe of this lung, and also the middle lobe, contained many miliary tubercles between the unchanged lung tissue, the upper lobe was more free, and in the left lung and pleura there were only a few miliary tubercles. The spleen, liver, and peritoneal covering of the intestines were likewise seats of greyish-yellow tubercles.

CASE 4.—A. B—, a girl, æt. 10, had whooping-cough severely in 1862, and had frequently suffered from cough since then; she had measles in 1866 in November with broncho-pneumonic symptoms in both lungs; she was frequently ailing in the spring and summer of 1867, but seemed much improved in the autumn, when after an attack of influenza, tubercular meningitis supervened and carried her off in less than three weeks. The post-mortem examination showed several caseous masses in the lower lobes of both lungs, two of them in the left lungs being surrounded with innumerable tubercles partly yellow and large, partly grey, partly almost transparent. The whole lower lobe of the left lung contained many miliary tubercles, while the lower lobe of the right lung and the other lobes of both lungs contained only isolated miliary tubercles, which were also dispersed over the pleura, the pericardium, the spleen, liver, and kidneys. The phenomena of tubercular meningitis were well developed.

CASE 5.—B. D—, æt. 12, had for several years suffered from caries of the bones of the right foot, when in March, 1868, tubercular meningitis came on and proved rapidly fatal. The post-mortem examination showed besides the tubercles in the meninges tubercles on the pleura, small scattered tubercles in both lungs, and on the spleen. There were caseous masses as well in as between the diseased bones of the foot.

CASE 6—B. S—, a girl, æt. 7, belonging to a scrofulous family, had from infancy suffered from impetigo capitis, had a general outbreak in the winter of 1866 to 1867, leading to inflammation of the cervical glands, two of which suppurated while others remained large. In November, 1867, meningitis tuberculosa came on, and terminated in death within less than three weeks. The meninges were covered with tubercles, but most so those of the cerebellum and medulla oblongata; near the nape of the neck were several caseous glands, with infiltration of the surrounding tissue. The lungs were free from tubercles, but there were many on the spleen and liver.

CASE 7.—M. S—, a child, æt. 28 months, was seized with tubercular meningitis in July, 1868, and died at about the beginning of the third week. The child had had whooping-cough severely in the second part of 1867, but was thought to have recovered entirely.

The post-mortem examination manifested, besides the phenomena of tubercular meningitis, old adhesions of the lower lobe of the left lung, with irregularly shaped caseous masses in that lobe, and numerous miliary tubercles as well in this as in the upper lobe, especially abundant around the caseous masses, and a smaller number of tubercles in the right lung. The spleen, liver, and peritoneum contained likewise many tubercles.

CASE 8.—F. T—, a man, *æt.* 24, had received, in 1863, an injury to the right side, leading to fracture of several ribs, and pleuritis with effusion; he had never been altogether free from chest symptoms from that time, when, in the beginning of 1869, he began to complain of headache, vomiting, and other symptoms of tubercular meningitis, terminating in death on the fifteenth day from the beginning of the headache. The phenomena of the tubercular meningitis were well developed, especially on the base of the brain; the right lung was entirely adherent, the lower lobe was partly shrunk and compressed by thick layers of false membranes; the middle lobe, too, was partly compressed by these layers, between which were some caseous masses, apparently from dried-up pus; the middle lobe was studded with tubercles of different size and colour, from the small transparent or grey to the larger yellow nodules; the upper lobe, too, contained many small miliary tubercles: the left lung was almost entirely free, with the exception of some fresh tubercular granulations on the pleura; a few tubercles were also found on the pericardium, and more on the liver and spleen.

CASE 9.—P. F—, a man, *æt.* 28, having an old history of pleuritis with effusion on the right side, was seized with a febrile affection connected with gastric disturbance, cough, and pain in the right side towards the middle of June, 1869: was first seen on the 22nd July, when severe headache, delirium, with irregular and slow pulse, had supervened, and owing to the history of the old pleuritic affection, and the dulness over the lower part of the right side, the diagnosis of tubercular meningitis was arrived at. The further development of the case corroborated this view; death occurred on July 27th, and the post-mortem examination manifested the tubercular affection of the meninges, with great dilatation of the ventricles: the right lung was everywhere adherent and contracted, the pleura was enormously thickened, and between the layers of false membranes there were

several caseous deposits; the right lung itself had been evidently compressed, and the bronchi were much dilated; there were no tubercles either in this or in the left perfectly healthy lung. No tubercles were found in any part of the body, excepting the meninges of the brain and the medulla oblongata.

CASE 10.—G. S—, a child, 14 months old, had been attended for catarrhal pneumonia of the right side in February and March, 1868; when last seen in March, the dulness had not quite disappeared, though the child was free from pyrexia, and appeared otherwise well. On August 17th of the same year the child was again admitted, with the history that it had been well until it had been seized with convulsions a fortnight ago, since which time it had become considerably emaciated. The child on admission into the German Hospital was unconscious, the pupils were dilated and sluggish, the pulse 100 to 120, irregular, the stomach sunk in, the bowels inactive, the temperature in the rectum  $103.8^{\circ}$ . The condition was recognised as meningitis tuberculosa in connection with the former pneumonic affection. Death occurred on the 19th August. The post-mortem examination manifested in addition to the well-known phenomena of tubercular meningitis, in the upper lobe of the right lung a caseous focus of irregular shape, size of nutmeg; the surrounding tissue was not quite solid, but very thickly studded with tubercles, partly yellow and large, up to the size of a small hemp-seed; the more distant part of the lung was less thickly studded, and the tubercles were much smaller, the normal tissue being more considerable; the remainder of the upper lobe contained likewise a great many miliary tubercles interspersed in the healthy tissue; the other lobes of the right and the whole of the left lung contained comparatively few miliary and no large tubercles; the pleura near the caseous focus was studded with tubercles; the spleen and liver contained many tubercles, the intestines and kidneys were free.

CASE 11.—B. T—, a man, *æt.* 25, belonged to a healthy family, and had himself always been in good health, until he had typhoid fever severely in July, 1869. He recovered slowly, but was considered well after two months, and remained so until the end of December, when symptoms of tubercular meningitis developed themselves, and led to a fatal termination at the end of a fortnight. At the post-mortem examination the small intestines were found to contain numerous

cicatrices, especially extensive and deep near the cæcum ; there were several large caseous mesenteric glands, and in the surrounding mesentery of two of them there were many tubercles, as well as on the surface of the liver and spleen ; the lungs contained numerous miliary tubercles interspersed between healthy tissue, and the meninges of the brain were thickly set with tubercles.

CASE 12.—R. O—, a girl, æt. 10 years, had typhoid fever in August, 1867, had apparently quite recovered in October, began again to suffer in May, 1868, when the symptoms gradually rendered the presence of tubercular peritonitis unmistakable, and she died in August of the same year. There were many cicatrices in the ileum, especially near the valve, but no fresh ulcers, nor were there any tubercles round the cicatrices ; many of the mesenteric glands were much enlarged, and caseous, and the mesentery and the peritoneum contained tubercles of all sizes ; the surfaces of the liver and spleen were likewise covered with tubercles ; the lungs and pleuræ contained only a small number of miliary tubercles, and the meninges were free.

CASE 13.—K. T—, a man, æt. 31, with the history of an attack of hæmaturia from the kick of a horse on the back in 1863, had ever afterwards occasionally suffered from pain in the back, and died two years later under the symptoms of tubercular peritonitis. The right kidney contained in the cortical substance a caseous mass of the size of a large filbert, and many small yellow tubercles in the neighbourhood ; there was extensive tubercular peritonitis, but the quantity of tubercles was greatest in the neighbourhood of the right kidney. The lungs and meninges were free.

CASE 14.—A. W—, æt. 31, a coachman, who had received an injury to the lower part of the back in the spring of 1866, and had not been quite free from pain in the right loin and thigh since that time, became the subject of peritonitis in the autumn of 1867, and died after three months' suffering. There were considerable layers of caseous masses between the psoas and quadratus lumborum of the right side, and the tubercles of the peritoneum were most abundant and largest on the same side. The lungs and pleuræ contained only a few isolated miliary tubercles.

CASE 15.—B. T—, a woman, æt. 35, had been suffering for two

years after her last confinement from obscure uterine and ovarian symptoms, when the phenomena of peritonitis became more prominent in the summer of 1868, and led to a fatal termination in January, 1869. There were caseous masses in and around the substance of the uterus, near the insertion of the left tube, and around this tube, which was glued together with the left ovary, by caseous substance. The peritoneum in the neighbourhood was thickly studded with larger and smaller tubercles, and the intestines on the left side were likewise glued together by yellow exudation. The liver and spleen were covered with numerous tubercles, and there were also many miliary tubercles in the lungs.

It will be seen from a perusal of these cases, that in five of these eleven cases of tubercular meningitis, the seat of caseous matter was in the lung, being the product of a previous attack of pneumonia; in two of them between the layers of false membrane of old pleuritic effusions, and in the others respectively in the inflammatory products of a scrofulous ankle-joint; in the caseous glands of the neck after scarlet fever; in caseous cervical glands from impetigo; and in caseous mesenteric glands after typhoid fever. In the four cases of tubercular peritonitis, the seat of the caseous deposits was in the abdominal cavity itself, or in its immediate neighbourhood, viz., in the mesenteric glands after typhoid fever; in the right kidney as the result of an injury; between the psoas and quadratus lumborum likewise after an injury; and in the uterus and left ovary after confinement.

In the cases of tubercular peritonitis there seems to have been a spreading by contiguity from the seat of the caseous mass to the adjacent tissue, until a more general tubercular inflammatory affection had been caused; and such seems to have been also the case in several of the cases of tubercular meningitis. Thus in cases 1, 3, 4, 7, 8, 10, the tubercles were most abundant, and of the largest size and greatest age in the immediate neighbourhood of the caseous focus, and had probably been gradually spreading thence for some time before the fatal general infection took place. In a few cases, however, the immediate neighbourhood was quite free, the disease breaking out at once at a distant part; thus in case 9, where the caseous masses were contained between the layers of false membrane of the pleura, the lungs were entirely free from tubercles, reminding one of pyæmia and minute embolic processes, where the secondary affections are frequently far removed from the primary seat. Again,

in some cases the tubercular affection was confined to a limited sphere, as in case 9, to the meninges of the brain; while in the majority it had more the character of a general tuberculosis of the serous membranes.

The fact that in some of the cases the immediate neighbourhood of the caseous matters was more affected than the more distant parts, leaves scarcely a doubt that the caseous matter can under circumstances act as an infecting focus; why it does so only in a few and not in all cases, may depend on many causes, local and general, into which it would lead too far to enter at present. It would be wrong to argue that because a caseous deposit does not *always* infect, it can never be the cause of infection, for the existence of a purulent deposit does likewise not always cause pyæmia, and a thrombosis of the leg after typhoid fever or confinement does, fortunately, not always lead to embolism.

The results of the experiments on the production of artificial tuberculosis by Villemin and his successors appear to throw much light on this question, and we may refer to the transactions of our own Society for some of the most important experiments on this question by Mr. Simon (vol. xvii) and Dr. Sanderson (vol. xviii), and to Dr. Wilson Fox's lecture before the College of Physicians, "On the Artificial Production of Tubercle in the Lower Animals" (Macmillan & Co., 1868). Amongst the latest foreign experiments, those of Waldenburg are very instructive ('Die Tuberculose,' &c., Berlin, 1869).

In conclusion, we beg to propose for the examination of the Society the correctness of the question, "That miliary tuberculosis is produced by the introduction (generally through absorption) into the circulation of minute corpuscular elements from caseous and allied pathological products, and by the migration of their particles to numerous points of different organs, there giving rise to the formation of nodules, and further changes (tubercles)."

*February 1st, 1870.*



10. *Specimens of the brain, lungs, caseous glands and other organs from a case of tubercular meningitis.*

By HERMANN WEBER, M.D.

THE specimens from the body of a girl who had been well up to the age of five years, when she had scarlet fever. The child had to all appearance completely recovered and enjoyed good health during four months, when it commenced to suffer from headache, followed by vomiting, irregularity of pulse, stupor, and other symptoms, which, on admission into the German Hospital, were referred to tubercular meningitis. Death occurred four weeks after the commencement of the headache. The post-mortem examination manifested the phenomena of tubercular meningitis with considerable effusion into the dilated ventricles; miliary tubercles in the lungs and under the pleura, and tubercles of different size on the spleen, liver, and kidneys, enlargement of the bronchial glands with caseous changes in their tissue.

The specimens are exhibited as belonging to the class of cases, mentioned at a recent meeting (February 1st), where acute tuberculosis is found connected with caseous changes in the body. It is the sixteenth successive case of tubercular inflammation of the serous membranes in which I have looked for and found caseous changes preceding the outbreak of tuberculosis. In this case, as well as in the majority of those mentioned in the former communication, there was no family history of scrofulosis or consumption; good health had existed in those cases up to the time of some acute illness, in connection with, or in consequence of which, some caseous change had occurred in the lungs, or in some lymphatic glands, or in some other inflammatory exudation; health had then apparently become re-established more or less completely for some months, when almost suddenly the symptoms of tubercular inflammation of some serous membrane, especially the meninges, manifested themselves. In seven out of these sixteen cases the changes were the consequence of exanthematic fevers, viz., measles, scarlet fever, and typhoid fever; in two others there was a traumatic cause; in one the changes of the sexual organs, consequent upon confinement, formed one of the earlier links in the chain of pathological conditions. On examining into the history of cases of tubercular meningitis it will probably be found that the proportion of cases

owing their origin to such accidental occurrences as exanthematic fevers, injuries, etc., is considerable—a fact which points out the necessity of careful attention to convalescents from acute diseases whenever there is any reason to suspect the existence of inflammatory products or enlargement of glands. 1st March, 1870.

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### 11. *Case of paralysis with apparent muscular hypertrophy.*

By F. LANGDON H. DOWN, M.D.

**B**ENJAMIN ROUND, æt. 11, admitted in the London Hospital, September 14th, 1869.

*History.*—His mother states that this disorder has been coming on for five years. The first thing wrong which she noticed was, that when he fell down he could not get up again. About two years ago he began to get unsteady in his gait; when running, if he tried to stop himself suddenly he fell down, and even when walking he had difficulty in stopping without tumbling over. Running was easier to him than walking, and walking than standing still. When he stood still, he looked out for something to lean against, getting to the wall if he could. His mother noticed that as he ran he used to stick out his belly and throw back his shoulders. For the past twelvemonth he has been unable to walk, and for the past seven months has been gradually losing use of his arms.

*Family history.*—His mother's health has always been good, and so has his father's. No history of any hereditary disease, except that his grandfather died from "consumption," and his father's grandfather was insane. All his brothers and sisters are healthy.

The only previous illness the boy has had was measles seven years ago. Has never had thrush, nor any cutaneous eruption. Has had thread-worms for six years. His mother suckled him for eighteen months. He was not any longer teething or learning to walk than the other children. He has always been very fat; his belly has always been big, and the calves of his legs have always been large. During the last four years his mother thinks his ankles and thighs have wasted. His head has always been big. During the past two years he has not been well fed; the family have only had meat once a week, and then a pound and a half divided among ten.

*Present condition.*—He is utterly unable to stand. When put upon his legs they sprawl helplessly in every direction. He can sit up, but if he be gently pushed back he falls quite passively upon the floor, and can by no efforts raise himself. As he sits up, he likes to support himself by using his hands as props. When pushed back in bed against the pillow, so that he does not fall quite down, he can manage to raise himself by swinging his head laterally to the front. There is great loss of power over the arms. On being desired to raise his arm slowly, he can move it but a little distance from his side, and that by the aid of his scapular muscles, the shoulder being raised and thrown forward, and the lower angle of the scapula tilted upwards and outwards. By a jerk he can raise it about 60 degrees, and by swinging his arm backwards and forwards, he can get it up nearly horizontally. If his arm be extended in the supine position he can flex it at the elbow-joint, but if a small book be placed in his hand he cannot raise it. If his arm be flexed at the elbow he can extend it, but a weight of three or four ounces prevents his doing so. He can perform any movements with his fingers and thumb, but without much power. When he wishes to raise his hand he does so by the aid of his fingers, making them climb, as it were, over his body and head, and drag his arm after them. He separates his fingers, and places his thumb on a higher point than the rest; he then approximates his fingers, and resting his little finger on the same level as his thumb, again separates his fingers, and plants his thumb on a higher level still; in this way he makes his arm travel to the desired place. He cannot flex the thigh upon the trunk at all in bed; out of bed he can do it a little. As he lies in bed he moves his lower extremities about by the movements of his feet, alternately using the heel and toe as a fixed point to advance the rest of the foot. He can rotate the limb at the hip-joint. Out of bed, by swinging his legs, he can get them to an angle of about forty-five degrees from the perpendicular, but he cannot keep them in opposition to the force of gravity. He can also swing his feet laterally. He can move his feet a little laterally at the ankle-joint, but without much power. He flexes and extends his toes readily. He can adduct the limb slightly, but appears to do so by the action of his biceps.

*Muscular system; lower extremities.*—The muscles supplied by the gluteal and great sciatic nerves are immensely hypertrophied. On looking at the boy the prominence of his gluteal region is very

apparent, and on feeling the part the extreme hardness of the muscle is very striking. The lumbo-sacral curve is greatly exaggerated. The tensor vaginæ femoris can be felt as a thick, hard, firm band under the skin. The flexors of the thigh are also much hypertrophied. The muscles of the calf are also very hard and very large. The extensor and peronei muscles on the outside of the tibia appear to share this hypertrophy. The foot is in a state of talipes equinovarus.

The adductor muscles on the inside of the thigh are very soft, small, and lax. The quadriceps extensor appears somewhat hypertrophied, but it is very difficult to estimate its size. The sartorius is wasted.

*Measurements of lower extremities—*

From one iliac spine to the other . . . . .	= 8 inches
Around pelvis, over most prominent part of glutæi . . . . .	= $24\frac{1}{2}$ "
From anterior superior iliac spine to outer condyle . . . . .	= $12\frac{1}{4}$ "
From great trochanter to outer condyle . . . . .	= $10\frac{3}{4}$ "
Circumference at middle of thigh . . . . .	= 12 "
Tibia, from inner tuberosity to inner malleolus . . . . .	= $9\frac{1}{2}$ "
Circumference of thickest part of leg . . . . .	= 11 "
Circumference of leg just above ankle . . . . .	= 6 "

*Upper extremities.*—The deltoid seems a little hypertrophied, but not so much as the glutæi. The triceps seems also somewhat hypertrophied. The pectorals and scapular muscles almost completely atrophied, and the latissimus dorsi can scarcely be felt. The head of the humerus can be felt with perfect ease, and can be partially dislocated and reduced, the ligaments being very lax; the bony points around the joint can be very easily felt. The biceps and coraco-brachialis are also very much wasted. The muscles of the forearm and of the thumb and fingers are fairly developed, and of their natural size.

*Measurements of upper extremities—*

From acromion to outer condyle . . . . .	= $8\frac{1}{4}$ inches
Circumference at middle of arm . . . . .	= 6 "
Length of ulna . . . . .	= $7\frac{1}{4}$ "
Circumference of forearm just below condyles . . . . .	= $6\frac{3}{4}$ "

*Trunk.*—As before said, the lumbo-sacral curve is greatly exaggerated. The erector spinæ is immensely hypertrophied, and can be felt as a thick, hard mass on each side of the spine. The spinous processes of the vertebræ lie in a groove between these masses of muscle. In the space between the crest of the ilium and the last rib the thick hard edge of the erector spinæ can be felt distinctly. The belly is big, but the muscles forming its wall do not appear to be either wasted or hypertrophied. The cremasters act readily. The chest is broad and deep, and the costal angle exceedingly obtuse; its conical shape can be very distinctly seen, owing to the wasting of the pectorals. The serratus magnus is large, and its serrations can be seen with great clearness through the skin; it is not hard, like the erector spinæ, but appears to act naturally. The action of the diaphragm in respiration was carefully watched, and found to be the same as in a healthy person. The intercostals appear to act fairly.

*Measurements of chest—*

From acromion to acromion . . . . . = 10 inches

Circumference just below axilla:

On expiration . . . . . = 24 ,,

On inspiration . . . . . = 25½ ,,

Circumference on a level with ensiform cartilage:

On expiration . . . . . = 26 ,,

On inspiration . . . . . = 27½ ,,

*Head and neck.*—The sterno-mastoid is rather wasted. The depressors of the os hyoides are capable of fairly vigorous action. It is doubtful whether there is anything abnormal with the trapezius, and the other muscles of that group; if anything, hypertrophied. His temporal muscles are undoubtedly hypertrophied, and, seen from the front, form a small tumour outside each orbit. His masseters seem somewhat increased in size, but this is difficult to ascertain. The facial muscles of expression appear sluggish in their action. His orbiculares are wasted; he can shut his eyes, but cannot screw them up tightly. He cannot frown, and can elevate his eyebrows but little. The muscles acting on the mouth do not seem defective at first sight, but on making him go through various grimaces, it is seen that he has not the command over the upper lip that he has over the lower; this, perhaps, is from misapprehension of his direc-

tions. He puts out his tongue in a peculiar way, it always being concave, and he does not protrude it beyond his lips unless told to put it out further, when he makes an effort; but it is never convex from side to side. No affection of any ocular muscle.

*General appearance, &c.*—He is a dull, heavy-looking boy, with a stolid, but somewhat cunning expression of countenance. His face is very fat, especially about the lower part; complexion sallow and pasty; skin thick, superficial veins cannot be distinctly seen through it. His head is very large (circumference where the hat fits twenty-one inches); its shape is broad rather than long. Hair thick, brown, and straight. Forehead rather high. Eyes brown, pupils large, eyelashes long, eyebrows thick at outer part, thick towards the median line. Nose flat and broad, especially broad at the bridge; alæ nasi thin, nasal aperture large. Ears small, but well shaped, lobules not ill developed. Lips thick, upper lip thicker than lower, angles of mouth somewhat inclined downwards. Thyroid gland enlarged, but not greatly. Voice natural, clear, low-pitched. Bones of extremities well shaped; epiphyses not unduly large.

*Mental condition.*—He is stupid or dull, but rather cunning. He is generally good tempered, but is often passionate, and at times very sulky; he appears to possess a strong will (he has probably been spoilt at home). He is not timid or bashful in any way. He smiles when spoken to, answers questions readily, and any experiments tried upon him takes in very good part. He cannot read, but knows his letters. He has an appreciation of music, and amuses the other patients by his singing, whistling, &c.

*Nervous system.*—He sleeps well. Has no fits or cramps of any kind. Sight good, ophthalmoscopic appearances normal. Hearing, taste, and smell good. Sensation appears to be very good all over the body, both painful, tactile, and thermic. It cannot be estimated with the compasses, because the boy, whether from laziness or any other motive, does not (or perhaps cannot) give consistent answers. The atrophied muscles do not respond at all to electricity. The gastrocnemii and hamstring muscles contract under it. The other hypertrophied muscles were not tested with it.

*Digestion and appetite good.* Bowels regular.

*Urine.*—Sp. gr. generally rather high; acid; no albumen, no sugar.

*Respirations,* 18 per minute, taken naturally; no cough or dyspnoea.

*Heart.*—Cardiac dulness reaches above to third rib; on the right to an inch beyond the sternum; on the left to within half an inch of nipple; apex beat under fifth rib, one inch to right of nipple, 88 per minute. Impulse normal. Sounds sharp and clearly defined, somewhat exaggerated. No murmur or thrill of any kind.

*Temperature,* taken at different times, always normal.

*Remarks.*—This case, for the very careful notes of which I am indebted to my clinical clerk, Mr. Herman, is a very typical example of the disease so well described by Dr. Duchenne in the ‘Transactions’ of this Society. By the aid of the harpoon I extracted specimens of the muscle from both gastrocnemii. When examined by the microscope, it was noticed that the transverse striation of the muscular fibre was very indistinct, that there was a great increase of connective-tissue elements, and that there were numerous fat-globules, but they were distinctly external to the sarcolemma. There was no fatty degeneration of the muscular structure.

The treatment has been dietetical and the daily use of the Faradaic current. No improvement, however, has resulted. I think the best name for such cases is pseudo-hypertrophic paralysis.

*March 3rd, 1870.*

## 12. *Case of Pseudo-hypertrophic Paralysis.*

By F. LANGDON H. DOWN, M.D.

SAMUEL RICHARDSON, æt. 11, admitted into the London Hospital 22nd February, 1870. There is no family history of insanity, nor any mental affection. The father appears a man of average intelligence; the mother is certainly below the average. She appears a woman of a desponding, irresolute disposition, and not of at all quick perception; I should think her inclined to melancholia. She is thirty-seven, and has had six children; this one is the eldest. It was born at full time, after a tedious labour, lasting two days and a half, and was delivered with instruments. She has had one miscarriage, and one child, her fourth, died aged one year and a half, from “fits,” which it had had from a month old; at the time it died it had

not cut any of its teeth. All the rest are living. She states that while pregnant with this child she was in very delicate health, but she is unable to describe any definite ailment. She has always had plenty of food. The father is a mason, æt. thirty-three; has always had good health. During the first two or three years of his marriage he used to be very frequently intoxicated. This child was two years old before it had any teeth, or before it could walk, and it was always very fretful. The mother says that while it was teething, and afterwards, it used to suffer from attacks of "inflammation," but I cannot make out what she means by this. She does not think that in intellectual capacity it is behind the other children. Five years ago he had rheumatic fever; was in bed six months, all his joints being affected. Previous to that was quite well. Since then has suffered at times with rheumatic pains in different joints, and has been weak and delicate. About twelve months ago his parents first noticed that when he walked he used to "bend his back in;" his stomach sticking out in front, and his buttocks behind. About nine months ago it was first observed that when running, his legs would give way, and he would fall with his legs under him. About eight months ago he began to complain of his back hurting him. About this time, his mother says, he began to lose strength in his arms. His walking has since gradually got worse; he began to be unable to run before he was unable to walk. His falls became more and more frequent; at last he would fall down about every five or six yards. For the past two months he has been unable to walk without assistance, and for the past fortnight has been unable to walk at all. For some time past, his mother says, he has been losing flesh. She says he has lost flesh in his calves and buttocks as well as in other places.

He is rather small for his age. His height is 3 ft. 10½ in. His aspect is that of a dull, backward child. He has a vacant, apathetic, timid expression upon his face. Complexion fair, cheeks fresh coloured; hair brown, thick, straight, and fine; eyelashes long and fine; eyebrows thin, a wide interval between them in the middle line. Pupils large, irides dark, sclerotics of a bluish tint; eyeballs prominent. Nose broad, especially at the bridge, *ala nasi* thick; nasal aperture large. Forehead high, round, protuberant; face fat, especially at lower part; lips thick, upper lip the thicker, and is broad and long. Bones well shaped; epiphyses not unduly large. Finger ends square. Costal angle acute. Palatal



arch contracted; teeth crowded and irregular; skin thick, superficial veins can be seen, but not distinctly. Ears of moderate size, lobules small. Circumference of head where hat fits,  $20\frac{1}{2}$  inches.

He cannot stand by himself. When told to try and stand by himself, he bends forward, and stands on tiptoe, but he cannot succeed. If he be held up by the arms, there is a tendency to bend his body at the hips. If he be made to put his heels to the ground, the tendency is greater. If left unsupported, his body bends forward at the hips, and he falls with his legs under him; but he can stand if support be given by the hand pressing his buttocks forward, though he does so in a tottering way. He can sit up without assistance, but he likes to have one hand behind him as a kind of prop. If he be laid down on his back, he cannot get up by himself without great exertion; he accomplishes it by turning on his side and bringing his body, by pulling at the clothes, to the proper angle with his legs, and then he clutches at the bedclothes and pulls himself up by them.

His body is wasted, but not markedly so. The lumbo-sacral curve is slightly exaggerated; the glutæal region is larger and more rounded than is consistent with his wasted condition, and it is very hard. The erector spinæ is about as large as it should be for a boy of his age, but is much harder and firmer than it ought to be. The abdomen is large. It is difficult to estimate the size of the abdominal muscles, but they are capable of fairly vigorous action (measurement around pelvis over most prominent part of glutæi, twenty-two inches; from one iliac spine to the other, eight inches). He moves his legs about badly, and without much power. If asked to cross his legs, he takes hold of one with his hands and lifts it over the other one. He can just perform this movement without the aid of his hands, but does so slowly, and with apparent exertion. As he lies on the bed, if told to draw up his legs, he does this with more force than he can any other movement. On sitting him on the edge of the bed he can raise his feet to a right angle with his body, *i. e.* extend his knees; but a 1 lb. weight attached to his great toe is sufficient to prevent him. On placing him on his face, he can flex his leg on the thigh, but a 2 lb. weight attached to his great toe prevents him. He can move his feet laterally at the ankle joint, and does this pretty well. He can extend and flex his foot a little at the ankle, but he does not do this nearly so well as he should do. He can move his toes but slightly.

On examining the muscles, the tensor vaginæ femoris is felt enlarged and very hard. The sartorius he can put in action, and it does not seem wasted. The quadriceps extensor seems harder than it should be, but this is difficult to estimate, as is the size of the muscle. The flexor muscles of the thigh are larger than they should be. The adductors are small, but contract well when he puts them in action. The gastrocnemii are large and very hard; the extensor muscles and the peronei are also hard, and are certainly not wasted. The foot is in a state of talipes equino-varus: the tendo Achillis is very tense. The extensor brevis appears wasted, but it is difficult to tell. (*Measurements*.—From trochanter major to external condyle,  $10\frac{3}{4}$  inches; from anterior superior spine of ilium to external condyle,  $12\frac{1}{4}$  in.; circumference at middle of thigh,  $9\frac{1}{2}$  in.; circumference tibia, from inner tuberosity to inner malleolus,  $10\frac{1}{4}$  in.; length of at thickest part of calf,  $8\frac{5}{8}$  in.; just above ankle,  $5\frac{3}{8}$ .)

His chest is long and narrow; costal angle very acute. Breathing mostly abdominal. When told to take a deep breath, he does so with his diaphragm; the chest moves but slightly, and the intercostal spaces sink in. The serratus magnus can be felt, and appears about normal.

He can move his hands and arms in any direction, but has not much strength in them. He can take a 2 lb. weight and elevate it above his head, but no heavier weight. A boy aged nine, in the same ward, suffering from pulmonary disease, can lift 6 lb.; on resisting the action of the triceps with a 2 lb. weight, he can just extend his arm. As to the biceps, he cannot flex his arm against 2 lb., but he can against 1 lb. He can move his fingers readily, but has not much strength in them.

On examination of the muscles, the pectorals, biceps, and coracobrachialis are most markedly wasted. The deltoid is hypertrophied, also the triceps, in a very marked manner. The latissimus dorsi is wasted, also the sterno-mastoid, very decidedly. The scapular muscles are hypertrophied, as is the trapezius. The muscles of the forearm and hand seem neither hypertrophied nor wasted. (*Measurements*.—Circumference of thorax: just below axillæ, on inspiration,  $20\frac{1}{2}$  inches, on expiration,  $20\frac{1}{4}$  in.; at level of ensiform cartilage, on inspiration,  $23\frac{1}{2}$  in., on expiration,  $22\frac{1}{2}$  in.; from acromion to acromion, 10 in.; from acromion to outer condyle,  $8\frac{1}{4}$  in.; circumference at middle of upper arm, right  $5\frac{3}{4}$  in., left  $6\frac{1}{8}$  in.; length of

ulna,  $7\frac{1}{4}$  in.; circumference of thickest part of forearm, 6 in.; circumference of neck,  $10\frac{1}{4}$  in.)

His facial muscles of expression appear sluggish in their action. He can screw his eyes up firmly, and can elevate his eyebrows; but I cannot get him to frown; whether he can or cannot I do not know. He seems to have but little power over his lips. His face seems remarkably devoid of expression; on trying to make him grimace, he either will not or cannot contort his face as told. When he laughs he does so in a feeble sort of way; I cannot make him laugh aloud, or put on a broad grin, but the other patients say that he does. His temporals and masseters seem normal. His thyroid gland does not seem enlarged. He puts his tongue out in a feeble sort of way; he puts it out slowly, and a very little distance, but he can put it out far if he likes.

Mentally he is certainly below the average of a boy of his age. He is very slow in his answers; seems afraid of every one, and often cries. The men in the ward remark that the other boy (Round), although more paralysed, is "the best man of the two." He knows his letters, but cannot read. He can do very simple sums in arithmetic, such as that two and two make four, but three and four he says make eight. He is cunning, although stupid.

He sleeps well. Has no fits or cramps of any kind. No paralysis of any ocular muscle. Fundus oculi normal. Hearing, taste, and smell good. Sensation of every kind, painful, tactile, thermic, and electric, seems unimpaired: he does not answer properly, so that it is impossible to estimate it for purposes of comparison. Induced electricity applied to muscles does not produce contraction.

Appetite and digestion good, bowels regular.

Urine.—Sp. gr. about 1020; acid, no deposit, no albumen, no sugar.

Pulse 96. Cardiac dulness extends above to third rib; on the right, to right margin of sternum; on the left, to half an inch beyond the nipple; below, to the sixth rib. Apex beat under fifth rib, half an inch to the right of the nipple. The impulse is increased, but is not heaving, nor is there a thrill. The first sound is doubled, but there is no decided murmur.

Respirations 20 per minute. No cough, no dyspnoea. Temperature normal.

*Remarks.*—This case presents a very good example of pseudohypertrophic paralysis in an earlier condition than that of "Round,"

previously reported. I am again indebted to my clinical clerk, Mr. Herman, for the very careful notes of the case. I did not extract any specimens of muscle, in consequence of rather troublesome wounds having been produced in the previous case.

It is worthy of being noted that this is the seventh case of pseudo-hypertrophic paralysis which has come under my observation, and that in each case there has existed more or less mental feebleness.

The treatment has been dietetical, and the daily employment of Faradisation. No perceptible improvement of any kind has been observed.

May 3rd, 1870.

12.\* *Right hemiplegia ; amnesia ; bronchitis ; death ; autopsy.*

By J. S. BRISTOWE, M.D.

C C—, a widow, æt. 68, was admitted under my care on the 16th September, 1869. She had had a fit on the 13th, and had lost the use of speech and of her right side. On admission, her right arm and leg were found to be quite motionless, and her face was drawn to the left. She did not appear, however, to have lost sensation, and her hearing and sight were, so far as could be ascertained, unaffected. Her evacuations were all passed under her. She seemed to understand everything that was said to her ; but she was unable to speak ; she did not seem to make any effort, and when asked to speak, shook her head. Both pupils acted under the influence of light, but the right pupil was dilated. Heart's action slow, but regular, and free from unnatural sound. Urine free from albumen.

Ordered on admission hyd. subchlor. gr. v, ol. tiglli, ℥j, statim ; milk diet, with beef tea.

21st.—Still passes everything in bed. Can move her right foot and toes slightly, and makes efforts to speak. Answered "better" pretty distinctly. Right pupil dilated.

24th.—A little improvement in speech. Bed-sores threatening. To have a water bed.

From this time there was gradual but very slow improvement.

On the 28th September she was ordered inf. gent. co.  $\zeta$ i, t. d., and was put also on mixed diet.

October 25th.—She still passes all her evacuations unconsciously. Can move her leg better than she did, though still very imperfectly; and can also move the arm slightly. Speaks considerably better than she did; answers questions, but if left to herself, after a few words said pretty correctly, she loses herself, says a word or two incoherently, and then looks a little annoyed, and shakes her head. Does not use wrong words. There seems to be a difficulty in recalling words, and also in concentrating her thoughts. She appears to understand everything that is said to her. Her articulation is decidedly impaired by the paralysed condition of the organs of speech.

November 11th.—Was making slow but satisfactory progress, but during the last few days has had an attack of bronchitis, to which she is subject; at the present time her breath is very short; she has frequent cough, without expectoration; there is much wheezing all over the chest, which is resonant; and her pulse is quick.

Ammon. sesq. gr. v, træ. opii  $\mathfrak{m}$ v, inf. senegæ  $\zeta$ i, 6tis horis; venesectio ad  $\zeta$ vii $\bar{j}$ . Ordered two glasses of brandy on the 8th November.

12th.—Only  $\zeta$ ij of blood removed. Has been getting weaker and weaker. Face congested; skin moist; respirations rapid and shallow; little cough; chest loaded with phlegm; pulse 120, very feeble; drowsy and rambling.

She died on the 13th.

*Post-mortem examination.*—There was slight opacity of the pia mater and arachnoid over the convexity of the cerebral hemispheres. The arteries at the base were highly atheromatous. In the substance of the left hemisphere, involving the extreme posterior portion of the corpus striatum, and a part of the optic thalamus, was a cavity nearly as large as a small chestnut, which contained a brownish-looking clot and some thin brownish fluid. The clot consisted of altered blood-corpuscles and abundant hæmatoid crystals. The brain-substance for some little distance around the clot was softened, and of a faint brownish-yellow colour, and presented numerous granules and compound granule-cells. There was a good deal of serum in the lateral ventricles.

The pleuræ were adherent throughout, and over the back of the left lower lobe was a plate of osteoid material three inches long, one inch wide, and one eighth of an inch thick. The lungs were small and

congested, but everywhere crepitant. The bronchial tubes were much congested, and their lining membrane was rough. The trachea also were somewhat congested. The pericardium was generally adherent. The heart weighed  $10\frac{1}{4}$  ozs.; its valves and orifices were healthy.

The abdominal viscera were all healthy.

November 16th, 1869.

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13. *Yellow atrophy of the surface of the brain, the result, probably, of superficial hæmorrhage.*

By J. S. BRISTOWE, M.D.

T J—, æt. 34, was admitted into St. Thomas's on the 4th March, 1870, suffering from bronchitis, of which he died in two days. There were no special cerebral symptoms, nor was it learnt then, nor could it be ascertained subsequently, that he had ever suffered from any form of brain or nervous disorder. It was not elicited that he had ever had a severe fall.

At the *post-mortem* examination the bronchial tubes gave clear indications of the existence of acute inflammation of their mucous membrane; and the heart, which was otherwise healthy, weighed 14 ozs. The abdominal viscera were all normal. Generally, the brain also was healthy; but its surface presented at certain spots some peculiar changes. The implicated patches were of irregular form, and of different sizes. The largest one, about equal to a florin, occupied the anterior and under part of the anterior lobe of the right cerebral hemisphere; a single patch, which might be included within the limits of a shilling, was situated at the anterior point of the middle lobe, just behind the internal extremity of the fissure of Sylvius; and another patch, of about equal size, and equally irregular, but much better marked, was also situated in the middle lobe, but just behind the outer extremity of the same fissure; a smaller spot of the same kind was seated in that portion of the anterior lobe which is contiguous to the patch last indicated; and another small spot, in the same lobe about an inch above the first described patch, and imme-

diately adjacent to the longitudinal fissure. The left hemisphere presented the same appearances, only in a much smaller degree; a well-marked patch, about three quarters of an inch long, occupied the under part of the anterior lobe in the neighbourhood of the olfactory bulb; two small spots were observed on the anterior part of this lobe, and two other very minute ones on the outer aspect of the middle lobe.

The patches here referred to had all a deep orange or brownish-yellow hue, which rendered them very noticeable objects; and in most of them there was a remarkable atrophy of the convolutions. One or two of the most minute patches were mere points of discoloration; and one or two formed mere pits or depressions on the surface of the convolutions; but in all the large ones large portions of convolutions, or even entire convolutions, were atrophied. Under the latter circumstances the convolutions formed thin folia, varying, perhaps, from half a line to a line in thickness, and presenting thin edges; they were also much shortened in their vertical direction, and were associated with very considerable widening of the sulci connected with them. The diminution of brain-substance at the most extensive seat of disease was very considerable. The pia mater corresponding to the diseased patches was delicate, attenuated, and lacerable; but it was also adherent to the brain-substance beneath, or rather perhaps appeared to be directly continuous with it. On cutting into the atrophied convolutions they were found to be discoloured in their whole thickness, somewhat leathery in texture, and without any traces of the ordinary brain-substance.

The brain, with the above exceptions, was perfectly healthy, as also were its meninges and its vessels.

On examining the diseased portions of brain with the microscope, they were found to consist mainly of a somewhat delicately fibrillated substance, in which no nervous elements were to be detected, but which was studded with transparent refractive, yellow or orange-coloured, clusters of granules, or concretions, and presented here and there distinct rhomboidal ruby-coloured (hæmatoid) crystals.

Although no history could be obtained tending to throw light on the cause of the appearances above described, or leading us to believe that they had been associated with any symptoms, there can be no doubt that the appearances themselves were the result of hæmorrhagic effusion into the substance of the convolutions at the spots at which they were found; and from the situation of these spots (which

corresponds so exactly with the seat of the effects of contrecoup), there can be little doubt, I think, that the hæmorrhage had been caused by a severe blow, probably a fall, on the back of the head.

May 17th, 1870.

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14. *Hæmorrhage into the corpus striatum in a young female, aged twenty-one years.—Aneurismal dilatation of the small vessels of the brain.*

By R. DOUGLAS POWELL, M.D.

I AM indebted to Dr. Quain for the opportunity of showing this specimen, which consists of a portion of the corpus striatum and adjoining part of the cerebrum removed from a young lady aged twenty-one years.

Occupying the centre of the corpus striatum there is seen in section an oval patch of closely aggregated hæmorrhagic points. The long diameter of the oval, about  $1\frac{1}{2}$  inch in length, is placed nearly in the axis of the corpus striatum, and at its lower end a large branch of the middle cerebral artery enters. The patch itself is generally of a pink grey colour with the bright red hæmorrhagic points above mentioned, surrounding the area of hæmorrhage is a somewhat depressed pale greyish zone more translucent and softer than the surrounding healthy brain substance, but by no means diffuent.

On examining with a low power of the microscope a section taken from the apoplectic centre, some of the red points are found to be actual effusions of blood into the brain substance, in others the effusion is bounded by the perivascular sheaths of the ruptured vessels which are dilated at these points.

The brain substance is granular and in a condition of inflammatory softening. All the efferent veins are blocked by ante-mortem coagula. On carefully pulling out some of the small vessels which pass into the diseased portion, and examining them with a low power, they are clearly seen to be in a state of disease, which consists of a general thickening of the perivascular sheaths with a multiplication of their nuclei, and of the presence of enlargements at certain



parts of their course, which are of two kinds:—1, produced by an extra thickening of the perivascular sheath at the enlarged portion, the artery passing through but little changed in calibre; indeed, in some places the calibre of the vessel appeared to me to be actually diminished; 2, a dilatation usually fusiform of the artery itself.

The vessels thus affected were of all sizes, from the secondary to the pre-capillary branches. The main branch of the middle meningeal artery was healthy, presenting no appearance of atheroma.

Some small vessels obtained from an apparently healthy portion of the brain, though much less diseased, were still affected in some degree, the sheaths of some of them being considerably thickened by the same nuclear proliferation.

*Remarks.*—The last-mentioned fact shows this case to be one of the diffuse periarteritis described by MM. Charcot and Bouchard<sup>1</sup> two years ago, though I had at first some doubts as to whether the miliary aneurisms might not be secondary to the inflammatory softening—a sequence which is stated to be not uncommon.

The essential anatomical character of the disease is a thickening of the perivascular sheath by proliferation of its nuclei. An interesting case in a yet younger subject (a child aged 11) has been recorded in the last volume of the 'Transactions' by Dr. Cayley, in which the vessels of the brain were affected in a precisely similar manner, but no actual aneurismal dilatations were found.

This vascular dilatation appears to be the last stage of the disease and its mechanism may be thus explained:—the periarteritis, more marked at certain portions of the vessel, leads to an extra thickening of the sheath at those points, causing there an increased resistance to the circulation by (1) a complete destruction of its elasticity, or (2) by the excessive growth actually compressing and diminishing the calibre of the vessel: as the inflammatory change extends inwards the muscular coat of the artery notably suffers and becomes atrophied (Charcot), and the softened vessel readily yields to the blood pressure. It is probable that rupture may take place at either of these stages of the disease in the first or obstructive stage, when hæmorrhage is more likely to be into the sheath, or in the last or dilatation stage into the brain substance.

The disease is essentially distinct from atheroma, though the two may be combined: it is rarely seen before forty; out of 800 autop-

<sup>1</sup> 'Nouvelles Recherches sur la Pathogénie de L'Hémorrhagie Cérébrale Archives de Physiologie,' 1868.

sics M. Heschl only met with one case under that age in a youth of between twenty and thirty years. MM. Maynert and Charcot have each met with a case, both men, aged twenty-four and twenty respectively. MM. Charcot and Bouchard append to their paper accounts of sixty-six cases of death from cerebral hæmorrhage, in all of which miliary aneurisms were found. All these cases except one were beyond the age of forty.

It was particularly noticed by Dr. Quain, who saw this young lady shortly before her final illness, that she was profoundly anæmic; and the anæmia seemed to account for all the symptoms then present. The case may be serviceable, therefore, from the few special symptoms which were present during life, in directing inquiry to the brain in those cases which appear to die from simple anæmia, without any recognisable cause. One such case died at the Brompton Hospital, some eighteen months ago, in which, unfortunately, the brain was not examined. Headache is always a prominent symptom in marked cases of anæmia.

MM. A. Ollivier and L. Ranvier have contributed to the 'Archives de Physiologie' for January and February, 1870, an interesting paper on "Cerebral Hæmorrhage in Leucocythemia." They bring forward eight cases of leucocythemia, in which death occurred from hæmorrhage into the brain, and they account for the hæmorrhage by obstruction to the circulation through the capillaries of the brain from the accumulation of pale blood-corpuscles. These authors consider the chief symptoms of great anæmia—languor, cephalalgia, vertigo, and somnolence—to be due to different degrees of impediment to the flow of blood through the capillaries, and that, in fatal cases, the coma and convulsions are caused by numerous hæmorrhages into the brain. They do not state that the small arteries have been examined in any of the cases quoted, and I think it very probable that, in some at least, the hæmorrhage resulted from the rupture of miliary aneurisms; in a few of the cases, however, there were hæmorrhages of a purpuric character in other parts which have not yet, I believe, been suspected to be due to disease of vessels.

The following is a brief account of the above case, which has been kindly sent me by Dr. Robert Jackson, of Notting Hill Square:

"C. W—, æt. 21, the daughter of short and stout but healthy

parents, both alive; father 51, mother 56, having five other children, all of whom are healthy. Patient was quite well in every respect until June, 1869, when she began to have headaches, a peculiar cough after meals, and sudden sickness nearly every night *immediately* after eating her supper, which was all returned. This continued constantly till September, when she had some change of air, and she then kept pretty well till Christmas, when her headaches returned with much intensity; her hands would 'die,' and she had some little loss of power in one arm; she appeared pale, bloodless, &c. About the 5th or 6th of February she became very ill; constant severe headaches, anorexia, frequent violent sickness. On the Sunday previous to her death she brought up 'quarts' of fluid from her stomach, and on Tuesday one eyelid 'dropped,' and continued to do so until death. She went to bed as usual on Friday (10th February) with her mother, who, in the morning, finding she did not ask for her usual cup of tea, found she was lying on her side in the state I have mentioned my assistant found her, namely, 'lying on her right side, quite unconscious, pupils dilated, breathing stertorous, pulse quick, saliva flowing from angle of mouth, and extremities cold.' She died soon after." Dr. Jackson adds, "I may mention as a curious fact, showing what an amount of disease may exist without being suspected, that a few weeks before her death she went out to a party (a juvenile one), played, danced, and was very happy."

*May 17th, 1870.*

## II.—DISEASES, ETC., OF THE ORGANS OF RESPIRATION.

### 1. *Larynx and pharynx, illustrating suicidal suffocation by cotton wool.*

By MORELL MACKENZIE, M.D.

**A**B—, a medical practitioner, æt. about 30, a German by birth, consulted me in July respecting an affection of the larynx. The laryngoscope showed slight congestion of the larynx; and on examining the chest a cavity was found at the apex of the left lung, and there were signs of old pleuritic disease at the base of the same side. Local application of iron relieved the laryngeal irritation, and under constitutional treatment he greatly improved. I heard nothing of the patient till about the middle of September, when I was sent for to his lodgings, and found him suffering from extreme mental excitement and an enormous blister, which he himself had produced for the purpose of relieving some pleuritic inflammation. The blister occupied the entire half of the chest from sternum to spine. On conversation he seemed, although very excited, quite rational, and as he was unable to get proper attendance, I recommended his admission into the London Hospital, and by my advice a special nurse was allotted him. Notwithstanding this precaution, and while the nurse was at his bedside, at eight o'clock in the morning of the day following his admission, he contrived to remove a quantity of wadding from the blistered side, and forcing it down his pharynx behind the epiglottis, completely obstructed the entrance to the larynx. When the resident medical officer was called to the patient he was quite dead.

By reference to the specimen it was shown that the wadding, which was closely packed, extended as far down as the lower border of the cricoid cartilage.

It was a question worthy of consideration, whether the wadding had been swallowed in pieces while the patient, being delirious, was unaware of what he was doing, or whether it was intentional suicide.

The patient had been for some time greatly depressed by pecuniary matters.

*October 19th, 1869.*

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*2. Obstruction of the larynx by viscid mucus, caused by entrance of tobacco ; sudden death.*

By W. CAYLEY, M.D.

THE patient from whom this specimen was taken was a man, æt. 50, who had suffered for some months from chronic bronchitis, but not apparently of any great severity. On October 27th, at 8 a.m., he left his house in his usual health, and about 10 a.m., as he was walking in the street, he was seen to stagger, and then fall into the gutter. He was at once brought to the Middlesex Hospital, but was then quite dead. His face was livid, and it was noticed that there had been a discharge of seminal fluid. On post-mortem examination all the viscera were healthy, except the bronchial tubes, which were reddened, and contained much viscid mucus. There was, however, great general venous engorgement, and the right side of the heart was distended with perfectly fluid black blood. In his mouth he had a quid of tobacco. The glottis was completely filled up by a mass of viscid tenacious mucus, which extended downwards as far as the second or third tracheal ring, and passed into the laryngeal ventricles. Embedded in this mucus were a few minute particles of tobacco. In this case, doubtless some particles of tobacco found entrance into the larynx, and set up an ordinary attack of spasm; this, as the man was suffering from bronchitis, led to such an accumulation in the larynx of viscid mucus from the bronchial tubes, that he was unable to get rid of it when the spasm passed off.

*November 3rd, 1869.*

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### 3. *Specimen illustrating a case of Croup.*

By WM. ELLIOTT PORTER. Introduced by C. F. MAUNDER.

**J** N—, æt. 43, healthy. On December 27th last he got wet and caught cold, of which he pretty well recovered, but did not completely shake it off. On January 5th he was again exposed to wet weather and renewed his cold; in forty-eight hours (7th) he was so hoarse he could hardly speak, and was somewhat feverish, but not very so. On the 8th he was worse. On the 9th still worse, and sent to me, saying he had a heavy cold and quinsy; asking for a dose, and desiring me to see him the next day. I sent him two pills, Pil. Hyd. c. Pil. Col. co., and a saline draught to be taken at bedtime with the pills, and recommended hot bran poultices to be constantly applied to the throat.

I saw him on the 10th. On entering his bedroom the respiration struck me as being remarkably croupy, and on the table, in a tumbler of water, was the accompanying cast. The patient told me he had that morning coughed it up; it almost choked him, he said, and he thought he should have died, but he felt better than he did. He is naturally pale and dingy, and had it not been for his painfully difficult respiration he would not have appeared ill; his lips alone looked different from natural, they were of a deep lake colour. He was lying in a comfortable semisupine position, with one hand under his head; he had worked the pillow and bolster under his shoulders, so that they were raised and his head thrown back in what seemed to be an uncomfortable broken-necked position, but lying so put the respiratory orifices in nearly a direct line with the trachea, and enabled him to breathe more easily. When he brought his chin down to the ordinary position it interrupted his breathing and made him cough. He expectorated freely; the sputum was purulent and confluent; his skin was feverish; his pulse about 110, moderate in strength and volume. His tongue was fairly clean and moist; the whole of the inside of his mouth was of a darker hue than natural. The fauces were clear of all membrane, and were not inflamed, neither was there any discharge from his nose. His bowels had been freely moved by two doses of castor oil; he had taken a little gruel and beef tea, but it was with difficulty he could swallow anything. The dose I sent him yesterday he could not swallow, the attempt made him sick. I ordered him perfect repose and silence;

to continue the bran poultices and diet, and to take a saline ipecacuanha mixture every three hours, and repeat the two pills at bedtime. I saw him early on the 11th; he was moribund, and died about eleven o'clock in the forenoon.

I examined the throat about twenty-seven hours after death. I should have stated I did not minutely examine the urine during life; it appeared natural in colour, and had a copious deposit of lithates. After death I drew some from the bladder with a catheter; it was high coloured, very acid, and yielded on boiling one fifth of albumen. I took out the larynx, &c., from the back of the mouth to as low behind the sternum as I could cut it off; the false membrane protruded from the divided end of the trachea, which, on splitting up, I found lined throughout to the margin of the epiglottis by membrane. In some places where this was detached from the trachea the latter presented a much reddened appearance in patches. By making an opening in the loin, the right one, I took out the kidney; it was natural in size, considerably heightened in colour, and healthy in structure; the capsule was non-adherent and transparent.

One half the kidney, the trachea, &c., with the false membrane in situ, and the other false membrane that was coughed up about twenty-fours before death, were presented to the Society.

In bringing this case and specimen before the Pathological Society I did so with the hope that it may have been closely inspected, and an authoritative opinion have been pronounced, if such a thing is possible, as to the individuality of the disease that destroyed this patient; such a course, I take it, was not adopted, but an opinion<sup>1</sup> was expressed founded on probabilities. I thank the members of the Society for entertaining my case at all, but their opinion I cannot adopt; and am, moreover, quite convinced that if there is such a disease as croup per se, this is a case of croup and not diphtheria.

In writing this paper I have simply transcribed my original notes almost verbatim; in reading them attentively over, and in bringing the case to my recollection, I feel certain my opinion is correct. The only point except the age of the patient to be dwelt on is the albuminous urine, and that I should think may be accounted for by the intense state of universal congestion that, under any circumstances, must be produced by slow suffocation. *May, 1870.*

<sup>1</sup> There was an opinion generally expressed at the meeting at which the specimen was shown to the effect that the disease corresponded with what is ordinarily described as diphtheria.—ED.

4. *Primary caries of the cricoid cartilage, with secondary abscess.*

By MORELL MACKENZIE, M.D.

MRS. G—, æt. 65, consulted me on the 13th January, 1869, by desire of Dr. Budd, under whose care, at Clifton, the patient had been for some months. On examination, I found her suffering from slight dysphagia, and an uneasy sensation in the throat, which she was unable to localise accurately.

Thus, sometimes the pain, or rather discomfort, appeared to be under the tongue, sometimes it seemed to be at the root of that organ, and sometimes near the laryngeal orifice. The veins generally about the mouth and pharynx were dark and full, and just below the right tonsil there was a large mass of dark veins, producing, as Dr. Budd had pointed out, almost the appearance of a black tumour, about the size of a pigeon's egg. The dysphagia appeared on examination to be due to the arrest of food near the orifice of the œsophagus, but the exact situation at which it tended to stop could not be ascertained. The difficulty was only felt with solids; liquids could be swallowed with ease.

A full-sized bougie could be passed down the œsophagus without encountering any obstruction, and no laryngeal disease whatever could be detected, either with the laryngoscope or by external examination of the larynx. The voice was not affected, nor the respiration impaired. The cervical glands were not enlarged, and there was no evidence of aortic aneurism, or disease of the heart, nor, indeed, was there any other complication whatever.

The patient had previously enjoyed remarkably good health, a squamous affection of the skin being the only complaint from which she had ever suffered. This had troubled her more or less from childhood, and mainly affected the back of the body and scalp. A faintly gouty diathesis was indicated by an enlargement of the terminal joints of two of her fingers. Though very well nourished, she stated that she had lost flesh considerably.

The day after I first saw this patient she had a copious discharge of blood from the bowels; the blood was very dark and unclotted, and amounted to at least two quarts. The hæmorrhage appeared to be of a passive venous character, and notwithstanding the age of the



patient, it did not produce any serious weakness. At the end of a week she seemed to be restored to her previous condition. The turgid state of the pharyngeal veins was, however, greatly relieved by the hæmorrhage.<sup>1</sup>

No important alteration took place in the symptoms till March, when a slight fulness was noticed on the left side of the cricoid cartilage. Shortly afterwards an impairment in the action of the left vocal cord was first observed. There was no congestion of the surface, but the action of the left abductor was markedly imperfect, and the patient now began to experience increased difficulty in swallowing: solids could not be taken at all, but she was just able to manage carefully-pounded meat. A dull aching pain was now constantly felt on the left side of the throat, over the thyroid and cricoid cartilages. The voice was now slightly altered in tone, though by no means hoarse: the patient also noticed some shortness of breath in going upstairs. She appeared decidedly more feeble than when first seen. In the early part of May the patient first experienced difficulty with liquids, which now often "went the wrong way," and caused attacks of spasmodic coughing and choking. An irregular, roundish swelling was noticed with the laryngoscope opposite the cricoid cartilage on the left side.

At the end of the month the obstruction was so complete that the patient gave up all attempts at swallowing, and for several days lived on nutritious enemata. She seemed, however, to be losing ground so much, that on the 4th June it was determined to try feeding with a short œsophageal tube. By using a catheter à boule of No. 8 size, this was effected with comparative ease. The food was injected through the tube with an ordinary elastic bottle.<sup>2</sup> By this mode of treatment the patient was kept alive for exactly three months. During the whole time she was unable to swallow more

<sup>1</sup> Though this hæmorrhage at the time introduced a fresh element of difficulty into the diagnosis, there is but little doubt that it was of a purely accidental character.

<sup>2</sup> The food consisted of beef tea, chicken-broth, eggs, Liebig's extract of meat, milk, &c., &c. Fresh vegetables were constantly added to the various meat extracts—the fluids being afterwards carefully strained; Liebig's extract was not given alone, but a teaspoonful or more was generally added to the fresh beef tea or broth. A pint of this food was given twice daily, and its exact composition was studiously varied. Medicines were occasionally administered in the food, and morphia was also injected subcutaneously.

than a few teaspoonfuls of fluid, and to suck a few small particles of ice.

In the middle of July the swelling which had been previously noticed with the laryngoscope to be below the cricoid cartilage was seen to have risen as high as the arytenoid cartilage; and in the third week of August this swelling was observed to be constantly covered with pus. The patient at that time also complained of matter coming into the mouth, and during the last six weeks her breath was fetid. On the 31st August the patient was taken with an attack of cardiac syncope, from which she never entirely rallied, but she lived without food until the 5th of September.

This lady was seen by several eminent physicians and surgeons with me, and some of them were disposed to regard it as a case of malignant disease of the œsophagus. Sir William Fergusson, however, independently arrived at the same conclusion as myself concerning the situation of the disease, and believing that it was of a gouty character, he suggested the use of colchicum. This remedy, which had previously been given by Dr. Budd, certainly seemed to diminish the pain, but it caused so much sickness when taken for more than a day or two that, though several times tried, it had always to be abandoned. Previously to this, iodide of potassium had been given with apparent benefit. I have not, however, thought it necessary to enter into the medicinal treatment of this case, as the only remedies really useful were those promoting the euthanasia. Before coming under my care, Dr. Budd, with his well-known ability and perseverance, had exhausted all therapeutic means.

In this onerous case I had the advantage of the constant co-operation of Mr. Bullock, of Great Cumberland Place.

On making a post-mortem examination, an abscess, of oval shape, was found, extending from the summit of the arytenoid cartilages to half an inch below the cricoid; and laterally, from the posterior border of the left ala of the thyroid cartilage to within one eighth of an inch of the corresponding border on the right side—measuring, in fact, about two inches from above downwards, and one inch from side to side. Its walls were thin, and its internal diameter from before backwards appeared to be about an inch. The abscess was accidentally opened during the autopsy, so that the aperture or apertures which existed during life could not be discovered. At the bottom of the abscess was the diseased cricoid cartilage, or rather

the submucous tissue of the larynx, for a round piece of the cricoid cartilage, about the size of a threepenny piece, had been completely removed by necrosis. This loss of substance was in the posterior wall and left side of the cricoid cartilage. This cartilage had elsewhere undergone the usual physiological ossification, the anterior surface remaining cartilaginous, as is commonly the case in women. The perichondrium was nowhere separated from the cartilage. The disease had penetrated to the crico-arytenoid articulation, and both the arytenoid and thyroid cartilages were ossified. The internal surface of the larynx was healthy. At the lower part of the pharynx the food tract was reduced to the eighth of an inch, where it was bounded on the left side by the wall of the abscess, on the right by the lower part of the posterior border of the right ala of the thyroid cartilage. The œsophagus was quite healthy, as also were the thoracic and abdominal viscera. The body was perfectly nourished.

WOODCUT 1.

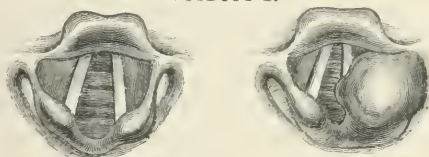


FIG. 1.

FIG. 2.

*Remarks.*—This case is one of considerable interest, both pathologically and clinically, and there is no record of a similar kind in the ‘Transactions’ of this Society. The probable occurrence of primary disease of the cartilages was pointed out by Albers as long ago as the year 1829, but, as far as I am aware, this is the first case in which the disease has been proved to take its origin in the cartilage itself, independently both of the perichondrium and of the submucous tissues. The following circumstances may be adduced as showing the origin of the disease in the cartilage.

1. Deep-seated pain in the neighbourhood of the cricoid cartilage was the first, and, for a long time, the only symptom of disease, and at this period the mucous membrane of the larynx was seen to be perfectly healthy.

2. The time at which the disease extended from the cartilage to its enveloping membrane was indicated during life by the paralysis<sup>1</sup>

<sup>1</sup> That the paralysis was not an appearance due to the extension of disease to the crico-arytenoid articulation (*i. e.*, not due to ankylosis of this joint), is shown

which was noticed with the laryngoscope of the superjacent muscle (left crico-arytenoideus posticus).

3. After death, the internal surface of the larynx was found to be healthy, and even the submucous tissue but little altered, whilst a considerable portion of the cricoid cartilage was actually removed by disease. The absence of separation between the perichondrium and its cartilage showed that the disease did not commence in the investing membrane, as it is well known that, in perichondritis in this situation, the investing membrane always separates from its cartilage, and an abscess is formed, in which the cartilage itself lies loose.

The case appears to me to be one in which the normal ossification of old age exceeded the limits of physiological change and passed into disease, and it is not improbable that the gouty diathesis favoured, or even originated the pathological process.

Independently of the interest belonging to the case, from its so clearly establishing the commencement of disease in the substance of the cartilage, and independently also of its interest, from the comparative rarity of circumscribed abscess of the larynx, it is not without value in relation to diagnosis and treatment. The passages of liquids into the larynx places it, as regards treatment, in the same category as those cases in which a fistulous communication exists between the trachea and œsophagus, and it shows how long life may be sustained with the feeding-tube. In this case the nutrition was so well maintained, that at the time of death, after a week's fast, the body was actually plump, and contained a large quantity of fat. Up to within three weeks of death the patient got up daily, and was in a comfortable bodily condition; she retained all her mental faculties until within two or three days of dying.

An interesting case of cancer of the œsophagus was reported by Mr. Heath in the 13th volume of our 'Transactions,' in which life was sustained for a month by means of a feeding-tube, but I believe that there is no other pathological<sup>1</sup> case on record in which life has

by the fact that only one movement, viz., that effected by the abductor of the left vocal cord (left crico-arytenoideus posticus) was impaired. The observations made during life, and the pathological features of the specimen, both tend to show that the disease originated in the lower part of the cricoid cartilage, and that the crico-arytenoid articulation only became affected a few weeks before death.

<sup>1</sup> The term "pathological" is used advisedly, as I am aware that in cases of insanity this method of treatment is often required, and is occasionally continued for a long period.

been prolonged for so long a period by artificial feeding as the present.

After perusing the notes of the autopsy, Dr. Budd kindly favoured me with a letter, from which are extracted the following remarks :

“ On looking back at the case by the light of the post-mortem examination, what most strikes me is the singular absence of the phenomena which generally indicate suppuration. For a long time there was very little pain, and no tenderness, and up to the date of the patient's leaving Clifton for London, one of the most remarkable features of the case was, that free, and indeed, I may say *rough*, handling excited no suffering of any kind. Time after time I put my finger down the pharynx far enough to distinctly feel the swelling, and although I pressed hard upon it, there was no pain. There was an absence of the hardness which usually accompanies cancer, and there was no glandular contamination ; but, on the other hand, I confess that the usual indications of suppuration were equally wanting. The dark crimson look of the surface, and the quasi-varicose condition of the superficial veins, were also, I think, very misleading. . . . From the first day of seeing her I felt sure that the disease from which she was suffering was one that was altogether new to my experience.”

*March 1st, 1870.*”

5. *Large sarcomatous growth removed from under surface of the epiglottis.*

By MORELL MACKENZIE, M.D.

CASE 1.—A retired Indian officer, æt. 51, applied to me, October 12, 1869, on account of an exceedingly troublesome cough, slight hoarseness, and occasional dysphagia. The symptoms had commenced about a year before. Twenty years previously the patient had had syphilis. On making a laryngoscopic examination there was found to be superficial ulceration with slight thickening of the left side of the epiglottis (Fig. 1). The ulceration yielded rapidly to treatment, consisting of the internal use of iodide of potassium, and the application locally of mineral astringents. On discontinuance of remedies, how-

ever, there was a great disposition to recurrence, and the patient exhibited a strong catarrhal tendency.

Under these circumstances (November 6th) I recommended the patient to pass the winter at Cannes. I received favorable reports of him for some weeks, but early in January I heard from Dr. Frank that a laryngoscopic examination made by himself and Dr. Wagner, of Königsberg, had discovered "a large sarcomatous

## WOODCUT 2.

FIG. 1.

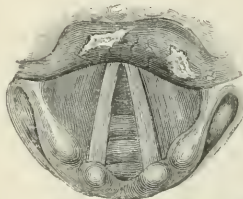


FIG. 2.

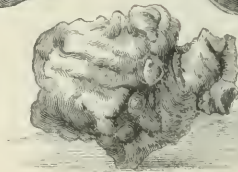
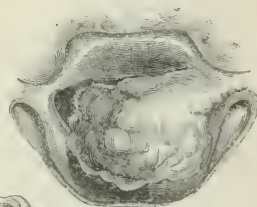


FIG. 3.

neoplasm" on the under surface of the epiglottis. These gentlemen recommended his immediate return to England in order that the growth might be removed. On January 9th I made a laryngoscopic examination, and found an irregularly mammillated growth of a pale colour and about the size of a cherry (Fig. 2). On several occasions lately the patient had suffered from severe dyspnœa; I therefore thought it advisable to have tracheotomy performed before attempting to remove the growth. The windpipe was opened on the 14th of January by Mr. James Adams.

The patient took cold soon after the operation, and suffered from rather severe bronchial catarrh. It was not, therefore, till March 6th that I proceeded to extirpate the tumour. Chloroform was administered by Mr. Clover, and the growth was removed by means of an instrument specially made for me by Messrs. Mayer and Metzler. It may briefly be described as a guarded wire *écraseur* worked by a wheel. The growth (Fig. 3) weighed fifty grains and measured  $1\frac{1}{4}$  inch by

$\frac{3}{4}$  of an inch. It had grown considerably since the examination two months previously. On the next day, it was seen that the epiglottis was quite clear, except a small sloughy surface at the outer angle. The swallowing improved immediately, and the voice was also much better. Ten days later I noticed a slight irregular ulceration on the ventricular bands. This yielded to treatment, but there is still some congestion and a tendency to loss of structure. I have not yet removed the tube, and I think it better to wait a short time before doing so, in case the growth should recur.

The pathological interest of this case depends on the extreme rapidity of the production of the neoplasm, and on its probable dependence on the syphilitic dyscrasia. *April 5th, 1870.*

6. *Large tumour removed from the posterior surface of the cricoid cartilage.*

By MORELL MACKENZIE, M.D.

Miss H—, æt. 37, consulted me, March 4, for what she considered to be slight difficulty of swallowing. She had first noticed an impediment in deglutition three years and a half previously; at that time she was seen by Dr. Hassall, of Richmond, who prescribed for

WOODCUT 3.

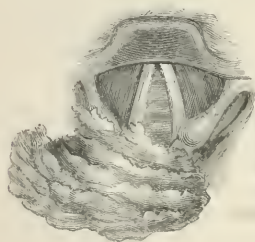


FIG. 1.

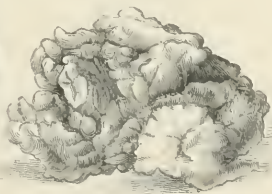


FIG. 2.

her once or twice. Since then she had had no medical treatment. The throat had been occasionally troublesome, but at other times she had swallowed without any discomfort.

The patient was of a highly nervous temperament, and the symptoms and history of the case all seemed to point to functional dysphagia. I was therefore much surprised, on laryngoscopic examination, to find a large growth situated rather below the arytenoid cartilages, and covering the entire mouth of the œsophagus, except a small portion on the left side. It was of a pale red colour, and in form, size, and external furrowed surface bore a strong resemblance to a peeled walnut (Fig. 1).

On account of the nervous state of the patient I did not make any further examination, but subsequently, by the means of the laryngeal probe, I ascertained that it had a broad pedunculated base, and was attached to the posterior surface of the cricoid cartilage. There was no enlargement whatever of the cervical glands. The patient was very thin, and of dark complexion, but both of these were strongly marked family peculiarities, and there was no history of cancer in any member of the family. I strongly recommended removal of the growth, but before doing so I had the advantage of consultations with Sir Wm. Jenner, Sir Wm. Fergusson, and Dr. Hassall. To all these gentlemen I showed the growth, with the aid of the laryngoscope, and they fully concurred with me as regards the desirability of removing the neoplasm.

This was accordingly done on March 27, Mr. Clover administering chloroform. I again used the guarded wire *écraseur*. The tumour (Fig. 2) was entirely removed at the first attempt, with but trifling hæmorrhage. It weighed seventy-five grains, and measured  $1\frac{1}{2}$  inch by  $\frac{3}{4}$  of an inch, and was much larger than appeared in the laryngeal mirror. Two days later, on a most careful laryngoscopic examination neither Dr. Hassall nor I could discover the slightest trace of any remains of the growth.

April 5th, 1870.

*Report on Dr. M. Mackenzie's case of tumour removed from back of cricoid cartilage, by the Committee on Morbid Growths.*—The form is as of the quarter of an ordinary walnut kernel rooted by the corresponding part. The size  $\frac{3}{4}$  inch long by  $\frac{3}{8}$  inch broad; deeply divided into lobes, that come to nearly an even level at the surface, and there are subdivided so that the surface is nodular, the deeper separations into lobes being by clefts that nearly reach the root of the tumour.

Moderately fine sections examined by  $\frac{3}{8}$ -inch objective show the substance to be made up of thick branching papillæ which compose the





## DESCRIPTION OF PLATE I.

Fig. 1 illustrates the report of the Committee on Morbid Growths upon a Tumour of the Larynx, exhibited by Dr. Morell Mackenzie. (Page 54.) From a drawing by Dr. Moxon.

Fig. 1. The figure represents part of a section of the point of division of a papilla, as seen by 1.5th in. objective.

*a a.* Epithelium, covering papilla.

*b b.* Sarcous tissue, in centre of papilla.

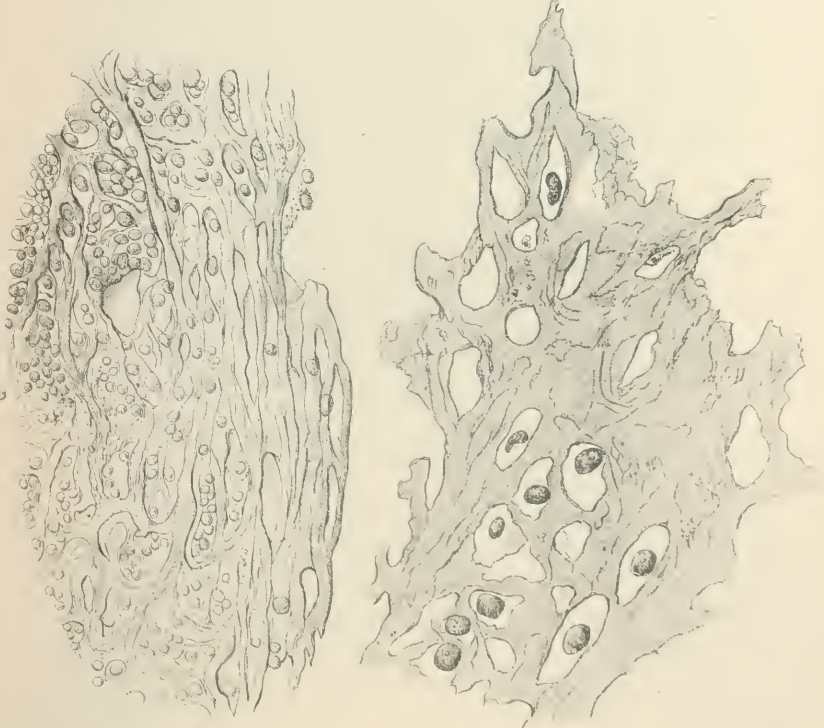
Figs. 2 and 3 illustrate Dr. Greenhow's case of Induration of the Lung in Chronic Phthisis. (Page 68.) From drawings by Mr. Henry Arnott.

Fig. 2 represents the structure in induration of lung in chronic phthisis (Dr. Greenhow's case).

Fig. 3 represents the structure of the same in a more advanced stage (Dr. Greenhow).



2.





surface of the tumour by their apposed ends. The papillæ are principally formed of epithelium, and in the centre of each runs some vascular nucleated substance. The proportion is about  $\frac{1}{6}$  part of the latter to  $\frac{5}{6}$  of the former.

Finer sections examined by  $\frac{1}{5}$ -inch objective show the epithelium of the papillæ to have the form of great squamose and subsquamose elements, with very large polynucleated nuclei. These elements are arranged on a plan stratified according to the surface of the papillæ they form. The central part of the papillæ is made up of a richly nucleated tissue, the nuclei being not more than  $\frac{1}{4}$  of the size of those of the epithelial elements; fibrils connect these and blend to form a sarcous tissue in which large blood-vessels are embedded. The central parts of the papillæ can be traced towards the root of the tumour, where they become continuous with the submucous tissue of the part from which the tumour was removed.

The vascular tissue can be found in transitional forms in the ends and sides of the papillæ where they are probably budding. Here it appears to us that the deep epithelium of the surface layer breaks up into the nuclear and fibrillar tissue, at least the nuclear and fibrillar is found among incomplete epithelial scales.

From a structural point of view we should call the growth a papilloma. The transitional forms between epithelium and sarcous tissue (growing areolar) in the subepithelial portion of the growth throw doubt upon the simplicity of its plan, and raise proportionately probabilities of its recurrence.

But it may be that these transitional forms are, as we have suggested before, only the early growing stages of fresh branches of the papillæ (see Plate I, fig. 1).

We do not know any way of solving this question.

On the whole the prevailing condition is one of fairly preserved distinction of the epithelial and subepithelial parts, in their normal relation of substance and surface respectively.

*For the Committee on Morbid Growths,*

F. HOWARD MARSH.

W. MOXON.

7. *Post-oesophageal abscess with secondary disuse of the cricoid cartilage.*

By MORELL MACKENZIE, M.D.

HARRIETT DORRINGTON, a married woman, *æt.* 38, was admitted into the Hospital for Diseases of the Throat, October 11th, 1869, on account of dysphagia.

She stated that she had always enjoyed good health until ten months previously, when a few days after her confinement she took cold, and had an inflamed breast; at the same time she suddenly experienced great difficulty in swallowing solids. This difficulty of swallowing had so much increased that for three weeks previous to admission, liquids could only be taken in very small quantities, and with the greatest effort.

When admitted, the patient had a hectic appearance, and was found to be greatly emaciated. Swallowing liquids was very difficult, and gave rise to violent attacks of coughing. An attempt to pass a bougie caused so much pain that it had to be abandoned. The patient had a great disposition to sickness, and could not tolerate a laryngoscopic examination. There was no enlargement of the cervical glands, and no evidence of thoracic disease. On the 19th October signs of inflammation were noticed in the front and right side of the upper part of the trachea, and on the 23rd, fluctuation being clearly perceptible, an opening was made in the front of the neck, from which a large quantity of pus escaped.

The patient derived great benefit from the opening of the abscess, and the day afterwards she was able to swallow with ease; and though she had been scarcely able to raise herself in bed for more than a fortnight, she was now able to get up and walk about the ward. She also in a great measure recovered her power of swallowing, and seemed to be in a fair way to a restoration to health. On the 2nd of November, however, the dysphagia returned in an extreme degree. The most violent paroxysms of coughing came on when the patient attempted to drink, and all fluids were violently ejected—mostly through the mouth, but a small portion through the opening in the abscess in the neck. The patient also now began to show

signs of dyspnœa, and on laryngoscopic examination, the ary-epiglottic folds were seen to be œdematous.

Life was prolonged for a few days, first by nutritious enemata, and afterwards by feeding with an œsophageal tube; but the patient sank quickly, and died on the 13th of November.

*Post-mortem appearances.*—A large abscess was found in the thickened tissues covering the anterior surface of the spinal column, and extending from the fourth cervical to the second dorsal vertebra. The vertebræ themselves were not exposed nor diseased. The abscess involved both the lateral walls of the œsophagus, the sides of the pharynx as high as the upper border of the cricoid cartilage, and the anterior wall of the œsophagus from the middle of the cricoid cartilage downwards for two inches. The posterior surface of the lower third of cricoid cartilage was completely exposed, and had not undergone ossification. At the lower border of the cricoid cartilage was a vertical fissure about half an inch long, communicating between the trachea and œsophagus. The ary-epiglottic folds were œdematous, and encroached on the cavity of the larynx. In the upper part of the trachea was the vertical fissure already described as communicating with the œsophagus; its edges were slightly thickened and irregular, and the mucous membrane below it was roughened and puckered.

The following is the report of an eminent microscopist:—"A portion of the tissue is composed of a network of fine fibres, with cells of various shapes and sizes, many of them caudate. In addition, there were numerous encysted epithelial cells. It will probably prove to be epithelial cancer."

Notwithstanding the character of the portion examined microscopically, the absence of any considerable amount of thickening, the evident formation of pus in large quantities during life, and the very sudden invasion of the disease, are, in my opinion, circumstances which, taken together, bring the disease within the category of post-œsophageal abscess.

March 1st, 1870.

8. *Fibroid degeneration of the cartilages of the larynx.*

By MORELL MACKENZIE, M.D.

MR. W. S—, æt. 60, was first seen by me on December 10th, 1868.

The history of this gentleman was, that as far back as the autumn of 1867 he had occasionally suffered from hoarseness and loss of voice. He complained when reading aloud of a "roughness" in the throat, and could not read long at a time, as the voice became gradually suppressed.

On going into the country in the spring of 1868, for a week, the voice returned, but during the summer it became much worse. In September of this year he again left town, this time for the north of England. He returned still worse, having suffered much from inclement weather. He was attended by his brother, an eminent hospital surgeon, and Dr. Sisson, till I saw him, December 8th, in consultation with the latter gentleman. I found the patient pale, weak, and emaciated, and suffering very much from dyspnoea. The integuments on the front of the neck were greatly thickened and inflamed. A few weeks previously an abscess had been opened a little below the right ala of the thyroid cartilage. On making a laryngoscopic examination, the ventricular bands and vocal cords were found to be considerably thickened and congested. Below and beneath the anterior commissure of the vocal cords, there appeared to be a growth or outgrowth about the size of a horsebean. Inhalations failing to give any relief, and the respiration becoming daily more embarrassed, the operation of laryngotomy was performed on December 6th. The amount of thickening already mentioned of the soft parts over the crico-thyroid space made the first part of the operation difficult; there was quite an inch and a half of tissue to divide before the larynx was reached. When, however, the canula was introduced, the patient was still more embarrassed, and on withdrawing it, a mass of growth was found immediately behind the crico-thyroid membrane. This being removed with the aid of forceps, a tube was introduced with immediate relief. The patient recovered so far that he was able to visit among his friends, and to



occasionally go to the City on business. The laryngeal orifice above the canula was noticed, however, to be gradually closing, and in the summer the patient showed signs of steady decline. At times there was great dysphagia, and with the laryngoscope there was seen great œdema of the epiglottis and ary-epiglottic folds. The patient lingered on for some months, and during the last week or two of his illness was supported by means of the œsophageal tube, all attempts at deglutition being accompanied by the passage of food into the larynx.

On *post-mortem* examination, the cricoid cartilage and upper rings of the trachea were found to have undergone absorption to a very considerable extent. They were surrounded by a quantity of serous fluid and semisolid exudation, so that it was extremely difficult to trace their continuity. After the specimen had been in spirits for some weeks it was still further examined, and in front and on the right side of the cricoid cartilage, and extending downwards on the front and right side of the trachea, was a tumour the size of a bantam's egg. It was moderately soft, and had a fairly well-defined investing capsule. Microscopically, it was found to consist of a

WOODCUT 4.



number of large well-defined cells, with circumscribed borders, which at first sight looked like cell walls, but which were really fibres running round the cells. Within these cells were a number of spherical corpuscles, giving rise to the appearance known as "compound cells," as seen in fibro-cartilage. Between the large cells were

numerous fibrous markings, also common to this structure, and amongst the fibrous tissue there were a number of corpuscles scattered about. There were a few fatty granules and occasional oil-globules.

March 1st, 1870.

### 9. *Cancer of the lung.*

By A. LEARED, M.D.

THE specimen was removed from the body of an agricultural labourer, who died, æt. 68, in the Great Northern Hospital. He was a man of spare build, who had always enjoyed good health until about two months before his admission to the hospital, May 20th, 1869. When admitted he was thin and feeble, voice very weak, pulse quickened, decubitus on the left side. He complained of pain in the upper part of the chest on the right side, and had a troublesome cough. The sputa were copious, viscid, blood tinged, and had an offensive smell.

*Physical examination.*—On the right side, in the space between the clavicle and the lower edge of the second rib, tenderness was experienced on pressure; there was complete dulness on percussion here, and the respiratory sounds were extinct. The vocal fremitus was the same as in the same position on the left side. Below the second rib the breath and percussion sounds were normal. Posteriorly on this side a tumour, which had been first noticed only a week previously, the size of half a goose's egg, bulged from under the scapula. The long axis of the tumour, which encroached upon the axilla, was perpendicular, and the mass extended two inches lower than the anterior line of dulness. The tumour was somewhat tender on pressure, of firm consistence, and perfectly dull on percussion. Marked dulness also existed over the lung, posteriorly from its summit to a line drawn horizontally from the lower edge of the tumour to the spine. The lateral intercostal spaces beneath the tumour were in the natural state. The physical signs over the left lung were normal. No enlarged glands could be felt anywhere. The

patient was himself inclined to think that the tumour was caused by working at a straw-cutting machine, by which he thought he must have strained himself.

The diagnosis was cancer of the lung, in connexion with an extra-thoracic cancerous tumour.

On May 24th the anterior line of dulness on percussion was found to have extended downwards to the upper edge of the third rib, and more blood than before was mixed with the sputa.

May 27th.—Dulness had extended to the lower edge of the third rib. The sputa contained less blood, but the cough was more troublesome.

June 2nd.—The anterior line of dulness had made no progress. The patient had of late been obliged to sleep propped up. Cough very troublesome. Sputa contained little blood, but had become more viscid and scanty. The patient had been greatly harassed by night sweats, and was failing in strength.

June 4th.—It was noticed that his right hand and forearm had become œdematous. The anterior line of dulness had not advanced.

June 12th.—He was in every respect much worse. There was copious expectoration of muco-purulent matter, and hæmoptysis had occurred to a considerable extent.

The anterior line of dulness had extended to the upper margin of the fourth rib, and the tumour had enlarged considerably.

He died exhausted on the fourth day from the last date.

*Post-mortem examination.*—The body was much emaciated, while the right forearm and hand were very œdematous. The skin over the tumour, which was now the size of half a large cocoa-nut, was of natural colour, and no dilated veins were anywhere noticed. The external edge of the scapula was much raised from its proper position by the tumour. By firm pressure near the anterior margin of the axilla, where the tumour terminated, the ends of the second and third ribs were felt projecting, as if broken. When the thorax was opened, the right pleural sac was found to contain a good deal of serum, and the right lung bulged forwards, showing that it had been subjected to considerable pressure. About two thirds of the upper portion of this lung had been transformed into an encephaloid mass, which it was impossible to remove from the body without disruption, owing to its intimate union with surrounding parts. The external tumour was ascertained to be composed of a continuation of this

mass, into which portions of the first, second, third, and fourth ribs had been, as it were, fused; the bony structure had been entirely removed to an extent varying from about three to four inches. The ends of the ribs were rough and jagged, the points of severance, both anteriorly and posteriorly, irregular with regard to each other. The posterior end of the third rib was found to be not more than two inches from the spinal column.

The cancerous mass was white and pulpy, breaking down very easily under pressure. Under the microscope it was seen to be mainly composed of nucleated cells, smaller than pus-cells, with some free nucleolar matter. It is worth notice that, while examination of the sputa during life showed the presence of cells of the same character, they were larger in size, and their contents were darker in colour. Possibly this circumstance was due to endosmosis having occurred when the cells had passed from the more saline fluid of the cancerous mass into the less saline fluid of the bronchial tubes.

Nothing abnormal was discovered in the left lung, except a single chalk-like deposit, the size of a pea, on the external part of its left lobe. The heart, the kidneys, and the liver were normal, and no cancerous glands could be anywhere discovered.

*Remarks.*—In many respects this case resembled one of senile phthisis—the cough, the wasting of the body, the hectic appearance of the patient, and the night sweats, pointed in that direction. On the other hand, the tenderness on pressure, the well-defined and rapid manner in which the line of dulness on percussion progressed, the side on which the disease existed, the tumour, and above all, the discovery of many nucleated cells like those known to belong to cancerous growths, enabled one to make a correct diagnosis with little hesitation.

*December 7th, 1869.*

*Report of the Committee on Morbid Growths upon a specimen of encephaloid cancer of the lung, &c., exhibited by Dr. Leared.*—The specimen consists of the right lung and a part of the right side of the thoracic wall, which is adherent to the lung through the medium of a tumour that implicates both. The tumour is of large size, as great as a child's head. Several of the ribs are dissolved through by the tumour tissue, so that the ends of the segments are separated to some distance by its substance.

The *centre* of the growth appears to correspond to the line of the pleura. The circumference of it thrusts outwards, so as to raise the

serratus magnus and other muscles strongly while implicating their tissues, and inwards it implicates the lung almost to its root; its extension into the lung is not so regular as into the thoracic wall; it runs out in bands and jutting processes into the pulmonary substance. This difference is due to the greater resistance which it meets from the muscular sheaths, &c., in the thoracic wall.

It appears to us that the growth arose in the deep part of the thoracic wall, for—

1st. Allowing a little for the greater resistance of the bones and other tissues of the wall, as compared with the more yielding tissue of the lung, the deep part of the thoracic wall corresponds to the centre of the growth, and hence, probably, to its point of origin.

2nd. The lateral spread of the growth in the bones, muscles, &c., of the thoracic wall is very free. And tumours of any type tend to spread most in the tissues in which they take their rise.

3rd. Primary tumours of the lung arising on its surface are, to say the least, exceedingly rare, the root being the part nearly always invaded.

4th. The tumours of the lungs which appear first on its surface are secondary, and we have seen specimens where the whole of one side of the thorax has been filled by such growth without any implication of the thoracic wall.

When fine sections of the tumour are examined under a  $\frac{2}{3}$ -inch objective they are seen to be composed of a cellular formation intermingled with a fibrous substance. The cellular formation is gathered into patches of very varying sizes and very irregular form, which are surrounded and more or less separated by the fibrous substance, so that a rudely lobulated appearance is produced. In some parts the cellular substance runs together into larger masses, and the lobulated appearance is lost altogether. It is in the lung that this lobulated appearance is best seen.

When examined by a  $\frac{1}{5}$ -inch objective, the cellular formation is composed of cells which give off processes, which processes form or join with a small amount of obscurely filamentous intercellular substance. The cells are not of an epithelial type, but resemble the cells of developing connective tissues. On the circumference of the lobules above described, some of the cells have a marked spindle shape; in the centre they are rounded. They are, however, much defaced, so that minute examination of them cannot be made. In some a large nucleus can be distinguished; some of the nuclei mea-

sured  $\frac{1}{2500}$  to  $\frac{1}{3500}$  inch. But in the present state the cell formation in the lung could not with certainty be told from that of ordinary pneumonia.

The fibrous formation contains remains of the original elements of the tissue; this is especially evident in the lung, where elastic tissue is plentiful, but it is surrounded by, and embedded in, a quantity of substance, that in parts is homogeneous, and in part composed of long spindle cells. This substance has spaces in it which contain cells that, towards the cellular formation before described, graduate into the likeness of the component cells of that formation.

These appearances correspond to those of a rapidly growing soft sarcoma, composed partly of round and partly of spindle-formed elements, which infiltrate and transform the tissues which it implicates in its spread. The number of tissues so transformed in its course into the lung and through the wall of the thorax is remarkably great, and proves the growth to have an intense power of local infection.

January 4th, 1870.

For the Committee on Morbid Growths,

F. HOWARD MARSH,

W. MOXON.

10. *Arborescent cast of the bronchi expectorated by a boy, the subject of chronic bronchitis.*

By H. M. TUCKWELL, M.D.

THE cast exhibited is composed of a stem—whose thickness, that of a small writing-quill, shows that it must have been moulded in a bronchus of second or third magnitude—and of numerous ramifications, which, gradually diminishing in size, divide and subdivide in a beautiful arborescent form. The stem is white, solid, and distinctly formed of concentric laminae. The peculiar tenacity of the whole formation is evident from the way in which even the finest branchlets are preserved intact. Microscopically, its structure is just that of ordinary fibrine. In no part of it can I find, even on the addition of acetic acid, any cellular or corpuscular bodies

such as have been seen in other similar specimens (see the 'Transactions,' vol. v, p. 43). The only appreciable difference between the

WOODCUT 5.



texture of the branches and that of the stem is, that more abundant finely molecular or granular matter appears in the former than in the latter.

It is one of many that have been expectorated from time to time by a boy, æt. 11, now in the Radcliffe Infirmary under my care. He is said to have suffered from cough and shortness of breath for two years and a half, and for more than a year past to have spat up a great number of these tubes. Their appearance is always ushered in by great distress of breathing and violent paroxysms of cough. He usually brings up three or four in quick succession, and then has an interval of comparative calm for five or six weeks, suffering from the ordinary cough of bronchitis, with muco-purulent expectoration. He has never spat blood. His parents are healthy. Two brothers are living and healthy. Two brothers and one sister have died in infancy.

He is much emaciated, and looks very delicate. The subcutaneous

veins of the head, neck, and chest are unnaturally distinct. The lips are dusky. He suffers from frequent cough and great dyspnoea on any movement. His temperature has never been above 98° Fahr., and has once been below 97°. His thorax is strangely deformed; the infraclavicular and upper sternal regions being so pressed inwards as to be concave, and the sides being flattened in an extreme degree; while the lower sternum projects like a keel. At each short inspiration, the upper half of the thorax remains immovable, while the sides and supra-sternal fossa are drawn, or fall, inwards. The only sign of expansion is seen in the epigastrium, which is bulged or protruded forwards. The physical signs are those of diffused bronchitis in both lungs, with a peculiarly loud and bubbling crepitation in the left lateral and infrascapular regions, probably indicating the presence of dilated bronchi in the lower lobe of the left lung.

The chronic course of the disease, the physical signs, and, above all, the low temperature, point rather to chronic bronchitis with dilatation of the bronchi and partial collapse of the lungs, than to any form of phthisis.

*April 5th, 1870.*

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### *11. Specimen of diseased lung, from a pearl-shell cutter.*

By E. H. GREENHOW, M.D.

THE specimen was taken from the body of a man, æt. 50, who had been working for many years at the very dusty employment of cutting thin plates of pearl shell for insertion in tea-trays. He died February last, in the General Hospital at Birmingham, of incarceration of the small intestine, under the care of Dr. Russell, to whose courtesy I am indebted for the specimen, which affords a characteristic illustration of the form of pulmonary disease excited by the inhalation of dust. Notwithstanding the very dusty nature of the man's occupation, both he and his wife concurred in assuring Dr. Russell that he had never suffered any ill effects from it until within the last twelve months, and that then his ailment had for some time been only shortness of breath. He had not begun to suffer from cough until about three months before his admission into hospital.



On post-mortem examination the body was found to be much emaciated. Both lungs were firmly attached to the ribs, and both were similarly diseased, but the disease was rather more advanced in the right lung than in the left, and the upper lobe of the right lung was firmly adherent to the lower.

The specimen shown to the Society consisted of a vertical slice from the right lung, and was generally of a black colour. The pleura was much thickened, and the lung-tissue studded with dense, hard, well-defined nodules, varying from the size of a hazel-nut to that of a millet-seed. These nodules cut with a smooth, firm section, and were of a blackish-grey colour, being less deeply pigmented than the spongy lung-tissue immediately surrounding them.

Sections of these nodules examined under the microscope presented tracts of fibrous tissue consisting of pale, flat fibres, interspersed with granular pigment, sometimes contained in cells, but more frequently lying loose. Other sections showed tracts of fibrous tissue abundantly nucleated, and evidently of more recent formation. Again, in other sections the fibrous tissue was thickly interspersed with cells containing free pigment, and also presented numerous elongated nuclei, resembling the nuclei of connective tissue. Sections from the spongy lung-tissue immediately surrounding the nodules, showed the air-cells to be filled with large inflammatory cells, resembling those met with in catarrhal pneumonia, many of which also contained pigment. In other sections the cell walls appeared to be thickened, and to contain pigment, which was frequently arranged in dense masses around the small vessels and air-tubes. The specimen thus presented appearances almost identical in character with those seen in several specimens of diseased lungs of operatives previously exhibited by me to the Society ('Path. Trans.,' vols. xvi, xvii, and xx).

*Remarks.*—Pearl-shell cutters form a distinct class in Birmingham. Their work consists in cutting, forming, and polishing disks of shell into buttons and similar articles, during which process much shell-dust is evolved into the atmosphere of the workshop. Like all other operatives exposed to inhale air impregnated with dust, shell-cutters are very liable to suffer from pulmonary disease, which usually runs a slow, chronic course, and makes great progress before the patient is sensible of any illness. As in the present case, shortness of breath almost invariably precedes, by some considerable time, the appearance of cough, and the patient is often ailing for

many years before becoming disabled from work. Nearly twelve years ago I became aware of the great liability of pearl-shell cutters to pulmonary disease, and from clinical observation of the disease, by favour of Dr. Russell and other medical friends in Birmingham, I satisfied myself of its identity with the pulmonary affection excited in miners, potters, flax-dressers, and other operatives exposed to inhale air charged with dust. Owing, however, to the great prejudice existing among the working classes of that town against post-mortem examinations, the present is the first specimen I have been able to obtain of diseased lung from a shell-cutter.

May 17th, 1870.

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12. *Lungs from a case of chronic phthisis.*

By E. H. GREENHOW, M.D.

THE specimens were taken from the body of a man sixty-one years of age, a tailor by trade, who had been nearly six years under my observation. When I first saw him in February, 1864, he presented the ordinary physical signs of phthisis in the left lung, that is to say, there was deficient expansion of the thorax on the left side with dulness on percussion and gurgling below the clavicle, but the emaciation was not marked, and the pulse and temperature were normal. His illness had come on gradually and had not been preceded by any acute inflammatory attack. He improved much under treatment, and on two occasions returned for some months to Normandy, of which he was a native. He very slowly lost flesh and never throughout his illness had any acute seizures. About three years before his death the right lung, which had previously been healthy, also became diseased, but he remained able to walk out and even attended at the hospital as an out-patient until last summer, when he was admitted into the wards. He was discharged from the hospital after a time somewhat recruited by the rest and good feeding, but died suddenly in October from profuse hæmoptysis.

At the post-mortem examination both lungs were found to be small, and the heart was somewhat drawn upwards by the contrac-

tion of the left lung. The pleura covering the left lung was much thickened, and the lung itself was of a deep black colour. On being cut across the black lung tissue was seen to be traversed by numerous opaque white fibrous bands which chiefly followed the direction of the blood-vessels and bronchial tubes. The substance of the lung was much condensed, and all the upper part was non-crepitant. The consolidated tissue in the apex of the lung presented on division a mottled appearance from the presence of dense, white, fibrous masses surrounded by black pulmonary tissue. The whole lung was studded with firm nodules of various sizes. In the upper lobe, near the apex, were two small cavities and one larger one which communicated freely with the bronchial tubes. In the lower lobe there was one cavity, about the size of a filbert, filled with puriform fluid.

The disease was less advanced in the right lung than in the left; the pleura was not so much thickened, and the whole lung was less dense. In the apex was a large ragged cavity surrounded by very black consolidated lung-tissue of almost cartilaginous hardness. In the lower lobe there was likewise a cavity of the size of a walnut which, as well as the bronchial tubes, was filled with blood-clot. The lung-tissue was intersected by fibrous bands, similar to those described in the left lung but less numerous, and was also studded with dense, black, solid nodules. On dividing the upper lobe of this lung a pulmonary calculus of irregular shape, about the size of a grey pea, was found encysted in the lung substance.

Sections taken from the apex of the left lung presented broad tracts of wavy fibrous tissue containing both round and elongated nuclei. In some places these fibrous tracts were studded with granules of black pigment, from which in other parts they were quite free; they presented no trace of pulmonary structure. Other sections showed condensed pulmonary tissue, and also extensive tracts, consisting of round nuclei embedded in a slightly fibrillated stroma, which were intersected in many places by curved elastic fibres, evidently the remains of the walls of air-cells. In other sections, again, taken from the blacker portions of the lung the field presented nothing but masses of black pigment embedded in a fibrous stroma.

The accompanying drawings (Plate I, figs. 2 and 3) by Mr. H. Arnott show very beautifully the appearance of sections of the indurated portion of the left lung, and illustrate the successive stages of the process

of development of the fibrous stroma, which gradually encroaches on and ultimately destroys the nuclei embedded in it.

*Remarks.*—These lungs, more especially the left one, very closely resembled, on a cursory examination, both the specimen of pearl-shell cutter's lung which I have just described, and also many other specimens of diseased lungs of operatives which I have from time to time exhibited to the Society. The lung-tissue was of the same dark colour and firm texture, and was studded, though less abundantly, with similar hard nodules consisting largely of fibrous material. On microscopical examination, however, though many sections from the consolidated and hard parts of the left lung presented appearances almost identical with those seen in the operatives' lungs to which I have referred, other sections clearly showed the tubercular origin of the disease. And it was, in fact, this mixed character of the pathological appearances which induced me to consider the specimens worthy of the attention of the Society. The firmness of the pulmonary tissue, the fibrous tracts which traversed it, and the hard nodules with which it was studded, all arose from the same kind of interstitial growth which takes place in the pulmonary disease engendered by mechanical irritation of the bronchial membrane. By many persons, perhaps, the case would have been called one of fibroid phthisis, but save in its extremely slow progress and in the presence of the interstitial growth consequent upon the long continued pulmonary irritation it did not differ from ordinary phthisis. It would seem, indeed, that the fibrous growth found in the lungs in this and kindred cases is due to interstitial pneumonia, which may be excited by a variety of causes. The long continued inhalation of dust, the irritation of chronic phthisis and the spreading of pleuritic inflammation along the interlobular septa, of which I have seen several well-marked examples, seem alike to have the power of producing it. When the disease has been caused by mechanical irritation of the bronchial surfaces both lungs are usually more or less diseased throughout; when it is the result of chronic phthisis, if both lungs are implicated, the disease is always much more pronounced in one than in the other, and however extensive the disease may be it does not affect the pulmonary tissue throughout as in the cases arising from mechanical irritation. When the disease is produced by the spreading of pleuritic inflammation it rarely, if ever, involves more than one lung, and frequently only a single lobe or even part of a lobe. From whichever of these

causes it may originate the progress of the disease is always very slow, and it often becomes far advanced without being accompanied by any urgent or manifest symptoms. Its pathological nature, however, appears to be in all cases identical, though its origin, and consequently its extent, differ widely, as I have shown in different classes of cases.

May 17th, 1870.

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13. *Case of thickly-disseminated secondary fibro-plastic tumour of lungs ; death from coma.*

By C. DE MORGAN.

**E**S—, æt. 32, was admitted into the Middlesex Hospital on August 25th, 1869. She had some growths fringing the lower part of the labia and vagina, which had been regarded as syphilitic. They certainly looked like large mucous tubercles, some of them ulcerated on the surface, and their situation and appearance led me at first to take the same view of their nature. The patient was a healthy-looking woman, with a florid complexion, and there was no evidence of other disease about her. The growths did not improve under treatment, on the contrary, they advanced along the walls of the vagina, giving rise to the belief that they were of a cancerous nature. But though the disease advanced, she suffered less, except from the constant dribbling away of the urine, which came on after she had been six or eight weeks in the hospital. She lost flesh and colour, but did not acquire an unhealthy look, and never complained of anything except the local suffering, until shortly before her death. On visiting her one day about a fortnight before this took place, I found her flushed, with a wet cloth over her forehead. She complained of severe headache, to which she was not subject. She said that it was all through the head, but chiefly in the forehead. The pain was constant, dull, and not neuralgic in character. There was no other nervous symptom present; she was not drowsy, although quiet from the headache. The state of the urine could not be ascertained, as it all flowed away mixed with the vaginal discharge; the sister of the ward said there was plenty of it. In other respects she

seemed much as usual; there was certainly no complaint about her chest, or her breathing. In this state she remained until January 12th, nothing that was tried relieving her head. On the morning of that day the house-surgeon was called to her, as she was found to be insensible. Her pulse and breathing were quick, there was no stertor, and she had had no convulsion or rigidity. The two sides of the body were alike with regard to movement—that is, when the arms or legs were pinched very firmly, there was a slight attempt to move them away, and they lay in whatever position they were placed. Reflex action was strong in both legs. The remarkable condition about her was this,—the lids were always closed; when they were opened by the fingers, the pupils were seen to be dilated, but they contracted quickly on the exposure to light. Then began an alternate contraction and dilatation of both pupils—tolerably regularly at sixty in the minute—visible at some distance from the bed. The iris ranged through a space perhaps of the one-sixteenth of an inch. The movement was not synchronous with either the respiration or pulsation, the former being 45, the latter 140 in the minute. While the eyes were kept open they oscillated slowly and regularly from side to side.

The respiratory movements were peculiar: at each inspiration the larynx was drawn up a full inch and a half, and fell in expiration; while the upper part of the thoracic walls was forcibly drawn in during inspiration. The percussion sound over the chest was generally dull, and no respiratory murmur could be heard in the upper half the chest, and only a faint one in the lower. She remained in this state till the time of her death, on January 14th, the third day after the attack.

*Post-mortem examination.*—The bladder was very small, not larger than a small orange, and thickened, to the extent of one third of an inch, by what seemed to be cancerous infiltration of its walls; the mucous membrane was destroyed, the surface being blackish and sloughy.

The uterus was of average size, and free from adhesions to the bladder, although the vagina below the cervix was closely united to the posterior wall of the bladder. The os uteri was very hard and tough to the finger, and on section exhibited a white striated aspect, believed to be cancerous; the striæ, however, were parallel to each other, and were not so distinctly margined off from the tissue of the cervix and fundus uteri.

The liver was adherent to the edge of the spleen, but was not of more than average size. It contained four or five white nodular deposits; one, the largest, was quite deep in the substance of the liver, the others were visible on the surface of the organ.

The left kidney was healthy in appearance, the capsule, however, was somewhat adherent. The right was small and wasted; scarcely any trace of pyramidal portion remained, and the pelvis was sacculated.

The lungs were adherent to the chest walls and to the diaphragm from old pleurisy. They collapsed less than usual, and upon the surface several white raised, flat patches were visible. Upon section, the substance of each lung was found to be thickly studded throughout with nodules, of sizes varying from that of an olive to that of a pin's head, and the lung-substance between the nodules presented traces of fine granular deposit. After examination showed that they were completely encapsuled, so as to be readily shelled out, having in no place any continuity with the tissues amongst which they grew. Microscopic examination showed that they were composed of pure fibro-plastic tissue.

The brain was perfectly healthy. The cervical sympathetic ganglia (upper and middle) were examined, but nothing peculiar was noticed about them.

This case presents another instance of the cancer-like dissemination of disease not strictly cancerous. At the post-mortem examination it was assumed, from the appearances presented, that the disease must be cancer, and the parts about the uterus and vagina were not preserved. But at the time it was noticed that the mode in which the disease invaded the neck of the uterus was not like that seen in cancer. The cervix is described as presenting a white, striated aspect. The original growths, too, were not like those of cancer, either in aspect or situation. Although, then, the mode in which the disease invaded the anterior wall of the vagina was very like what is seen in cancer, there can be no doubt as to the disease being really fibro-plastic. Another point to be noticed—and which was due, probably, to the non-cancerous nature of the disease—was the absence of enlargement of the lymphatic glands, although this is sometimes the case even in cancer. The state of the lung was remarkable. I do not remember to have seen in any cancer so complete a studding of the lung-tissue with secondary nodules, as was to be seen in this specimen. So thoroughly was the lung-tissue invaded,

especially at the upper part, that its expansion in the act of inspiration was prevented. The liver, too, presented a few, but only a few, secondary nodules, contrasting remarkably with the lung in this respect, and reversing what may be considered as the general rule.

It is to be regretted, perhaps, that the true nature of the disease was not recognised on its first appearance, as it might have been removed. But it is probable, the great tendency to recurrence being taken into account, that the result of an operation would not have been satisfactory.

No pathologist would, it may be presumed, consider this disease in any other light than as local in the first instance, the elements of which had been subsequently carried to distant organs; and if so, one of the grounds on which cancer is considered a general or blood disease is removed.

The mode of death was not explained by anything seen at the post-mortem. Uræmic poisoning is the only assignable cause; and yet it is strange that with one kidney so healthy, and the other the seat of slowly-progressing disease, there should have been such a rapid invasion of head symptoms. Up to the time when the headache began, she was bright and cheerful, and had certainly no sign of kidney disease. Supposing she died from uræmia, it is noteworthy that the brain could be so singularly healthy, and free from every trace of effusion, either in the ventricles or within the arachnoid. It was what might be called a dry brain. Every square inch of it was cut up, but there was no trace of tumour or other disease. It is well known that patients die from cerebral affection in kidney disease, without effusion or other morbid affection, but it is not common to find so rapid an invasion and fatal termination without some visible sign.

The state of the blood from insufficient lung may have aided in causing coma, but she never had the appearance of a person whose blood was imperfectly aerated.

*February 15th, 1870.*

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14. *Chronic induration of right lung causing contraction of right bronchus.*

By C. THEODORE WILLIAMS, M.D.

A WIDOW lady, æt. 66, was first seen by Dr. C. J. B. Williams, Oct. 4, 1869, and gave the following account of her symptoms. She had been chilled in the previous December, and ever since had suffered from cold and cough with mucous expectoration, occasionally streaked with blood. She had had some pain in the chest, first affecting the left side but latterly the right, and had lost much flesh and strength. The breath was short on exertion, and the nails were convex. On examination there were found dulness and loud large tubular sounds above the right scapula. A systolic murmur was audible at the sternum. Under treatment the patient improved in general health and gained flesh, but had several attacks of bronchitis during the cold weather. In March the cough became much more troublesome; the breath shorter and very wheezy, and was accompanied by pain in the right shoulder. The sputum was chiefly mucous and transparent and often contained streaks of blood. At the end of the month the blood was quite florid; the patient had orthopnoea, and the physical signs had increased. Dulness and loud superficial cavernous sounds accompanied by crackle, were detected above the right scapula and below the clavicle. Under styptics the blood disappeared, and the expectoration was viscid, but never opaque. Mucous rattle was almost constant in the trachea and right bronchus, causing perpetual annoyance; the breathing became more laborious and shorter; appetite and strength failed, with increasing distress and orthopnoea, and the patient died April 5th.

On examination twelve hours after death, the body was moderately emaciated, with patches of ecchymosis, on the posterior portions of trunk and thighs. The heart was healthy, but the aorta was atheromatous, and the ascending portion contained some osseous material, a spicula of which protruded from the wall and had probably caused the systolic murmur mentioned in the history.

The liver and spleen were enlarged and somewhat granular; the kidneys healthy.

The left lung was highly emphysematous but free from consolidation.

The right lung to the extent of its upper third was firmly adherent to the posterior wall of the chest and to the spinal column, and could not be separated without considerable laceration. At the apex was an oblong ragged cavity about an inch and a half in length, the walls of which were torn open in the removal of the lung. The upper third of the lung was in colour dark grey, in texture hard and fibrous; and along its posterior border, and around the root there were light coloured portions of harder fibrous material, having on the outside and also passing through them, whiter bands. These in some cases were connected with the pleura, which at the apex was much thickened.

The bronchial glands were enlarged and hard. The right bronchial tube was contracted to less than half its usual size; as also the right pulmonary vessels, both appearing to Dr. C. J. B. Williams and myself to be compressed by the dense fibrous material surrounding them.

The rest of the lung contained a few patches of consolidation, which under the microscope proved to be pneumonic, but was free from the fibrous tissue which pervaded the upper portion.

The cervical axillary and mesenteric glands and the pancreas were healthy.

Sections of the upper part of the lung were examined under the microscope by Dr. Burdon Sanderson, Dr. Payne, and myself. The septa between the alveoli were greatly thickened; the connective tissue of the lung considerably increased in amount, and contained fresh nucleated tissue with a stroma of delicate filaments, called by Dr. Sanderson "adenoid tissue." The alveoli were much compressed and in parts nearly obliterated, but in other parts contained numbers of cells of various shapes and sizes. Some were evidently much degenerated, others quite perfect. The form varied much, some were caudate, some angular, some fusiform, and many oval. They contained usually one large nucleus, but in a few cases several; and one or more bright nucleoli. The cells sometimes filled the alveolus so completely as to be pressed together and caused to assume a polygonal form. There appears to have been a large increase of fibrous tissue in this lung, accompanied by a proliferation of epithelium within the alveoli.

*Remarks.*—Many cases of chronic induration of the lung have

been recorded in the 'Transactions,' but this instance presents some remarkable features:—1st, The limitation of the disease to the upper lobe; 2nd, The partial contraction of the right bronchus; 3rd, The great increase in the epithelial elements, and their remarkable variety of form, which when first observed gave rise to a suspicion that they might be malignant. The large amount of this epithelium may be accounted for by its accumulation from the partial obstruction of the right bronchus, which seems to have caused the difficult expectoration and remarkably persistent rattle, which so much distressed the patient for several days before death.

*May 3rd, 1870.*

*Report on Dr. T. C. Williams' case of disease of right lung, by Committee on Morbid Growth.*—The specimen submitted to us for examination is the right lung.

The upper and middle lobes are firmly united together by the thickened inter-pleural septum. Both these lobes are firm, dense, fibrous, and deeply pigmented. At the extreme apex there is a rugged irregular cavity. The cut ends of the bronchi are seen to be surrounded by white indurated tissue, at the circumference of which is a line of dark pigment. Although there is a slight puckering of the vessel entering the upper lobe, there appears to be no distinct narrowing, either of this or of the accompanying bronchus.

Microscopically, the upper lobe is seen to consist for the most part of fibrous tissue, which in many places contains but four cells; this is most abundant around the bronchi and vessels, and beneath the pleura. Associated with this, and in most places external to it, is a large amount of adenoid (lymphoid) tissue. The alveoli themselves are almost universally obliterated by the new growth; in parts, however, they can be seen containing epithelial cells, altered in shape and containing granules of fat. In some places the epithelium is remarkably luxuriant, and at first sight suggests the idea of epithelioma, but it appears to grow within the alveoli, and not to be a heteroplasmic growth.

The case appears to us to be one of chronic phthisis, in which there is an unusual amount of induration, of such a nature as arises from an overgrowth of the normal inter-lobular structures. The absence of dilatation of the bronchi is surprising considering the limited extent of the induration.

*For the Committee on Morbid Growths,*

*May 13th, 1870.*

T. HENRY GREEN.

J. B. SANDERSON

### III.—DISEASES, ETC., OF THE ORGANS OF CIRCULATION.

#### 1. *Malformation of the heart; contraction of the pulmonic orifice; aorta arising equally from both ventricles.*

By T. B. PEACOCK, M.D.

THE specimen was sent to Dr. Peacock by Dr. Griffiths, of Swindon, under whose care the patient had been since soon after birth. The subject of the malformation was a boy, *æt.* 8, who presented characteristic signs of some defect about the heart. He was particularly susceptible to cold, so that he was always at the fireside, and was not able to make any exertion. His breathing was hurried, but not distressingly so, and the heart's action was tumultuous and powerful. He was fairly nourished, but the skin generally was of a dusky colour, and the lips and nails of a pale blue. There was some fulness in the præcordial region, and the face and neck were puffy, but there were no dropsical symptoms.

The heart only was examined after death. It was very large for the age of the subject, weighing  $10\frac{3}{4}$  oz. avoirdupois. It was also wider in the longitudinal than in the vertical direction, thus resembling the heart in the *Chelonia*. The right ventricle was especially large, and the walls thick and firm, measuring 2 to 3 French lines (4.5 to 6.75 mm., .17 to .26 Eng. in.) in width, those of the left ventricle being flaccid, and having a width of 2 to 4 lines (4.5 to 9 mm., .17 to .35 Eng. in.). The orifice of the pulmonary artery was much contracted, giving passage only to a ball measuring 9 French lines in circumference (20.25 mm., .79 Eng. in.), the diminution in the capacity being due to the adhesion of the valves together. Beyond the orifice the artery was of larger size, but it was throughout smaller than natural, and the coats thin. The aorta arose equally from both ventricles, its origin between placed above an aperture in the septum of the ventricles, so that a ball could be passed from either ventricle into the vessel, which had a circumference of 33 French lines (74.25 mm., 2.93 Eng. in.).

The ascending aorta was of large size. The vessels had been cut somewhat short, so that the condition of the ductus arteriosus could

not be ascertained, but the pulmonary artery was short, and there was no appearance of the ductus arteriosus at the bifurcation. The foramen ovale was capable of being covered by the valve, but this was unattached over a part of its edge, so as to leave an opening which would admit the point of the little finger or had a circumference of 14 lines (31·5 mm., 1·24 Eng. in.).

The following are the dimensions of the organ :

Width	47 French lines	= 105·75 mm.,	4·17 Eng. inches.
Height	38	" = 85·5	" 3·37 "
Girth of right ventricle measured externally,	70 Fr. lines	= 157·5 mm.,	6·21 E. in.
" left	"	" 51	" = 114·75 " 4·52 "
Circumference of pulmonic aperture	9	" = 20·25	" ·79 "
" of aperture between aorta and each ventricle,	33	" = 74·25	" 2·93 "

*October 19th, 1869.*

2. *Malformation of the heart ; great contraction of the pulmonic orifice ; aorta arising from the right ventricle, but communicating with the left by an aperture in the septum.*

By T. B. PEACOCK, M.D.

THE specimen was sent to Dr. Peacock by Dr. Lanchester, of Croydon, and had been obtained by Dr. Cresswell, of South Norwood, from a female child, *æt.* 2½, which died under his care of pertussis. At or soon after birth it was noticed to be of a bluish colour, and this was increased on crying, but it did not suffer from fits, and was fairly nourished. It died about two weeks after the commencement of the hooping-cough. The heart was somewhat large for the age of the child. The pulmonic orifice was contracted by the attachment of the valves together, so that it only admitted of the passage of a cylinder 5 French lines in circumference (11·25 mm., ·44 Eng. in.). The aorta arose directly from the right ventricle, by an aperture which would admit a ball measuring 15 French lines in circumference (33·75 mm., 1·33 Eng. in.), and there was an aperture in the septum of the ventricles. The trunk of the pulmonary artery,

though altogether small, was somewhat larger than the orifice. The aortic valves were thickened. The foramen ovale was entirely closed. The appendix of the left auricle was entirely separated from the sinus. The vessels were cut off too short for the state of the ductus arteriosus to be ascertained.

The sinus of the right ventricle was very large, and the infundibular portion, as is usual in cases of this kind, was much smaller than natural. The walls also of the right ventricle were thick and firm; those of the left loose in structure.

The following are the weight and dimensions of the heart, after it had been a short time in spirit :

Weight,	2 oz. and 10 drachms av.	
Height,	30 French lines = 67.5 mm.,	2.66 Eng. in.
Width,	21            ,,            = 54            ,,	2.13            ,,
Thickness of walls of right ventricle,	2 lines = 4.5 mm.,	.17 Eng. in.
left	2½            ,,            = 5.62            ,,	.22            ,,

October 19th, 1869.

3. *Malformation of the heart; patent foramen ovale; imperfect septum ventriculosum; aorta given off from the right ventricle; ductus arteriosus giving off the right and left pulmonary arteries; cyanosis.*

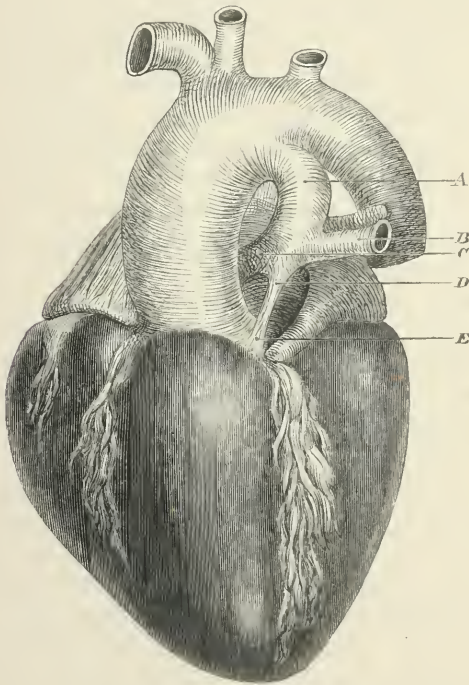
By HUNTER SEMPLE, M.D.

THE subject of this case was an infant, æt. 3 months, which was brought to Dr. Semple, at the Bloomsbury Dispensary, suffering from cyanosis. There were no particular symptoms except those denoting imperfect aëration of the blood, and no murmur could be detected over the cardiac region. No treatment was recommended, and only a fatal result was anticipated. The child was afterwards brought at intervals to be seen, but no change took place in its condition, and it remained thin, weak, shrivelled, and emaciated. Death took place, without any particular symptoms except those of exhaustion, at the age of ten months. The *post-mortem* examination was made on the 17th of December, 1869.

The body was small and emaciated, being certainly no larger than when seen at three months old. No special indications of disease were found. The lungs were small, but they generally crepitated, except the lower lobe of one of them, which appeared to be in a state of red hepatization, and sunk in water. The heart presented the following conditions :

The superior and inferior vena cava and the four pulmonary veins respectively opened, as usual, into the right and left auricle. The

WOODCUT 6.



- A. Ductus arteriosus.                      B. Left pulmonary artery.  
 C. Right pulmonary artery.  
 D. Rudimentary pulmonary trunk, pervious as far down as F.

two auricles communicated with one another by the foramen ovale. The cavity of the left ventricle was small; the mitral valve was situated at the auriculo-ventricular opening, but there was no communi-

cation with the aorta, except in the mode presently to be described. There was an opening of a rounded form, of about the size of a large goose-quill, between the right and left ventricle, situated at the upper part of the ventricular septum, just below the junction of the auricles with the ventricles. The right ventricle was comparatively large, and presented three openings, namely, the abnormal interventricular opening, the usual auriculo-ventricular opening, and the opening into a large arterial trunk, which, from its construction and relations, must be regarded as the aorta. The semilunar valves were very distinct, and also the openings of the two coronary arteries; and it should be observed that the abnormal interventricular opening was situated almost immediately below the semilunar valves, so that the blood must have passed into the aorta from both ventricles. The ascending part of the aorta was dilated, so as to present the appearance of an aneurism; and from the convexity of the arch of the aorta the innominata, the left carotid, and the left subclavian, were given off in their usual order. From the concavity of the arch there proceeded downwards what must be regarded as the ductus arteriosus, which gave off the pulmonary arteries; but instead of communicating with a pulmonary trunk, the ductus arteriosus continued its course downwards, and terminated in a kind of pointed fusiform *cul-de-sac* at the base of the heart, near the origin of the aorta. This continuation of the ductus arteriosus was pervious as far as its termination, and must be regarded as the pulmonary artery occluded at its origin, and, therefore, not communicating with any of the cavities of the heart. The course of the circulation in this case must have been as follows:—The blood was brought to the right auricle by the venæ cavæ, and to the left auricle by the pulmonary veins; thence it passed through the respective auriculo-ventricular openings into the right and left ventricles, but then the blood passed from *both* ventricles into the aorta. This last-named vessel then sent the greater part of the blood into the system, but a portion of that fluid was sent from the concavity of the arch of the aorta into the ductus arteriosus, and thence, by the two pulmonary arteries, into the lungs.

*January 4th, 1870.*



4. *Malformation of the heart; nearly complete separation between the sinus and infundibular portion of the right ventricle; aorta arising from both ventricles.*

By T. B. PEACOCK, M.D., for Mr. ROYDS.

THE case occurred in the practice of Dr. Woodhouse and Mr. Harrison, of Reading, and the preparation is contained in the museum of the Berkshire Hospital, and was forwarded for exhibition to the Society by Mr. Royds, the resident medical officer.

The following report of the case was given by Dr. Woodhouse.

Jane P—, æt. 15, was brought into the hospital in May, 1849, having been found in the street fainting, and bringing up large quantities of blood, which evidently came from the lungs. She was much exhausted, and had a feeble quick pulse, and a bluish tint of the whole surface. She was placed in bed and warm applications were made to the feet, a mixture containing alum and sulphuric acid was given and cold was applied to the chest, and these means succeeded in checking the hæmorrhage. After a few days it recurred, and acetate of lead and opium were given with similar though temporary benefit. She improved for a short time, and was able to walk about the ward, but soon after she had an attack of diarrhœa, which, however, yielded to the ordinary means. In June she complained of rigors, with pain in the left side and dyspnœa, and after a few days coughed up immense quantities of purulent matter, and died on the 25th. She had been under the care of Mr. Harrison when eight years of age, and he gave the following report of her case:—"She was born a fine child, and nothing was observed peculiar till she was nine months old, when it was remarked that after crying her skin was discoloured. When she became able to move about the blueness was more marked, and she was short-breathed and not able to walk quickly like other children, and was worse after any sudden exertion. She frequently dropped down and remained faint for fifteen or twenty minutes, and, if she did not faint, she laboured for breath and had excessive palpitation of the heart, which was obvious to the bystanders. After attacks of this kind she was left dull and languid for some time. The attacks came on without obvious cause, and would last for fifteen minutes. She had no cough, but was very

susceptible to cold, and was in consequence worse during winter. She slept longer and more soundly, but was not less intelligent than other children, though she had an idiotic expression of countenance. She suffered from psorophthalmia and stooped much, and, indeed, could not sit upright; she was knock-kneed and shuffled in walking. The skin under excitement was greatly discoloured, and the inside of the mouth was blue.

“A superficial prolonged soft systolic bellows murmur was heard over the whole of the front of the chest, followed by a loud, sharp, and clear second sound. The murmur was most distinct at the centre of the sternum, opposite the articulations of the fourth ribs. It was continued up the first bone of the sternum, and was heard less loudly to the left of the sternum to the second intercostal space. The opinion formed by Mr. Harrison was that there was contraction of the orifice of the pulmonary artery, with a communication between the right and left ventricles.

“On *post-mortem* examination the right lung was found filled with tubercles in the first stage, and the left lung was equally tuberculous but in some places the deposit had softened.

“The heart was large, firm, and muscular, the right side being especially enlarged. The upper part of the septum ventriculorum was deficient, presenting a sharp, smooth, semilunar edge looking towards the aorta, so that there was a free communication between the cavities. The aorta was somewhat dilated at its commencement, and arose above the opening in the septum, so as to communicate with both ventricles. There was only a small valvular passage between the auricles. The pulmonary artery seemed to arise from a small blind cavity at the base of the heart in front, which had no communication with the auricles or ventricles. The pulmonary artery was small, and its coats thinner than natural; the valves occupied their natural situation, but were only two in number, one of the segments, however, presenting appearances of imperfect division. The ductus arteriosus was pervious and about the size of a crowquill. It arose under the arch of the aorta, between the arteria innominata and the left carotid, and must have furnished the supply of blood to the lungs, which would be a mixture of venous and arterial.”

The description above given fully represents the condition of the heart, except that the statement that there was no communication between the cavity from which the pulmonary arose and the ventricles does not appear quite correct. The separation between this

cavity and the right ventricle is nearly entire ; but, on careful examination, some small passages can be traced by which the blood in the right ventricle could penetrate into the cavity and so reach the pulmonary artery. The specimen, indeed, affords a very interesting example of that description of malformation in which there is a separation, more or less complete, between the sinus and infundibular portion of the right ventricle, resulting from arrest in the process of development of the ventricle.

In the hearts of the *Chelonia* there are three ventricles, two aortic and one pulmonary, the right aortic ventricle and the pulmonary ventricle being in communication, while the left aortic ventricle is entirely distinct. This arrangement indicates the mode in which the right ventricle is developed in man, the sinus of the ventricle being the analogue of the right aortic ventricle, the infundibular portion of the pulmonic ventricle. In the adult human heart the muscular columns in this situation always indicate some tendency to separate the cavity into two portions, and occasionally this separation becomes so distinct as to constitute a malformation. Of cases of this kind Dr. Peacock<sup>1</sup> has referred to about eighteen or twenty as recorded by other writers, and has described two or three which have fallen under his own notice.

The cases in which the anomaly exists may be classified into two series. In one the separation between the sinus and infundibular portions of the ventricle coexists with other serious deviations from the natural conformation of the heart, such as an aperture in the septum of the ventricles, as in the present instance, or an open state of the ductus arteriosus or of the foramen ovale. In the other series of cases the heart is well formed, or presents only some unimportant deviation from the natural structure or some defect in the development of the semilunar valves. In both sets of cases the deviation from the natural process of development must be supposed to have commenced at any early period of foetal life ; though, in the cases where the organ is otherwise well formed, the partition in the right ventricle can only have been slight at that time ; while, when the septum of the ventricles is imperfect, the irregular division of the cavity of the right ventricle must have been then so great as to constitute an impediment to the transmission of the blood from the sinus of the right ventricle into the infundibular portion, and so into the pulmonary artery. The partition, however,

<sup>1</sup> 'Malformations of the Human Heart,' 2nd ed., 1866, p. 75.

doubtless often becomes more decided with the progress of growth, the endocardium being often found greatly thickened, and so adding to the obstruction. The dimensions of the opening between the two portions of the right ventricle varies in different cases, being sometimes a mere diminution in the size of the cavity in that situation; while in other cases, and especially where the endocardium has become thickened, the septum may form a decided constriction or ring, and constitute a serious source of obstruction. Of the two series of cases referred to, the first, or that in which there are other defects in the heart, is by far the most common; whereas the second, where with the abnormal partition there are no other important deviations from the natural structure, is very rare; indeed the last cases amount to only three or four of the whole number recorded.

The present case is especially interesting, first, for the very marked separation which existed between the two portions of the ventricle; secondly, from the age which the patient attained, notwithstanding the very imperfect form of the heart; and, thirdly, from its adding another to the many cases which have been previously adduced to show that a venous condition of the blood by no means prevents the development of tubercle. It is also interesting from the near approximation to a completely accurate diagnosis of the precise condition of the heart which had been arrived at during life. Practitioners who are familiar with cases of this kind well know that the auscultation of the heart under such circumstances is attended with no ordinary difficulties.

January 18th, 1870.

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5. *Abnormal formation of the tricuspid valve; death from pulmonary emphysema and bronchitis.*

By E. H. GREENHOW, M.D.

THE heart exhibited was taken from the body of A. B—, a woman, *æt.* 44, who was admitted into the Middlesex Hospital, for bronchitis and emphysema, on the 27th of January, under the care of Dr. Thompson, by whom the case was kindly transferred to me.

The patient stated that she had been in good health until Novem-

ber, 1864, when she had begun to suffer from cough and dyspnœa, which came on gradually without any definite illness. The cough had returned every subsequent winter, usually setting in with the first commencement of cold weather, and lasting until the approach of summer; but although she had each year lost it during the warm weather, she had never after the first attack been free from the dyspnœa. She had frequently suffered from sickness, and, in September last, had vomited a pint and a half of dark-coloured blood; but she had been able, with occasional intermissions, to follow her occupation as a servant until the commencement of the present winter, when her cough had become worse than usual, and for a fortnight previous to her admission into the hospital her dyspnœa had been so great as to prevent her lying down in bed.

On admission her lips were purple, and her whole face of a leaden hue; the tongue also was pale, thin, and blue. The thorax was prominent over the upper front and over the bases of both lungs posteriorly, the prominence being greatest on the left side in front, and on the right side behind; the lower part of the sternum was slightly depressed. The breathing was very laborious, the muscles of the neck being brought into violent action, the chest expanding very little, and the epigastrium sinking in during inspiration. The whole thorax, including the præcordia, was hyper-resonant on percussion. The breath-sounds were feeble, and attended by rhonchus and sibilus, and expiration was prolonged. Some moist sounds were audible in the bases of both lungs. The heart's impulse was not perceptible in the normal situation, but was distinct in the epigastrium. A coarse murmur was audible with the first sound equally at both apices of the heart. It was also thought, on February 1st, that a faint præ-systolic murmur was heard at the left border of the sternum. Pulse 130, irregular both in force and rhythm. Respirations 24. Urine acid, sp. gr. 1020, not albuminous.

Whilst in the hospital the patient suffered from constant orthopnœa, with occasional accessions of excessive dyspnœa. Her fits of coughing were prolonged and abortive, the expectoration being very scanty, tenacious, and muco-purulent. She gradually became worse, and died on February 5th.

*Post-mortem examination.*—Body much emaciated. Both lungs were very voluminous, and when the sternum was raised the left overlapped the right at mid-sternum to the extent of an inch and a

half. A very small portion of the heart was exposed to view. The pleural surfaces were free from adhesions; there was slight thickening of the pleura at the apices of both lungs. In the posterior part of the left apex, immediately beneath the pleura, was a small cretaceous mass, about the size of a millet-seed, and on the anterior surface of the left upper lobe, also immediately beneath the pleura, was another similar mass, enveloped in a patch of collapsed lung-tissue, of the size of a grain of wheat. The lungs were everywhere crepitant and excessively emphysematous; they were both congested at the base, where the lung-tissue was soft and easily broken down. The upper half of the left upper lobe was also congested and œdematous. The large bronchial tubes were full of rather viscid mucus; the smaller ones were choked up with thick mucopurulent secretion.

There were several white patches on the surface of the heart. The heart was slightly enlarged, and weighed 10 oz. The walls of the left ventricle were hypertrophied, and measured at the middle about  $8\frac{1}{2}$  lines in thickness; the right ventricle was of normal size, and not at all dilated. The aortic and mitral valves were thickened, and the mitral orifice was slightly contracted and the valve puckered on its auricular surface. The tricuspid valve was malformed and slightly roughened. It consisted of four distinct segments, the posterior one being of normal size and shape, whilst the left segment was unsymmetrical and shorter than usual, and the anterior one, though perfect in shape, was less than the normal size; the fourth or extra segment was small, and situated between the anterior and posterior segments on the right side, nearly opposite to the short left segment. A large cylindrical muscular column, which arose out of the inter-ventricular septum, extended across the cavity of the ventricle, immediately in front of the conus arteriosus, and was attached to its opposite wall near the posterior valve. This column would appear to have been formed by the congenital union of the distal ends of two papillary muscles, and was so situated that it must have bisected the current of blood passing out of the ventricle into the pulmonary artery. Springing from this muscular column, in a direction almost at right angles to its course, were many chordæ tendinæ, which were attached at their distal extremities to the left segment of the tricuspid valve, whilst from the end near its insertion into the septum sprang other chordæ tendinæ, which were attached at their distal ends to the anterior segment of the valve.

*Remarks.*—There are two points of especial interest in this case, namely—1. The existence of very extensive emphysema of both lungs without dilatation of the right ventricle of the heart. 2. The presence, during life, of an unusually loud coarse murmur over the right side of the heart. It may, perhaps, be considered doubtful whether either of these circumstances were due to the malformation of the tricuspid valve, more particularly as neither pulsation nor distension of the veins of the neck was observed during life. To me, however, it appears possible that this malformation may have been the cause of both phenomena. The abnormal muscular band, by preventing the perfect closure of the tricuspid valve during the systole, and thereby admitting of regurgitation, may have given rise to the murmur; and, again, the regurgitation thus caused, by preventing the over-distension of the right ventricle, may have obviated the dilatation of that cavity, so constantly met with in cases of extensive pulmonary emphysema. Possibly, also, the murmur may have been caused, in part, by the impinging of the blood against the muscular band, whose presence impeded its free course towards the pulmonary artery.

## 6. *Malformation of the heart.*

By C. KELLY, M.D.

THIS specimen was obtained from a woman, æt. 48, who was admitted into King's College Hospital, under Dr. Beale's care, on April 1st, 1869.

She was a married woman, with five children, and had always enjoyed very good health. Occasionally she suffered from palpitation of the heart and shortness of breath.

On admission there was general œdema and some difficulty in breathing, but had only complained of being ill for about a month.

The heart sounds were peculiar, and varied at different times. At first there was a systolic bruit heard at the base, but this disappeared after rest in bed; there was a reduplication of the second sound over the sternum; the cardiac dulness was increased, and the apex beat

diffused, but felt most distinctly an inch below and in a line with the left nipple.

The pulse also varied, and was sometimes quick and intermittent, and at other times small and regular.

The thorax did not expand much, and there was increased resonance in front, with prolonged expiration; over both lungs rhonchi and sibili were heard, mingled at the bases with some crepitation. The external jugular veins filled from below.

She died on May 22nd.

At the autopsy about half a pint of serous fluid was found in each pleura, and the lungs themselves were uniformly emphysematous; the bases were very œdematous, and much frothy mucus flowed out on section. Weight, right lung, 33 oz.; left lung, 20½ oz.

The heart weighed 13½ oz. The coronary veins were full, and there were about two ounces of clear fluid in the pericardium; all the cavities were much dilated, especially those on the right side; the right auricle was so large that it occupied half the anterior aspect of the heart; the apex of the appendix was injected, and covered with some recent, soft lymph, and this seemed to be due to the friction to which it had been exposed. Both the ventricles were dilated, and the walls were thinner than usual; the valves, however, seemed to be healthy.

The septum between the two auricles was larger than usual, and perforated in two or three places from over-stretching, the foramen ovale was open, and allowed free communication for the blood.

The other organs of the body were congested. It seems likely that the variations in the bruit heard during life were due to the varying tension of the perforated septum and the fulness of the auricles.

*December 7th, 1869.*



7. *Disease of mitral valve during intra-uterine life.*

By C. KELLY, M.D.

THE following case seems to show the existence of a constriction of the mitral orifice having its origin in a fusion of the two curtains at an early period of life.

Harriet W—, æt. 33, was admitted under Dr. Garrod, in King's College Hospital, October 3rd, 1868, with general œdema, dyspnœa, and other symptoms of cardiac dropsy. She stated that, until her last confinement, she had never suffered from any serious illness, but when a child she could not run about well or indulge in any severe exertion, on account of great shortness of breath and palpitation of the heart. The dyspnœa was generally worse in the winter, when she took cold, and the last four years she had had a winter-cough. At the time of her last labour, a few weeks before her admission, she lost a large quantity of blood, and has never since recovered her usual health.

She was very anæmic on admission, and there was much crepitation over the base of each lung; the legs were very œdematous; she passed a fair quantity of pale urine with a little albumen. The præcordial dulness was not increased, but a loud systolic bruit could be heard at the apex of the heart.

She died a month after she came into the hospital.

An autopsy was made thirty-seven hours after death. The lungs were rather emphysematous at their margins, but the cavity of the thorax was much encroached upon by the diaphragm being pushed upwards by ascitic fluid. The bases of the lungs were very œdematous, and the bronchi much congested. Right lung, 21 oz.; left lung, 22½ oz.

The heart weighed 9 oz. There was a little clear fluid in the pericardium, and the coronary veins were full. The right cavities were dilated, giving the heart a round shape; the muscoli papillares were thicker and more prominent than usual in the right ventricle. The left ventricle and aortic valves were healthy. The mitral orifice was much constricted, only admitting the tip of the index finger, and about 1¼ in. in circumference; it was of the shape of a button-hole, and the free margin was slightly thickened; when viewed from the left auricle the mitral valve was of a funnel-shape, at the bottom of

which was the button-hole opening. It seemed formed by a fusion of the two curtains at a very early period of life; there was no abnormal deposit in any of the valves.

The woman was very temperate, and had never suffered from any symptoms of syphilis. She had never had rheumatic fever, nor any of those diseases which frequently cause heart disease.

The albumen in the urine was due to the congestion of the kidneys, induced by the obstruction to the circulation; both were small and red, and the cortex had begun to atrophy. Nor was the change in the valves such as is usually met with in cases of rheumatic or renal origin.

The patient's history seems to point to the mischief dating either from fœtal life or at a very early period of childhood.

The small amount of emphysema was due probably to the malnutrition of the lung, in consequence of the blood current being impeded at the mitral orifice; it certainly could not be the cause of a constricted orifice.

All the organs in the body were passively congested.

*April 19th, 1870.*

8. *The heart, left lung, and portions of the costal cartilages of a man who shot himself in Hyde Park on November 6th, 1869.*

By THOMAS WHIPHAM, M.B.

THE man from whom the parts exhibited were removed was observed by one of the park-keepers to place a pistol to his chest and fire it off. He stood for about twenty seconds, and then fell heavily on his side. The keeper immediately ran up to him, and found that he was still alive; that the breathing was excessively laboured, the face blanched, and that the heart's action had nearly ceased. The suicide died almost immediately, and the body was taken to St. George's Hospital, where it was examined on the following day. The result was as follows:

The corpse was that of a man apparently of about twenty-eight years

of age (it was impossible to say for certain, as no friends appeared to claim the body) ; was well nourished, and, with the exception of the injury described below, in good condition. The rigor mortis was excessively well marked. About two inches below the left mamma was a round wound, of about one inch in diameter, with jagged edges around which the skin was blackened and charred. The finger could be passed into this wound and through the interspace between the fifth and sixth costal cartilages. The sixth rib was fractured about three quarters of an inch external to its junction with the cartilage.

In the left pleural cavity was found a large black coagulum, and so extensive had the hæmorrhage been that the lung was compressed to some considerable extent. Just below the root of this left lung were two small round apertures, three fourths of an inch apart, which communicated through the lung-substance with two other openings on the posterior surface. The bullets, which were subsequently found, had thus passed through the organ, and had "spread" in the passage, for the wounds on the posterior surface of the lung were much farther apart than those on the anterior.

But more extensive injury had been inflicted on the heart than on any other part. Its apex was almost blown to pieces, and the cavity of the left ventricle laid open, whence was derived the blood clot in the left pleural cavity.

Two small irregularly shaped bullets, weighing together 50 grs., were found imbedded in the deep muscles of the back, one between the seventh and eighth ribs, the other between the ninth and tenth, just external to their angles.

The viscera were in all respects natural, excepting the kidneys, which were very anæmic.

*November 16th, 1869.*

9. *Suppuration of the heart.*

By P. H. PYE SMITH, M.D.

THIS specimen was taken from a subject brought into the dissecting room of Guy's Hospital. On opening the chest the heart was found to be adherent to the pericardium by a number of layers of organized tissue. It was greatly dilated and somewhat hypertrophied, and the whole of its substance was infiltrated with small abscesses, some appearing like pustules on the surface, others imbedded in the muscular walls or between the great vessels. The orifices were dilated, but the valves were normal. The only source that could be discovered for this remarkable condition of the heart, in the absence of any external lesion, was a dense mass of fibrous tissue in the left hypochondrium, involving the spleen, the cardiac end of the stomach, the left kidney and supra-renal capsule. When dissected out, each of these organs was unaffected, but the mass had softened in the middle into a partly cretaceous, partly puriform cavity.

That this dense deposit was of syphilitic origin was rendered probable by its own characters, which were not those of a malignant or other tumour either in external appearance or under the microscope, and also by the fact that the liver was deeply and irregularly scarred and indented, without any uniform thickening of the capsule or of the interlobular tissue. Moreover, both testes were traversed by dense fibrous lines which had much compressed the secreting structure. On the other hand, no hard or soft nodes were discovered in other parts of the body, nor was the larynx diseased.

I was able to ascertain that the old man from whom this heart was taken had suffered during life from bronchitis and the ordinary effects of a dilated heart. The suppuration which occurred at the close of his illness may, I venture to think, be most probably attributed to absorption from the breaking down of an old syphilitic gumma.

*December 7th, 1869.*

10. *Rupture of the left auricle of the heart.*

By E. CLAPTON, M.D.

Mrs. E—, æt. 61, the wife of a publican, had suffered for some little time from symptoms of cardiac mischief, but otherwise had always been a healthy woman. For nearly twelve months she had been affected with purpura, but all the spots had faded two or three months ago. Last August she had an attack of jaundice, which lasted only a week.

I saw her in consultation in the afternoon of the 27th December. At 2 a.m. on the same morning she had been seized with palpitation, convulsive breathing, and a sense of suffocation. On the occasion of my visit she appeared in very great præcordial distress, and on listening at her chest there was found an exceedingly loud, rough, and flapping bruit, which was most audible at the apex. Suddenly, whilst still listening, a sharp, loud, rushing sound was heard, and immediately, though the heart's action was even more tumultuous, scarcely a trace of a bruit could be detected. The patient was on the instant in a state of complete and hopeless apoplexy, and she died the same evening in a state of profound coma.

On *post-mortem* examination the lungs were found healthy and uncongested. The pericardium contained about two ounces of clear serum. The heart was large and hypertrophied, the weight being nineteen ounces. On opening the left ventricle there were found a few small atheromatous patches on the endocardium and along the aorta. Both the mitral and semilunar valves were healthy.

On carefully cutting into the left auricle there was found on its posterior wall, just above the auriculo-ventricular orifice, a transverse rupture about an inch in length, and extending through the lining membrane and almost the entire thickness of the muscular wall. The edges were red and well defined, and almost in contact.

The head was not allowed to be examined.

*January 4th, 1870.*

*Report of a Committee of the Pathological Society appointed to examine Dr. Clayton's specimen of rupture of left auricle.*—We have carefully examined the specimen submitted to us. The rupture

in the left auricle is just above the posterior segment of the mitral valve; its direction is transverse to the axis of the mitral orifice; it is two inches long, and extends in depth almost through the wall of the auricle. The following conditions of it are those which we think most capable of throwing light on the nature of the accident.

1. The tear is longer and wider in the endocardium than in the muscular substance, although the muscle is not adherent at all firmly to the endocardium. It appears to us that if the muscle had ruptured first, and then dragged upon and torn the endocardium, the tear would certainly have gaped wider, and would probably have run longer in the muscle than in the endocardium. On the other hand, rupture by accidental violence acting on the inner face of the auricle would tear first the lining membrane, and tear it more freely.

2. There is no trace of blood effused into the tissue around the tear, although it exposes soft cellular membrane into which blood would readily have found way under the pressure of the heart's action, had that action been continued after the rupture, as the exhibitor supposes.

3. A very important criterion is to be observed in the fact that the rupture is not a transverse tear across the length of the muscular fibres, but is a longitudinal separation of the muscular fasciculi from each other. Comparatively very few fibres are torn, while separations of the fibres from each other are numerous, and make up the great part of the solution of continuity. It appears to us that if this had been a rupture of the muscle of the heart by its own contraction, the tear would have been across the overstrained fibres, and not a separation of them from each other. On the other hand, a *post-mortem* tear by accidental violence would run indifferently to the lay of the fibres, or tend rather to separate them from each other than to break them across, so that just the appearance present in the specimen would be produced.

4, and lastly. The microscopic structure of the fibres along the broken edge is perfectly healthy and free from degeneration.

These facts seem to us to make the view of the case which regards it as one of spontaneous rupture to be more than doubtful. We are driven to conclude that the specimen is probably not of that kind, but rather that some *post-mortem* accident caused the solution of continuity.

W. MOXON,  
HERMANN BEIGEL.

11. *A case of spontaneous rupture of the heart in two places.*

By ALFRED WILTSHIRE, M.D.

THE specimen exhibited was taken from the body of a woman about 52 years of age, who was found dead in her bed. The case occurred in the practice of my friend Dr. Saul, but the deceased was first seen by me on Saturday, the 24th of April, 1870, as I happened to be seeing Dr. Saul, who was ill, at the time the messenger arrived at his house.

I found the body lying in bed on the right side, in a sleeping posture, undressed. There was no evidence of violence or struggling. Near the bed was a chamber utensil, which contained fluid fæces. I ascertained that the woman was last seen on the previous evening. She then said she should take some Epsom salts, as her cough was bad. Nothing more is known of her actions while living, except that it is obvious that her bowels were purged.

At the *post-mortem* examination it was found that death had been occasioned by rupture of the heart. The pericardium was filled with blood, and the heart, on examination, was found to be ruptured in two places near the ventricular septum, one of the ruptures extending quite through the walls of the left ventricle, the other (and herein is the special interest of the case) only partially through the same wall, at the distance of about an inch from the complete rupture. This partial rupture had commenced upon the outer surface of the ventricle, and had extended inwards to the depth of about the third of an inch. The line of rupture was, in both instances, in the long axis of the heart. From the foregoing it would appear that rupture may take place from without inwards, every contraction of the heart probably deepening the gap, until it extends to the cavity of the ventricle.

The only other pathological changes observed in the body were the following:—The kidneys were small and granular, the lungs were emphysematous, and the liver was fatty.

May 3rd, 1870.

12. *Extreme narrowing of the aortic orifice from advanced disease, with comparatively slight symptoms during life.*

By JOHN MURRAY, M.D.

I BRING this specimen before the notice of the Society merely as showing the extent to which aortic valvular narrowing may reach and yet be compatible with life. The orifice of the valve is reduced to a mere chink, and this appeared even still smaller in the recent state; in fact, it was only on stretching the valve that any opening whatever could be observed, looking from above downwards. The valves at their attachment are perfectly frigid from considerable calcareous deposit, and there is a more or less similar change in the remaining parts of the valves. The free edges of the valves are in a state of ulceration, and on them is some fibrinous deposit, which from its firmness does not give one the idea of being of very recent origin; but without this deposit the aortic orifice, from the rigidity of the valves, is greatly narrowed. There was marked hypertrophy of the heart, especially of the walls of the left ventricle. This cavity was also much dilated. The greater part of the upper lobe of the left lung was in a state of red hepatization.

The patient from whom the specimen was taken was a man aged sixty, a druggist's assistant, who was admitted into the Middlesex Hospital, under the care of Dr. Goodfellow, on December 29th, 1869. He was suffering from lobular pneumonia of the left side, general bronchitis, and slight œdema of the legs.

His history was somewhat meager. It appears, however, that he had an attack of acute rheumatism when young, and had suffered since that time more or less from palpitation of the heart, which had lately become much aggravated, and for two years had frequent attacks of syncope. For these attacks he had recently taken with benefit tincture of opium and chloric ether, the former in doses of a drachm, but this not more than three times daily. His present illness commenced about a month prior to admission into hospital.

On admission the pulse was 136, irregular and unequal; the respiration 32. Moist râles were heard everywhere, and there were evidences of pneumonia in the left upper lobe. No cardiac murmur was determined. The patient was quite sensible, and answered ques-



tions intelligently. There was rather urgent orthopnoea. Both legs were slightly œdematous. He continued to get worse, and died twenty-one hours after admission. *January 18th, 1870.*

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13. *Hydatid of the heart, obliterating by its pressure the coronary sinus.*

By W. MOXON, M.D.

THE specimen was the heart from the body of a young man, æt. 19, who was under Dr. Rees's care in Guy's Hospital with cardiac dropsy. A systolic murmur was heard at the apex. He was forty-one days in the hospital, and died out very slowly with extreme suffering of the ordinary kind in mitral imperfection, which condition all his symptoms appeared to point to.

On inspection the body was ill nourished, but very dropsical, the scrotum being extremely distended. There was acute pleurisy over each lower lobe of the lungs, and this had been set up by the inflammation around several large apoplectic effusions which were present in both lungs. On examining the heart a curious projection was observed; it had the size of an apple, and rose off the back of the auricles, off their septum near where it joins the septum of the ventricles; from its extent it implicated all these parts mentioned. It was very elastic to feel, and its most projecting part was clear and pale from thinness. Towards the heart's cavity it pushed in the walls of both auricles, and altered by its pressure the auriculo-ventricular openings in a way that can be better inferred than described. The most curious part of its effects was, however, this, that it totally sealed up by its pressure the coronary sinus at a point one inch from its entry into the right auricle, and it equally completely closed a large vein that came up the back of the right ventricle to join the sinus. The surfaces of the sinus and of the vein where implicated were united together by organized union, as though they had closed by "first intention." The pericardium was adherent by delicate cellular tissue; this had been broken to expose the heart's surface

before the closure of the sinus was discovered. The connective medium between the pericardial surfaces had not any unusual appearance. There were in it no vessels such as could have carried the heart's blood off into the parietal pericardial veins. This case is of very acute interest, as proving, in a way that no other thing than this singular accident could prove, that the heart can endure the closure of its great vein while some other channel for return of blood from its parietes is established. In Vol. XIX of the Society's 'Transactions' I have published a case where the whole of the cerebral sinuses were thickened so as to be almost closed up, while the little remaining channel was occupied by a puriform liquid, so that no blood could have left the brain by the usual channels. These instances show very eminently the power of the compensating arrangements with which the organism is supplied to obviate the results of local embarrassments of circulation. Surely if there could be contrived any experiment to test the self-restoring power of obstructed venous circulation more searching than the one of these instances, it is found in the other instance.

*Report on Dr. Moxon's case of obstruction by hydatid cyst of coronary sinus of heart.*—In this case the termination of the coronary sinus is completely obliterated, apparently from the pressure of the hydatid cyst. The sinus itself is dilated. On looking at the inner wall of the auricle the openings of the veins of Thebesius are seen to be much larger than usual, and on injecting water into these openings it readily flows into various branches of the cardiac veins which enter the coronary sinus and great cardiac vein. Thus it would appear that the blood was returned to the auricle through the natural collateral channels, which are doubtless much enlarged.

E. H. GREENHOW,  
W. CAYLEY.

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14. *Tricuspid regurgitation with systolic murmur limited to right apex ; cardiac hypertrophy and great distension of veins.*

By WILSON FOX, M.D.

C. H—, stableman, æt. 50, admitted into University College Hospital December 30th, 1869.

Has had no illness of any importance during the whole of his life, except a slight attack of "rheumatics" five years ago, not attended with pains in joints nor with other symptoms of rheumatic fever.

For the past seven or eight months he has had occasional shortness of breath, of which he took very little notice, attributing it to the dust in which he worked in cutting chaff.

About seven weeks ago he caught a violent cold, which laid him up with cough and greatly increased his shortness of breath. About the same time he first noticed œdema of the lower extremities. He continued in much the same condition up to the time of his admission to the hospital.

After admission he suffered almost continually from orthopnœa.

Cough was frequent, with mucoid aerated but rather fluid expectoration.

Face, lips, and hands were very livid, almost cyanotic. The eyes were prominent. Marked arcus senilis. Small veins of face and trunk distended.

The jugular and subclavian veins were intensely distended. The external jugular veins were singularly large, equalling the size of a child's little finger. There was strong pulsation in all the great veins of the neck, and they filled from below to an extreme degree.

Pulse hard and weak, regular, jerking, with quick recoil, but not with extreme characters of aortic regurgitation.

Heart's area almost entirely covered by lung. Deep dulness from upper border of third left rib to seventh rib, an inch outside the nipple. Dulness reached right border of sternum between fourth and fifth ribs.

Cardiac impulse weak, regular, diffused. Apex beat scarcely discernible, most perceptible in fifth interspace,  $1\frac{1}{2}$  inch outside nipple line. No thrill.

Sounds at normal point of left apex both muffled, but entirely free from murmur. Same characters at real point of left apex.

At the right apex there was heard a loud systolic murmur, somewhat short in duration and low in pitch. The second sound was free. This was limited precisely to a spot about half an inch from the ensiform cartilage. It was only audible over an area of about half an inch, being lost as the stethoscope was carried either above or below or to the right or left of this.

Both sounds at base were free from murmur. The second sound was heard at both second left and second right cartilages with about equal intensity.

*Lungs* everywhere hyperresonant, except at bases posteriorly. Chest barrel-shaped, expansion deficient; respiration over whole chest extremely weak. Bronchial breathing with crepitant râles at both bases. Broncophony at bases. Vocal fremitus exaggerated at bases, mostly on right side. No ascites.

Liver, edge three fingers' breadth below false ribs. Urine albuminous to about a quarter of test tube on standing; contains granular and fatty casts.

Appetite nil; bowels regular; much thirst.

Patient suffered much from restlessness, and was delirious at times during the latter days of life. He died on January 14th.

*Post-mortem*, January 15th.—Great distension of all the main branches of superior cava, including the vena azygos, which was larger than the forefinger of an adult man. The subclavian, innominate, and internal and external jugular veins on both sides are greatly distended. Several of the minor branches of the jugular veins contain firm adherent clots distending the vein, stratified, dryish, and presenting usual characters of ante-mortem clots; the blood in the larger veins was, however, partially fluid or loosely coagulated.

Right auricle enormously distended with loose, non-adherent, post-mortem clots. Inferior vena cava also greatly distended with loosely coagulated blood.

Right ventricle firmly contracted; muscular substance very firm. A few loosely adherent post-mortem coagula on the tricuspid valve. Walls of ventricle measure on average three sixteenths of an inch in thickness. Tricuspid valve measures in circumference  $4\frac{2}{3}$  inches by cone. The chordæ tendineæ are distinctly shorter than natural. There is some gelatiniform swelling of the free edges of

the valve, but not to any great extent. No atheroma. Some, but very slight, appearances of disease in the valve. Pulmonary artery healthy.

Left ventricle greatly enlarged and thickened. Pulmonary veins distended with post-mortem clots. Mitral valve healthy, with exception of a little atheroma on parts; flap in circumference four and one sixth inches.

Aortic valves apparently competent; lining membrane of aorta atheromatous. Muscular tissue of left ventricle firm. Walls of left ventricle measure on an average three quarters of an inch in thickness, at apex five sixteenths.

Lungs, marked emphysema of upper lobes; lower lobes on both sides present pretty general pneumonic consolidation and much œdema. Some spots of evident embolic origin, with decolourised area around, are seen in lower lobes of both lungs.

Liver, intense hepatic congestion; tissue indurated. No other change noticed.

Spleen small; weighs two and a half ounces.

Kidneys both contracted, granular; great wasting of cortical substance. Malpighian bodies unduly prominent. Spots of fatty degeneration through whole cortical substance.

*January 18th, 1870.*

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### 15. *Peculiar fibrous structures in the left ventricle of the heart.*

By J. F. PAYNE, M.B.

THE specimen exhibited consisted of the upper part of a heart, including the origin of the aorta. In the left ventricle, on the ventricular septum, and arranged, roughly speaking, in a horizontal ring, were certain fibrous structures presenting the following appearance. One of them was a membranous flap, one inch in length and about one tenth of an inch in width, situated somewhat obliquely, and slightly concave, with the concavity turned downwards. It was adherent by its whole length to the wall, and its smooth surface was continuous with the endocardium, which was, between the mem-

branous structure and the attachment of the aortic valves, unusually opaque and fibrous. It was equally continuous with the endocardium below, but both surfaces were through their whole extent quite free, the attachment being made solely by one edge and by the extremities. The structure thus had an unmistakable resemblance to a valve, that is to say, it was like a narrow inefficient valve, of almost semilunar shape, misplaced, and with its concavity turned in the wrong direction. Its situation was also remarkable. Its middle point was exactly beneath the attachment of two semilunar aortic valves, viz. the two anterior. To the left of this structure, and nearly in the same horizontal line, were two others, also membranous, and having a strong resemblance to valves. They were situated in the same vertical line, and there was also the line passing through the point of junction of two other semilunar valves, viz. the right anterior and posterior valves. The lower of these structures was five eighths of an inch long, and, roughly speaking, of a horseshoe shape, or almost crescentiform, with the concavity turned upwards. Its attachment to the wall was accordingly in a curved line, but it was detached from the wall by both its surfaces. Immediately above this was another similar structure, rather smaller, being one quarter of an inch in length. It was more strongly curved, being almost hemispherical, and its upper and lower curved boundaries were concentric, not intersecting. The concave border was turned upwards, as in the case of the last mentioned, but it differed from this in not being detached from the wall, to which it was adherent by one of its flat surfaces. No opacity or other change in the endocardium above this valve was noticed. All these structures were, when fresh, of a milky white colour and fibrous appearance.

The heart was an extremely large one, weighing (with some part of the aorta attached) 27 oz. The aorta was greatly dilated, measuring  $2\frac{1}{2}$  inches outside diameter. Inner surface rough, calcareous, and atheromatous. Valves incompetent, slightly thickened at free margins, not rigid. Mitral valves natural.

The symptoms during life were those of aortic dilatation, with very obvious pulsation to the right of the sternum, and of regurgitation, with a loud double murmur.

The patient, William P—, æt. 43, died in St. Mary's Hospital, under the care of Dr. Sieveking.

In the absence of any lesion sufficient to produce these growths in the wall of the heart, it seems difficult to regard them as anything

but a congenital peculiarity, and it is impossible to overlook their remarkable similarity to semilunar valves. Being also placed in some degree symmetrically and alternating with the aortic valves, they may be supposed to represent additional aortic valves, which have reached only an imperfect degree of development. This view is not, however, unattended with difficulties.<sup>i</sup> *March 3rd, 1870.*

*Report on Dr. Payne's case.*—After a careful examination of Dr. Payne's specimen of heart disease, we are decidedly of opinion that the appearances observed on the lining membrane of the left ventricle, a little below the aortic valves, are not due to the presence of imperfect supplementary valves in that situation, or to any other kind of congenital malformation. It is common in regurgitant disease at the aortic orifice to find fibroid thickening of the endocardium immediately below the valves, produced probably by the impact of the regurgitant stream on that part, and this often exists in the form of bands or reticulations. We have no doubt that the fibroid formations in Dr. Payne's case are of this nature. We readily admit that one of the three bands which Dr. Payne describes has considerable resemblance to an imperfectly formed valve; but the resemblance of the other two to valves, in form, attachment, or position, is not, to us at least, very obvious. We know of no recorded case in which supernumerary valves have occupied the position which these bands occupy.

*May 3rd, 1870.*

THOMAS B. PEACOCK.

J. S. BRISTOWE.

16. *Case of fibroid patch on the left ventricle of the heart, produced by the friction of an appendage of one of the aortic valves.*

By J. F. PAYNE, M.B.

THE heart was taken from the body of J. F—, æt. 43, who died in St. Mary's Hospital, March 19th, 1870, under the care of Dr. Sieveking. The heart was large, weighing 18 oz. Both ventricles

<sup>i</sup> See remarks on Case 16.

were enlarged, but more especially the left, which was rounded and dilated; its walls were five eighths of an inch in thickness. The thickness of the wall of right ventricle was a quarter of an inch. The aortic valves permitted free regurgitation, but water poured in through this opening completely closed the mitral valve. The posterior semilunar valve was perforated by a nearly circular opening, with smooth margin, three fifths of an inch in diameter; from the outer margin of this orifice, separated from the *corpus arantii* by about one eighth of an inch, grew a solid, tongue-like process, nearly half an inch in length, which was rough and granulated on its upper surface, its edges being smooth and continuous with the margin of the perforation in the valve. When the aorta was restored to its natural position, it was seen that this process touched the opposite wall, and that in the precise angle of attachment of the two other valves. A little below the valves on the ventricular wall was a white fibrous patch, which it was impossible to doubt had been produced by friction. It formed a fibrous ridge about a quarter of an inch long, slightly oblique, and nearly, though not quite, below the junction of the two valves. It was not in any way detached from the wall. On the same wall, nearer the attachment of the posterior flap of the mitral valve, were some slight fibrous ridges, inconsiderable as compared with the other. The posterior flap of the mitral itself contained a white opaque patch, not unlike those commonly met with; but there was also this peculiarity, that the general surface of the valve was rough and slightly ribbed. The mitral valves were otherwise natural, as were the remaining valves and orifices of the heart. The diameter of the left auriculo-ventricular orifice was 1·4 in.; that of the right 1·7 in.

The abdominal viscera gave evidence of chronic venous congestion; there was fluid in all the venous cavities; the legs, scrotum, &c., were œdematous.

*Remarks.*—That this larger fibrous patch seen in the ventricular wall was produced by friction can admit of no doubt, and by analogy it would be supposed that the less conspicuous structures situated nearer the mitral valve were produced by similar means. The question then arises whether the posterior flap of the mitral itself would be capable of producing such an effect, and whether the opacity and roughness seen in its own structure were due to the same friction.<sup>1</sup> In any case, the light thrown on the specimen ex-

<sup>1</sup> This explanation was suggested in a similar case by Dr. Moxon.



hibited at a previous meeting of the Society is very striking. In that case fibrous structures were met with occupying nearly the same place on the ventricular wall, but with a more developed structure, and having an undoubted *prima facie* resemblance to valves. In that case, moreover, there was no mechanism, such as that of vegetation on the aortic valves, by which such a result could have been produced. Nevertheless, after a consideration of this specimen, the exhibitor would be induced to look for some such explanation in the former case. Possibly some structures, such as vegetations, previously existing in the valves and since passed away, may have been concerned in the production of those phenomena.

*March 22nd, 1870.*

*Postscript.*—The symptoms during life, according to the notes and diagrams of Mr. Joubert, house-surgeon at St. Mary's Hospital, were as follows:—Heart beating in sixth intercostal space; a thrill ending in impulse of ventricle felt in fifth and sixth spaces. A distinct double murmur was heard in aorta and also at apex of heart, being faint over the base of the heart. (The thrill would seem to have been caused by the vibration of the ventricular wall rubbed against by the process on the aortic valve.) The patient suffered from cough, dyspnoea, and palpitation; the legs were œdematous, and there was some ascites, with albuminuria. The present illness had come on five months previous to admission, but six years before he had had articular rheumatism, described as not severe. He was in the hospital two months, when death occurred from syncope.

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17. *Case of ulcerative endocarditis of right heart, with sloughing of lungs, &c.*

By W. MOXON, M.D.

THE heart exhibited shows a very remarkable disease, both in kind and in degree. First, it is remarkable because it is acute disease of the right side of the heart arising during adult life; and secondly, it is remarkable for the ulceration that is present, but

especially because the ulceration implicates the wall of the heart rather than its valves, and, indeed, it penetrates into the muscle of the right auricle, which, we must allow, is a very uncommon situation for a distinct rodent form of ulcer, such as examination shows this to be.

In the septal part of the right auricle wall, a little above the tricuspid valve, the surface is excavated, and the muscle-fibres hang by their eroded ends into the interior. I have cut away a portion of the margin of this ulcer, so as to give it a careful microscopic examination, and I found the conditions of ulceration of muscle shown with wonderful distinctness. I made a microscopic drawing of the appearances, and can place this at the disposal of the Society. From the defaced state of particles of muscle that hung into the auricle from the ulcer-bed, as I have mentioned, I think the name and description of phagedænic would well apply to the case, for sloughing on a minute scale seemed to mingle with the molecular disintegration which constitutes the milder condition of ulceration.

A third very curious character of this case is in the state of the tricuspid valve itself. The segment of this is converted in appearance into a great solid mass of "vegetation," of the size and form of half a walnut. The other segments of the valve are curiously free from any comparable change. The effect of this was one that, I think, is unique, and though rather in a little way, yet is acutely interesting; for as the free wall of the right heart played over this rigid mass of vegetations a "doubled rub" was caused, which left Dr. Wilks in no doubt that acute pericarditis existed. The spot on the ventricle wall that had corresponded to this mass and given the friction was itself roughened.

These states sum up all the disease present in the heart; it was otherwise, and especially on its left side, quite healthy.

But the lungs were diseased in a way that offers an interesting correspondence with the state of the heart. In the lower lobe of the right lung were two patches at the surface of the lung, having all the characters of pyæmic patches, but breaking down at the centre into slough. Thus it appears that in the lung there was a disease identical with that in the right heart, and, I suppose no one will doubt, bearing the relation to it of secondary or usually called pyæmic infection.

These two states made up the whole of the inflammatory conditions present. For the rest the viscera and the skin gave signs of

profound blood poisoning. The skin was covered with purpuric blotches. The spleen was large and very soft, weighing 16 oz., and being very pulpy. The liver was pale, flabby, and even supple. The alimentary canal was reddened rather deeply. The kidneys weighed 15 oz., were large and pale, and showed an early degree of granular degeneration. The state of the uterus responded to about the third week after delivery. There was no sign of phlebitis or other disease here.

The case, unfortunately, is deficient as to history. The woman was admitted, July 15th, in a sinking state, under Dr. Wilks, too ill to give any account of herself. She was very distressed, in high fever, and marked with purpuric spots, and Dr. Wilks heard a well-marked double rub over the front of the heart. She died in a few hours after her admission. It was afterwards learnt that she had been delivered within the month, and that she had been very miserably off.

This case is very closely like to several others that have been placed on record at intervals. They are, as far as I know, few in number—one by Dr. Kirkes; one by Charcot and Vulpian, quoted by Trousseau; and one, as I understand it, by Dr. Bristowe, at this Society. They are of very great importance, because they set forward, in full relief, a fact that, in the ordinary history of heart disease, is apt to slip out of cognisance, namely, that the products of endocarditis may and do create severe inflammations in remote parts through their admixture with the blood. This is a truth which is not only actual in these rarer and purer cases, but also, as I believe, in a large proportion of ordinary rheumatic heart disease. If we compare the general states of the viscera in heart disease, in many cases they fall into two groups—(1) one in which the solid abdominal viscera are hard, dark, and loaded with blood, the liver being “nutmegged,” and the alimentary canal intensely congested and coated with mucus, while great dropsy is present; and (2) another, where there is generally little or no dropsy, but a yellowish, cachectic skin, and where the viscera are not deeply congested, but rather are pale and soft, or supple, as in fevers. This last class of cases will be found to go with ulcerative disease of the endocardium, while the former class goes with obstructive disease.

In the ulcerative class of cases we nearly always find more or less of the changes called “embolic,” in the form of sharply outlined pale patches in the spleen and kidneys, or softening of the brain. These

embolic patches are often assumed to be the simple and direct result of the mechanical obstruction of the artery of the affected part. But I believe that this is not a sufficient view, but that always along with the mechanical obstruction there is an inflammation set up in the locality of the embolus by the contagion of its inflammatory nature as a product of endocarditis, and that the changes in the locality of the embolism that lead to a whitish homogeneous appearance of the part are largely of an inflammatory nature. The proof of this is in the frequent examples that may be observed of softening, and even, rarely, of suppuration of these patches. The present case, then, would correspond to a typical and pure example of a result of endocarditis, which is often so mingled up with other results of heart disease as to escape chief notice. And it illustrates surely a very important side of the danger of disease of the heart. It is well known, or, at least, it has been several times recorded, that the state of pyæmia, when set up from causes indifferent to the heart, will bring on endocarditis; and this is very important when we reflect upon the curious relation that pyæmia shows to the joints, so that it comes thus to closely resemble rheumatism in the anatomical aspect of its pathology; indeed, it becomes only a more intense rheumatism from this point of view. Our case and such cases show that the relation of endocarditis and pyæmia is reciprocal; either may originate the other. There could not be a simpler quasi-diagrammatic instance of the origin of blood contamination than this.

*March 17th, 1870.*

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18. *Retroversion of an aortic valve, giving rise to a musical diastolic murmur.*

By C. THEODORE WILLIAMS, M.D.

WE—, æt. 49, a muscular man, with a florid complexion, came to me as out-patient at the Brompton Hospital, January 31st, 1870, complaining of cough, short breath, and pain in the epigastrium. He stated that, after having worked as a rigger in Woolwich Dockyard for twenty-five years, ending last summer, he had retired

on a pension, and that during the whole of that period he had enjoyed excellent health and strength, but fancied that he had strained himself a year and a half ago, when wheeling a barrow containing 4 cwt. He felt no bad effects at the time, and continued well till five months ago, when, after leaving the dockyard, he became cook in Greenwich Hospital, and lived in an atmosphere of  $118^{\circ}$  Fahr., which, in conjunction with occasional draughts of cold air, tried him much. About this time he began to suffer from cough, short breath, and pain in the epigastrium, which symptoms were increased of late, and were attended by swelling of the legs. Pulse was 100, regular, but had the locomotive character of aortic regurgitation, which was visible in the carotids and brachials. Respiration slightly hurried. Urine free, of good specific gravity, but slightly albuminous. The chest generally was resonant on percussion, but the area of cardiac dulness was somewhat increased. A loud musical diastolic murmur was audible in the cardiac region and over the whole upper chest, as far as the third rib, and also down the spine for some distance. The murmur entirely cloaked the second sound of the heart, which could not be detected anywhere, and it reached its greatest intensity at the sternum, opposite the second intercostal space. Above this point it was louder to the right than to the left of the sternum. A diastolic murmur was audible in the carotids, but not a musical one. Sibilant rhonchi were heard in the lungs.

February 5th.—Saw the patient at his home; he was worse, though he had no pain; the legs were more swollen, the cough more troublesome. He had orthopnœa, and had not slept for several nights; but had had repeated frights that he was dying, and had endeavoured to jump out of window. The dyspnœa was paroxysmal. After this he was seen twice by Mr. W. R. Smith, clinical-assistant of the Brompton Hospital, who found him worse, with more paroxysms and increased dropsy. Urine highly albuminous, of specific gravity 1016. Temperature  $97^{\circ}$  Fahr. A few days later I saw him again. The expectoration was streaked with blood; the respiration (about 40) more hurried; the dropsy more general, now affecting the thighs and scrotum. Urine loaded with lithates, but containing no albumen. Cardiac sounds remained the same, the murmur being audible to the patient. After coughing up some blood he died, February 24th.

*Autopsy fifty-four hours after death.*—The body was much decomposed. The lower extremities and scrotum were much swollen and œdematous. The lungs were emphysematous, the bronchial tubes

being congested. Kidneys were congested, but the cortical structure was so decomposed that it was impossible to judge of it. The heart was enlarged, weighing 1 lb. 3 oz. ; but parts were in a state of fatty degeneration. (Plate II, fig. 1.) The left ventricle was considerably hypertrophied; the tricuspid and pulmonary valves were quite healthy, and the mitral, except a few patches of atheroma on the upper surface. The transverse aorta was opened, and the aortic valves were adjusted for closure as well as they could be. Water was then poured into the vessel, but it passed at once into the heart. Two of the valves closed well, but the third (or posterior flap), instead of closing, hung into the ventricle like a tongue below the level of the other two. The aorta, when slit open, was found to be very atheromatous, being ulcerated in some parts, whilst in others, as immediately above the valves, large plate-like masses of atheroma were visible in the middle coat. Two of the valves closed well, but had some atheroma on them. The third presented many peculiarities. 1st. The extremities of its upper border were attached to the aortic wall, at a lower level than the adjoining ones, being  $\frac{1}{4}$  inch lower than one, and  $\frac{1}{8}$  inch than the other. 2nd. The upper border was thickened, and of greater length ( $1\frac{1}{2}$  inch) than the other two, which each measured  $\frac{7}{8}$  inch. 3rd. It was retroverted into the ventricle, into which it protruded.

*Remarks.*—The retroverted state of the valve was probably due to its having been torn away from its attachments to the arterial wall, the atheromatous condition of the artery and valves rendering such a rupture comparatively easy.

When this took place, and whether it can be referred to the strain which had occurred a year and a half before death, or to the high temperature to which the patient had been exposed subsequently, I am not prepared to say ; but in a case related by Dr. Peacock, which much resembles the present one, the patient was a fireman of a steamboat, and therefore lived in a very hot atmosphere.

The loud diastolic musical murmur heard during life was caused by the retroverted portion of the valve acting as a vibrating edge in the regurgitating column of blood, the shape and smoothness of the edge rendering the vibration equal, and therefore musical. Cases of rupture of the aortic valves have been recorded by Drs. C. J. B. Williams, Quain, Peacock, Risdon Bennett, J. W. Ogle, and others ; but as far as I am aware the only case in the 'Transactions' closely resembling the present one is related by Dr. Peacock, in Vol. XII (p. 60), and in which there was retroversion of one aortic valve, with







## DESCRIPTION OF PLATE II.

This Plate illustrates cases of Disease of the Heart, exhibited by  
Dr. C. Theodore Williams.

- Fig. 1. Retroversion of an aortic valve, giving rise to a musical diastolic murmur. (Page 110.)
- Fig. 2. Vegetations on, and ulceration of, aortic valves.  
*a.* Patch of lymph caused by friction of vegetation. (Page 113.)
- Fig. 3. Aneurismal pouch of mitral valve.  
*a.* Auricular surface. (Page 113.)  
*b.* Ventricular surface.



musical diastolic murmur. A case of retroversion of an aortic valve, of which a drawing is exhibited, is mentioned by Dr. C. J. B. Williams, in his 'Diseases of the Chest,' p. 268. A musical diastolic murmur was audible, and was loud enough to be detected in the radials.  
*March 15th, 1870.*

19. *Vegetations on and ulceration of aortic valves, giving rise to double cardiac murmur; aneurismal pouch of mitral valve.*

By C. THEODORE WILLIAMS, M.D.

C. P—, a married woman, æt. 24, became an in-patient of the Brompton Consumption Hospital, under Dr. Quain, January 11th, 1870. She stated that she had never had rheumatism, and had enjoyed good health until her last confinement, eleven months ago, but since then had been ailing, and the catamenia had not reappeared. For the last seven months she had been suffering from cough, which was worse at night, short breath, loss of flesh, and streaky expectoration. On admission appetite bad and some nausea; pulse 96; urine 1025, but contained a small amount of albumen. Dr. Quain detected a loud systolic murmur, which was audible over the whole cardia, but loudest over the apex. He also heard a murmur at the base, accompanying the second sound. There were signs of consolidation in the lower half of the right lung. She remained in the hospital two and a half months, and during the whole of this time had hæmoptysis, which, though lessened by various drugs, was never entirely stopped. Latterly she became very pallid and weak, complained of great pain in the abdomen, especially in the right hypochondrium, where increased dulness, for two inches below the ribs, was detected. The legs became œdematous, and the urine loaded with lithates, but contained no albumen.

On the 2nd March I saw her in Dr. Quain's absence, and detected increased cardiac dulness, a loud double murmur, audible over the whole cardia, but loudest at base; and about a fortnight later Dr. Quain considered there was double aortic disease, accompanied

by regurgitant mitral disease. The patient became weaker, taking hardly any nourishment, and died March 25th.

On *post-mortem* examination the liver weighed 6 lb. 14 oz., was large, and showed much hepatic congestion, and sections were transparent, but gave no reaction with iodine. Kidneys were in a similar condition. The lower two thirds of the right lung were hepaticized. The heart weighed 1 lb. 1 oz. Right cavities were dilated and healthy; the left ventricle was hypertrophied. The aorta was atheromatous. The valves, when closed, admitted of regurgitation, and were extensively diseased. (Plate II, figs. 2 and 3.)

Firstly. All three were ulcerated; two were adherent to each other, and had their margins perforated, whilst the third had nearly entirely disappeared in the process of ulceration.

Secondly. All had vegetations of various lengths attached to them, and on one they were so large that the valve, which contained some cretaceous matter, formed with the vegetations a large rugged mass extending into the ventricle to the extent of  $1\frac{1}{2}$  inch. Immediately below the insertion of the aortic valves, on the anterior surface of the mitral anterior flaps, was a patch of rough lymph, which, as well as the extensively ulcerated aortic valve, must have come into contact with the above-described rugged mass at each diastole of the heart. The mitral valve had a few vegetations attached to it, and on the auricular surface of the anterior flap was a curious protrusion, about the size of a pea. On closer examination it was found to correspond with a small aperture on the ventricular surface, near the attachment of two of the chordæ tendineæ, on which were small vegetations. The protrusion was bilocular, and seemed to be a small aneurism of the anterior flaps of the valve, and admitted of a probe being passed into it. I am inclined to think it a true aneurism of the valve, as the membrane lining it seemed part of the lining membrane of the ventricle.

*Remarks.*—This specimen presents two points of interest.

Firstly. The size of the vegetations on one of the aortic valves, and its results on the neighbouring structures. The ulceration of the neighbouring valve, and the patch of lymph on the mitral flaps, both owed their origin to the friction of the rough mass of vegetation. The origin of the vegetations is not quite clear. There had been atheromatous disease of the valves of some standing, but whether the vegetations were due to inflammation or to deposition of fibrin from the blood on the rough surfaces of the valves is not certain.

Secondly. The formation of an aneurismal pouch of the mitral valve, which has been rarely recorded in the 'Transactions' of this Society. Similar cases have been reported by Dr. Peacock, Mr. Coulson, and Mr. Prescott Hewett. Dr. J. W. Ogle, in Vol. IX, in a communication of great interest, distinguishes between this state of the valve and another which much resembles it in appearance, viz. ulceration of the valve, with fibrinous clots adherent to the aperture. The loud double murmur heard over the cardiac region during the patient's life is easily explained by the state of the aortic valves, which must have caused great obstruction to, and allowed some regurgitation of, the stream of blood; and the loudness of the systolic murmur at the apex may also be accounted for by the great aortic obstruction. The small aneurism of the mitral valve would hardly give rise to mitral regurgitation, as it was not situated near enough to the edge of the valve to prevent its perfect closure.

*April 19th, 1870.*

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20. *A heart showing extensive growth of fibrous tissue in the muscular walls.*

By T. WHIPHAM, M.B.

THE specimen was taken from the body of a gentleman, æt. 29, who fell dead from his horse, while riding in Hyde Park, on April 8th, 1870. He was brought into St. George's Hospital, and the statements of his friends proved that the deceased was to all appearance perfectly well in the morning, and that he started for his ride in good spirits. A medical man who was intimately acquainted with him affirms that he had never exhibited any symptoms of cardiac disease.

*Necropsy.*—The body was that of a remarkably well-proportioned and muscular man, and, with the exception of the cicatrix of a wound above the left knee-joint, received while in India, was without external marks of injury. The rigor mortis had passed off, probably owing to the length of time ( $71\frac{1}{4}$  hours) which had elapsed between the time of death and the examination of the body.

The lungs and all the abdominal viscera with the exception of some slight congestion, were normal in all respects. The heart was far otherwise, although in size and weight it was natural. On cutting into the walls masses of fibrous tissue were seen invading and replacing the muscular tissue. The growth was in patches, and the densest part of each patch was always in close proximity to the endocardium, and it doubtless originated in this membrane. All parts of the heart's walls were involved, but especially were the apices of the columnæ carneæ of the mitral valve affected, and in one or two of the columns the muscular tissue had been entirely replaced by fibrous material.

Microscopic examination of the parts affected showed the growth to be purely fibrous in character, and, from the absence of cells or nuclei, probably of some considerable standing. The fibrous tissue could be seen running between and separating the muscular fibres, and in some places the fibrous tissue was so mixed with the muscular fibrillæ that it appeared as though they had undergone fibrous degeneration. The striæ were in every section visible, though here and there they were rather indistinct. The walls of the vessels were slightly thicker than natural, from an excess of fibrous tissue in them; but it was not clearly made out that the deposit actually originated in these vessels, as in a case somewhat resembling this, brought forward by Dr. Leared, and reported upon by Dr. Wilks, in 'Path. Soc. Trans.,' Vol. XIX, in which the fibrous growth was attributed to syphilis. Here and there, in each section, might be seen a collection of rounded cells, some few of which showed a tendency to become oat-shaped, as though the growth was in an earlier and more active stage, but this was by no means its characteristic appearance.

*The aorta.*—On the inner surface of the aorta were found two firm, tough, and elevated masses, of a yellowish-white colour, with rounded edges; they were of about the size of a sixpence, and crescentic in form. The situation of the largest of these masses was immediately above the aortic valves, but neither interfering with their efficiency nor, so far as could be discovered, obstructing the orifices of the coronary arteries. The second and smaller of these deposits was similar in appearance, and was situated about that point at which the descending aorta becomes thoracic.

Microscopic examination of these growths in the walls of the aorta showed them also to consist chiefly of fibrous tissue,

among the meshes of which numberless fatty granules were interspersed.

It was suggested at the time of the *post-mortem* examination that the appearances above described might be of syphilitic origin ; but on careful examination of the genital organs no cicatrix on the penis, nor any other sign of venereal disease, could be discovered, so that it appears at least very doubtful whether one is justified in ascribing to this disease the lesions found in the heart, more especially as the liver, the more common seat of syphilitic growths, was normal.

In none of the cases reported in the Society's 'Transactions,' in which the heart has been affected with this form of disease, whether of syphilitic origin or otherwise, has sudden death been the result. In this case it was so ; and as the orifices of the coronary arteries were patent, the suddenness of death was doubtless due to the fact that the fibrous tissue, which had encroached on the proper constituents of the heart's wall to the extent described, so destroyed their natural contractility that, under the excitement of riding, the organ was overtaxed, and death from sudden stoppage of its action ensued, as in cases of ordinary fatty degeneration of the muscular walls.

May 3rd, 1870.

*Report upon Dr. Whipham's specimen of disease of heart and aorta.*—We have examined sections from the portion of left ventricle, presenting the appearance described by Dr. Whipham of infiltration of the muscular tissue, with a white and somewhat glistening material. We find this material to be made up entirely of the closely set, fine wavy lines of ordinary white fibrous tissue. The striped muscular tissue gradually fades into this fibrous growth, shreds and isolated muscular fibres being occasionally seen imbedded in the midst of the wavy structure. There is in no part anything denoting present growth or activity, as well-marked nuclei *e. g.*, and the adjacent muscle is usually of perfectly healthy appearance, at some places somewhat granular, but with cross striæ perfectly visible everywhere.

Numerous fine sections through the thickened patches in the aorta show well-marked fibroid thickening of the inner layer of the internal and part of the middle coat, with, in some places, the usual fatty changes which accompany this thickening ; there is nothing, however, distinctly different from the appearances presented by an ordinary example of atheroma, and we are quite unable to decide the question

of possible syphilitic taint by the microscopic examination of the affected parts.

17th May, 1870.

W. MOXON,  
HENRY ARNOTT.

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21. *True aneurism of the apex of the left ventricle.*

By T. B. PEACOCK, M.D., for Mr. WALFORD.

THE specimen was removed by Mr. Walford, of Reading, from a man *æt.* 73, an inmate of the Reading Union. Mr. Walford gave the following account of his case.

G. C—sprained his ankle on February 3rd, 1869, but the bones were not broken or the joint dislocated. He was, however, a long time in recovering from the effects of the accident, and it was the 29th of June before he was able to leave the infirmary. On the 9th of July he complained of frequent desire to pass water, and on the 11th a small quantity procured was found to have a sp. gr. of 1018, and to be albuminous; his respiration now became affected, so that he had constant difficulty of breathing, rendering it often necessary for him to sit up in bed, and he became gradually weaker and very torpid, so as to be unwilling to answer questions.

He died on the 9th of August, about a month after the commencement of the cardiac symptoms.

The heart was of large size, and the left ventricle, especially, was increased in capacity, and its walls thicker than natural. The aortic and mitral valves were atheromatous, and the coronary arteries large and their coats very thick and studded with cretaceous plates. Towards the apex of the left ventricle, and presenting somewhat in front and towards the right side, there was a very decided hollowing of the parietes, which would more than lodge a large walnut, and the walls of the ventricle in this situation were thin, and had undergone the fibroid transformation. In the cavity there was a large clot, partly decolorised, and showing a tendency to lamination; and on the outside of the ventricle, in the corresponding situation, the pericardium was thickened, and there were the remains of adhesions which



had attached the surfaces of the visceral and parietal pericardium together. The specimen afforded an example of the true lateral or partial aneurism of the left ventricle in what may be called the second stage.

January 18th, 1870.

## 22. Cancer (?) of the clavicle complicated with aneurism of the aorta.

By SYDNEY JONES, M.B.

FREDERICK EDWARDS, æt. 32, was admitted into St. Thomas's Hospital under the care of Mr. Sydney Jones, on the 30th of September, 1869. He was then a clerk, but had been a seafaring man, and had lived for some time in India. There was no history of syphilis. He stated that he first complained of pain in his left side about two years previously; that he could not lie on that side; and that he lost use of his left arm. This loss of power was attended with pain, and with severe "neuralgia" on the left side of the neck. He said that he had had a swelling of the left clavicle for about twelve months; that this swelling had apparently shifted its position, having been at first close to the sternal end, but now involving about the outer two thirds of the clavicle. (This was no doubt explicable in this way; the aneurism *at first* had well-marked pulsation, and probably caused some projection of the inner end of the clavicle, for about this time, and before, apparently, the development of any clavicle tumour, he had been told that disease of some blood-vessel existed; subsequently the tumour-development obscured the aneurism-swelling, and this latter also became less evident from less distension of the sac occurring, through its being filled with laminated coagulum, and from the blood-vessels taking origin from it being obstructed.)

When this patient was first examined by Mr. Sydney Jones there was a swelling about four or five inches in transverse measurement, for the most part below the clavicle, but closely connected with the bone, and moving with it in the limited movements which the arm possessed. In the axilla there was a more movable tumour, evidently glandular and continuous superiorly with the mass involving the clavicle. Enlarged glands, two or three in number, might be felt down the arm, and above the clavicle others might be felt. The swelling involving the clavicle was elastic, somewhat fluctuating, and distended tortuous veins were seen on its surface (Woodcut 6\*).

There was no pulsation to be detected in it. On examination of the arm and forearm not the least pulsation was to be felt in the axillary, brachial or radial. There was much impulse behind the left sterno-clavicular articulation, but no dilatation nor bruit. There was dulness to some considerable extent on the left of the sternum

WOODCUT 6\*.



beneath the inner end of the clavicle. The left carotid in the neck seemed to have a diminished current of blood passing through it. There was much irritability of the circulation; the patient had cough, and was much emaciated. Under the influence of iodide of potassium there seemed at first to be some diminution of the clavicular tumour. But on the 2nd of November

this had much increased; it was not possible to raise the clavicle, the growth having evidently involved the parietes of the chest. He left the hospital shortly after. Soon pulsation was lost in the left carotid, and later on sight failed in the left eye. (His condition did not allow of an ophthalmoscopic examination.) He had frequent cough and paroxysms of spasmodic breathing. He died on the 4th of December, 1869.

At the *post-mortem*, made two days after death, there was found a large aneurism involving the arch of the aorta; it measured transversely about five inches, vertically had about the same measurement, in front reached to the sternum and inner end of the clavicle, producing partial absorption of these, and behind reached to, but did not affect, the vertebral column. It pushed the trachea considerably to the right side, twisting it, and causing very close approximation of its walls. The interior of the aneurism was completely filled with laminated coagulum. The valves of the heart were healthy; the aorta between the heart and aneurism had its lining membrane irregular by atheromatous deposit. The innominate artery had its origin from the extreme right of the aneurism, and the contained coagulum offered no impediment apparently to the passage of blood along that vessel. The origins of the left carotid and subclavian were displaced considerably backwards, and, passing very obliquely through the posterior and upper wall of the aneurism, were compressed and filled with adherent clot.

Quite separate from the aneurism, and placed externally to it, there was a tumour connected with the clavicle from the inner

third to the acromial end. It was placed more especially in front of and below the clavicle, but it also involved, although to a much slighter extent, the upper and posterior surfaces. The tumour in lateral measurement was about six inches, and in vertical measurement about four inches; the pectorales muscles were infiltrated by it. The clavicle had undergone spontaneous fracture at its middle, and posteriorly the coracoid process was involved, the bony tissue connecting this with the scapula being so disintegrated as to allow its easy separation from the rest of the bone. Below this clavicular tumour there was a glandular mass (three and a half by two inches) in the axilla; on the inner side the growth had destroyed about one third of an inch of the length of the first rib and presented a projection into the left pleural cavity. The axillary artery was quite pervious, and did not seem to have been subjected to pressure by the tumour. The lungs were quite healthy, with the exception, on the left side, of adhesion between the lung and the aneurism. In the spleen were four or five deposits, varying from the size of a pea to that of a horse-bean. The liver, kidneys, and other abdominal viscera healthy. The left ophthalmic artery contained clot, but non-adherent, and the left optic nerve was smaller than the right. The brain appeared healthy. The left vagus was closely involved, with its laryngeal branch, in the wall of the aneurism, and the right recurrent laryngeal was involved in the right side of the sac.

Sections of the clavicular tumour and of the adjoining glandular enlargements were white and succulent, yielding an abundance of creamy juice; this, under the microscope, was made up for the most part of nuclei about the size of mucous corpuscles, with a well-marked outline, and containing a very distinct nucleolus surrounded by more or less abundant granular matter. The same microscopical characters were found in the spleen deposits.

Some points of interest in connection with the above case seem to be—

1st. The coexistence of two diseases, viz. aneurism of aorta and tumour of clavicle.

2nd. The aneurism of aorta with symptoms apparently well marked at first, but subsequently in abeyance, being masked by contents accumulated in the sac and by condition of vessels taking origin from this, as well as by the growth of the clavicular tumour.

3rd. The blocking up of the axillary artery by the aneurism, not by the tumour of clavicle.

*December 21st, 1869.*

23. *Aneurism of the ascending aorta communicating with the pulmonary artery.*

By W. CAYLEY, M.D.

JOHN EDWARDS, a gilder, who stated that his age was 37, though he had the appearance of a man of 50, was admitted into the Middlesex Hospital, August 10th, 1869, under the care of Dr. Henry Thompson. He had never had acute rheumatism, but had had an attack of lead colic about five years ago.

In August, 1868, he was attacked by severe pain in the left side of the chest and left hypochondrium, with great dyspnœa; this was followed by dropsy of the belly and subsequently of the legs, and he was laid up for ten weeks. The dropsy of the legs then subsided, and that of the belly much diminished, but during the last three months he has suffered much from dyspnœa.

On admission the patient was very anæmic, but at the same time there was great lividity, and he was suffering from severe dyspnœa. There was dulness on percussion, apparently due to fluid in the pleural cavity, over the lower two thirds of the left side of the chest. The heart's action was violent, the impulse diffused. A double bellows murmur was audible over the second costal cartilage and downwards along the left edge of the sternum. The pulse had a collapsing character. Urine was albuminous, and contained blood and granular casts. There was œdema of the lower extremities, and a large indolent ulcer on one shin. Patient's bowels were very loose, and the motions contained blood, and on one or two occasions he vomited blood. The dyspnœa went on increasing; a loud pericardial friction sound became developed, so that it was impossible to be certain as to the existence of a bellows murmur distinct from the friction. He died on September 28th.

On *post-mortem* examination an aneurism the size of a walnut was found situated between the trunks of the pulmonary artery and the aorta. It sprang from the latter vessel, and communicated with it by a large opening placed immediately above the junction of the right and left semilunar valves, and opened into the pulmonary artery by a nearly circular orifice, a quarter of an inch in diameter, situated on its posterior wall a quarter of an inch above the semilunar valves. The margin of the opening was thin and smooth. The

aortic valves, though thickened, did not allow of the regurgitation of water; the other valves were normal. The left ventricle was much hypertrophied, and the right cavities dilated. The end of the aorta was very atheromatous. There was also recent pericarditis and peritonitis, collapse of the left lung, effusion into both pleuræ, nutmeg liver, and the kidneys were in an advanced stage of granular degeneration.

In so complicated a case but little value can be attached to the ascription of any particular symptoms to the communication between the aneurism and the pulmonary artery. The collapsing character of the pulse cannot, however, be explained by any imperfection of the aortic valves, which closed their orifice perfectly. The marked anæmia also is worthy of note, as it was a prominent symptom in a parallel case reported by Dr. Murchison in Vol. XIX, p. 190, of the 'Fath. Soc. Transactions.' *December 21st, 1869.*

#### 24. *Double aneurism of aorta; extensive ossification of its coats.*

By F. ROBINSON, M.D.

**E**DWARD ADEY, a private in the Scots Fusilier Guards; habits tolerably temperate, æt. 37, service fourteen years. A muscular, healthy-looking man.

Admitted February 14th, 1870. Complained of pain in chest and dyspnœa, which he says had existed only for about a month. On examination a loud harsh bruit was found extending over the whole cardiac space. The maximum of sound was over the sternum, near the site of aortic valves, but rather higher up. It was diastolic in character, not synchronous with the pulse. The dulness in the cardiac region was somewhat greater than normal (not, however, as extensive as the *post-mortem* would lead one to have expected). Examination of the chest posteriorly presented nothing abnormal. The heart's impulse was not great, neither was any "thrill" imparted to the hand when placed over the seat of the murmur. Had felt some pain, not severe, in the dorsal region, and of late a little numbness of left arm. On comparison, the left pulse somewhat weaker than

right. Never had rheumatism. Did not recollect having made any unusual exertion before the chest symptoms came on. Had syphilis severely in the year 1858. No illness since of much importance, except jaundice in the year 1867.

Two days after admission he became low spirited; there was occasional faintness, and this was more marked when he was being examined. On the fourth day after he came into hospital he complained of pain at the epigastrium, for which a small blister was applied; at the ensuing visit he said he felt relieved. At about a quarter to one o'clock, a.m., on the 19th, the orderly, on going his rounds, found him moribund, and he died immediately afterwards, before the medical officer could see him.

The existence of a *small* aneurism was diagnosed by Dr. Robinson, or, failing it, extensive atheroma of aorta. The evidence of the former was by no means complete, but the discrepancy in the pulse at the wrists, and some other symptoms in the history, led to the conclusion being formed.

Lungs healthy, overlapping the heart very much.

Heart greatly enlarged, structure pale. Weight, two pounds three ounces.

Liver greatly enlarged and pale, and in a state of lardaceous disease.

Two sacculated pouches, separated only by a septum, one of about the capacity of a walnut, the other somewhat smaller, were found immediately above the aortic valves in the anterior wall of the aorta. The investment consisted apparently only of the outer coat of the artery. The little finger could barely be introduced into orifices of the sacs. Very extensive ossific deposit existed in the aorta adjacent.

*March 3rd, 1870.*

25. *Aneurism of aorta.*

By HERMANN BEIGEL, M.D.

M. A. W—, æt. 51, married, eight children, four of which are living. Resides at 94, Cromer Street, Gray's Inn Road. Her father died at forty from a chill; her mother also died at forty from heart disease. She has never had rheumatic fever; has had "rheumatics" occasionally, but was never laid up with it. One daughter has had rheumatic fever, but no one else in the family has had it. She has been a temperate hardworking woman, and has usually enjoyed good health. Did not observe anything wrong till about three years ago; at that time she used to exert herself very much in lifting and carrying heavy baskets of clothes, and she several times found that this affected her breath; on one occasion she slipped down stairs, and she then felt a sharp pain under the breast, and her breath was short. A few months after this she noticed a slight swelling at the upper part of her chest; for a few months the swelling increased rapidly, but it then became stationary, and until the last month or two has not grown larger. Last summer she attended King's College Hospital as an out-patient under Dr. Duffin, was advised to go into the hospital, and was told she had an aneurism; she did not go into the hospital, and has not had medical advice since that time. She has not been laid up at all, and her general health seems to be pretty good; she gets about the house, but does not go out much, as she has been advised to exert herself as little as possible. Two years ago she was also told she had an aneurism, which was said to be the size of an egg, and for which nothing could be done. Before the swelling commenced she used to suffer from palpitation of the heart, but since then has not felt her heart at all, though she has felt the pulsation in the swelling.

On November 24th she came under my care at the St. Pancras Dispensary, where Dr. Smith, the resident medical officer, took the following notes:

*Status præsens.*—Has an aneurismal tumour projecting forwards through the upper part of the sternum, which pulsates very strongly at each systole of the heart, the skin becoming then tightly distended and during the systole relaxing. The tumour is situated over the median line, and extending to the left edge of the manu-

brium sterni, whilst on the right side it extends to about an inch and half from the edge of the sternum; vertically it stretches from the upper border of the sternum and right sterno-clavicular articulation to the line connecting the costal cartilages of the third rib. The general shape of the swelling is globular, but at the left side of the summit of the swelling a secondary globular projection has taken place, giving it the aspect of a swelling tending to point. The skin is not discoloured, and is thick and resistant over the greater part of the growth, but at the secondary prominence it feels rather thin and distensible. By compression with the hand the tumour can be readily diminished to one half its size when distended, but this cannot be done without some discomfort to the patient; she says that it makes her breath feel short, and it certainly causes the heart to intermit. A thrill can be felt by the hand over the growth, most perceptible with the systole, but also to be felt with the diastole. The swelling feels soft and fluid, with little evidence of coagulation internally. Heart's action is scarcely to be felt, and apex is not visible. Area of cardiac dulness does not seem to be increased, nor is there any abnormal dulness on percussion around the limits of the tumour. A loud double murmur is audible over the whole thorax, front and back; it is most intense over the aortic valves at the third and fourth costal cartilages; over the tumour a similar double sound of slightly different quality, rougher and less prolonged but equally intense, is to be heard. At the apex the double sound is less distinct, but it entirely takes the place of the ordinary heart sounds, both at base and apex.

Respiratory sounds are somewhat harsh over the whole chest, and expansion is imperfect, but no abnormal breath sounds are present.

The patient complains of beating in the tumour, and she is short of breath; she has occasional cough of ordinary character, with slight expectoration. Her appetite is good, she sleeps well, and gets up every day. Her pulse varies from 100 to 84; it is full and collapses suddenly, and is just visible at the bend of the elbow and the wrist. In the neck the arteries are seen to pulsate very strongly. Pulse intermits occasionally, and particularly so if the tumour be compressed firmly.

She was ordered Træ. Digitalis ℥xx three times a day ex aquâ, and a gutta-percha shield was made to protect the swelling. Chlorodyne was given for the cough.

On December 1st she complained of the beating less than before,



and her cough was less troublesome. At this time she was ordered to be treated by the hypodermic injection of ergotine, *ij pro dos. quotidie*; the ergotine was also given internally twice or three times a day.

December 22nd.—Has very much improved in her general health; is able to get about much better, feels the palpitation less, and can now move the right arm (she could not do this before, as movement at the sterno-clavicular joint gave her pain and uneasiness). She ceases to complain of cough; she has a good appetite, feels in better spirits and more energetic. The injection has been given daily with only a few omissions; on two or three occasions she has felt sick and giddy with slight headache and swimming in the head a few minutes after the injection, but these feelings have soon passed off. The tumour remains *in statu quo*, with somewhat less frequent and less forcible pulsation in it. She herself thinks it is a little smaller than before. She cannot wear the gutta-percha cap.

January 7th.—She has not been quite so well the last few days. She says she took cold about Christmas, and has been feeling poorly since. She has a frequent cough of a bronchitic kind, and has occasional attacks of shortness of breath. The aneurism seems to be enlarging a little towards the right side and above. She has been taking a mixture containing ergotine *gr. ij ter die*; now ordered to take a mixture containing Tinct. Camph. *co.* and Tinct. Hyoscy. in saline mixture.

The ergotin is injected every other day, as she thought the injection every day made her weak and giddy, and occasioned headache.

January 14th.—She seemed much better on the morning of the 12th when I called; but it appears that on the afternoon of that day she suffered a good deal from dyspnœa, and also had some quarrels with other members of her family. These circumstances combined induced her to take up a razor and draw it across her throat. She seems to have lost a good deal of blood, and when seen was found to be in a depressed state, with feeble pulse, quick shallow respiration, and a superficial wound across the neck opposite the upper part of the thyroid cartilage.

The next day she had rallied to a considerable extent, the pulse stronger, and the breathing more easy. She complains, however, of great difficulty in swallowing, and cannot be got to take more than very small quantities of liquid food.

To-day (14th) she is better. She has suffered less from dyspnœa

than before the incision. She has a fair pulse, and breathes comfortably. The impulse of the aneurism is not so great as formerly. She also swallows with considerably more comfort than yesterday. Dr. Beigel ordered her a mixture containing Ergotin gr. iij, Tinct. Digitalis ℥x, Tinct. Ferri Acet. ℥xxv, t. d.

January 23rd.—Since the last notes the patient got much better, and was able to get about her room again, and to take her food with comfort. She, however, had occasional attacks of dyspnœa, especially at night.

Yesterday, however, she made a very hearty dinner, including a lot of mussels.

In the evening she was taken very ill, and Dr. Smith was sent for at 9 p.m.

He found her in bed, in a very depressed condition; her breathing very quick, shallow, and gasping; her pulse feeble; her skin coloured and clammy. She had had no hæmoptysis, and attributed her illness to the mussels she had eaten. She became gradually weaker, and could scarcely speak in consequence of the rapidity with which she breathed. She retained her faculties until the last, and died about midnight.

The *post-mortem* examination could only be made very inefficiently from the objection raised by the relatives of the deceased, who were carefully watching our proceedings. We, however, succeeded in securing the heart and aneurism, of which I had made the drawing in the hands of the members. It shows a very extensive enlargement of the ascending and the arch of the aorta, penetrating the manubrium striæ, of which small remnants only are left. On the right side the second rib projects freely into the aneurismal sac, which by its penetration, or rather destruction, of the manubrium became hourglass-shaped.

No trace of inflammatory action could be discovered in the bony remnants of the manubrium.

Feb. 1, 1870.

26. *Two cases of aneurism of the arch of the aorta, involving pressure on left recurrent laryngeal nerve.*

By MORELL MACKENZIE, M.D.

CASE 1.—*Aneurism of the arch of the aorta, causing pressure on the left recurrent laryngeal nerve, with paralysis and atrophy of the muscles of the left side of the larynx.*—Frederick Burden, æt. 37, was sent to me at the Hospital for Diseases of the Throat by Mr. Joyce, of Pembridge Gardens, early in November, 1869.

The patient was suffering from considerable dyspnœa which had been coming on for about eighteen months.

He stated that he had formerly been a very strong man, and acted as a railway porter, but that his health began to fail in the year 1865, and he became an omnibus conductor. Since then he had constantly had severe rheumatic (?) pains, especially in the upper part of the back. For some years he had suffered from palpitation, and twice had spat up blood to the extent of more than a tea-cupful; and a year ago his voice began to become hoarse, and he had a shrill cough unaccompanied by expectoration. He had formerly been a free drinker.

On admission he was found to be suffering from dyspnœa, which was greatly increased on the slightest exertion. His voice was completely suppressed, and his cough aphonic. Loud bronchial râles and stridulous breathing rendered auscultation very unsatisfactory. Slight dulness was perceived at the upper part of the sternum, and for half an inch on the left side of the sternum between the first and second rib.

A laryngoscopic examination showed the left vocal cord immovably fixed between the side of the larynx and the median line, and neither abducted in inspiration (fig. 1) nor abducted in attempted

WOODCUT 7.

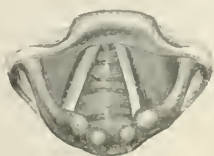


FIG. 1.

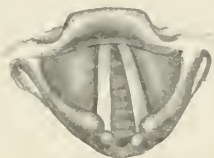


FIG. 2.

vocalisation (fig. 2). It was considered to be a case of aneurism of the arch of the aorta, in which tracheotomy would be attended with doubtful advantages, as, in addition to implication of the left recurrent nerve, actual pressure on the trachea was supposed to exist; it was, therefore, decided to postpone the operation until it seemed absolutely imperative. During the few days the patient was in the hospital he had frequent attacks of dyspnœa of a severe paroxysmal character. Between the paroxysms his breathing was comparatively easy. On the 12th November the patient, who had slept badly, but who seemed better in the morning, was suddenly taken with intense dyspnœa, and died before tracheotomy could be performed. The wind pipe was, however, very quickly opened—in less than a minute from the time the man ceased to breathe, but though artificial respiration was continued for half an hour the patient did not revive.

On post-mortem examination an aneurism was found affecting the arch of the aorta. The lining membrane of the aorta from its origin was seen to be covered with irregular patches of atheroma, and the vessel was throughout dilated, but it was at the descending portion of the arch, behind the origin of the left subclavian artery, that a sacculated enlargement was found. The pouch, which was nearly as large as a hen's egg, and contained large pieces of very hard light-coloured fibrine; extended upwards, inwards, and backwards, between the trachea and œsophagus, and formed a slight projection on the posterior wall of the trachea, about an inch above its bifurcation, so that the antero-posterior diameter was slightly diminished. The walls of the left side of the heart were hypertrophied: there was a small amount of deposit on the mitral valve, and the aortic valves had a few vegetations. Both pneumogastric nerves were in normal condition.

The left recurrent nerve had to wind round the aneurism, but not at its most projecting part, and it was seen to be smaller than the right recurrent, especially where it approached the larynx. The muscles on the left side of the larynx were markedly atrophied. The left abductor (crico-arytenoideus posticus) was considerably paler and thinner than its fellow; the fibres on the left side of the arytenoideus proprius were also less developed than those on the other side, but the greatest difference was noticed in the crico-arytenoideus lateralis, the left muscle being nothing more than a few pale scattered fibres, whilst the right muscle was large and fleshy. This difference in the condition of the several muscles is quite in accordance with

the clinical history, as the voice was affected long before the breathing became impaired.

CASE 2.—*Aneurism of the arch of the aorta, causing pressure on the left recurrent laryngeal nerve with paralysis of the muscles of the left side of the larynx.*—Mr. George F., æt. 40, came from Lyndhurst to consult me on account of dyspnœa which had been coming on for four months.

When first seen, January 12th, 1870, the objective symptoms were stridulous breathing with considerable dyspnœa, a croupy cough and hoarseness; and the patient complained of dysphagia.

On laryngoscopic examination the left vocal cord was seen to be immovably fixed in an intermediate position, being neither abducted in inspiration nor abducted in vocalisation; the appearances being exactly similar to those of the last case, page 129.

On examining the chest a loud systolic bruit was heard over the second costal cartilage at its junction with the sternum. There was dulness at the upper part of the chest, separated from the cardiac dulness, which also extended beyond the right side of the sternum.

The patient was treated on the Valsalva plan, but was allowed a very small quantity of diluted stimulant from time to time. He derived some relief from the application of an ice bag to the upper part of the sternum, but on the 19th he showed great signs of depression, which rendered it necessary to discontinue the dietetic treatment, and resort to the use of stimulants and fluid nutriment. He gradually sank, and died on the 21st.

*Post-mortem examination.*—The heart was generally enlarged; the walls of the left ventricle being thickened and the cavity dilated. There was dilatation without hypertrophy of the right ventricle. One of the aortic valves had a small amount of deposit upon it. The aorta was slightly and irregularly dilated from its commencement, and its internal surface was almost everywhere covered with atheromatous deposit. Just below the origin of the left subclavian artery there was a sacculated aneurism, extending upwards and backwards behind, and one inch above, the arch of the aorta, and to the right of the innominate artery. The cavity was about the size of a hen's egg, and contained a lamina of white elastic fibrine about an inch and a half long and half an inch broad, but was otherwise empty.

The aneurism abutted on the trachea at its bifurcation, but did not diminish its canal. It slightly narrowed the œsophagus.

The left recurrent nerve immediately after being given off had to pass completely round the aneurism to reach the trachea. Its course could not be traced although it was seen passing under the aneurism, and again emerging near to the trachea. There was no appreciable difference between the muscles of the two sides of the larynx.

*April 19th, 1870.*

27. *Aneurism of the aorta presumed to be innominate, for which ligature of the right subclavian and carotid arteries was performed four years before death.*

By CHRISTOPHER HEATH.

THE patient from whom this preparation was removed was a woman named Julia White, aged 30 at the time of the operation, who was under my care in the Westminster Hospital in 1865, suffering from an aneurism of the right side of the neck. The inner end of the right clavicle was thrust forward, and the inter-clavicular notch obscured, and the aneurism had, as afterwards appeared, already perforated the sternum close to the sterno-clavicular joint. There was dyspnœa and dysphagia, and the patient could not assume the horizontal position. In the belief that the aneurism was principally innominate, though possibly involving the aorta also, I tied the right subclavian artery beyond the scalenus and the right common carotid artery on November 21st, 1865. The patient made a good recovery, and the aneurism became smaller, and the distressing symptoms were relieved. The patient led a very irregular life, and two years after the operation, upon the occurrence of violent vomiting, the aneurism began to increase, and eventually gave way externally, the patient dying of hæmorrhage on December 8th, 1869. (For further details see 'Lancet,' December 2nd, 1865; January 5th, 1867; and July 2nd, 1870).

The body was removed to the College of Surgeons and carefully injected from the abdominal aorta by Mr. Moseley, pressure by a cast of plaster of Paris being at the same time made over the ruptured aneurism, and the preparation is now in the College Museum.

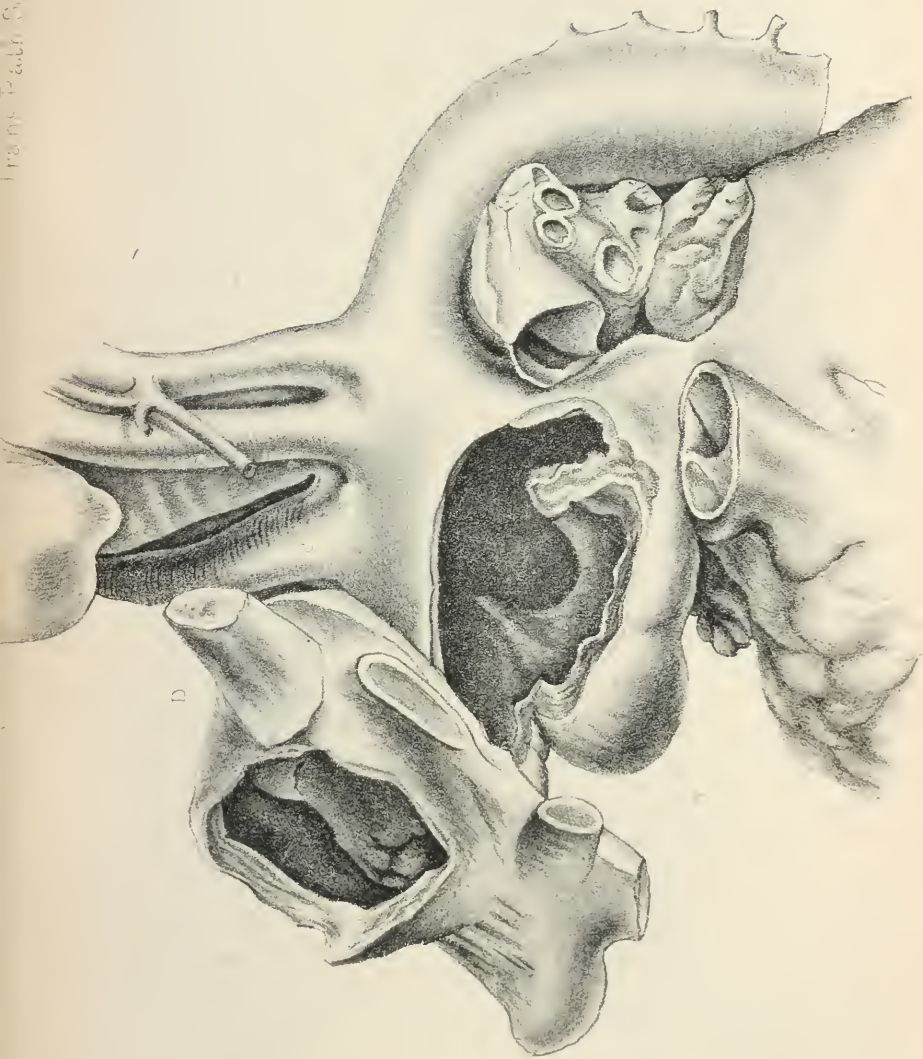


#### DESCRIPTION OF PLATE IV.

This Plate represents the state of parts in an Aneurism for which ligature of the right subclavian and carotid was performed four years before death. Exhibited by Mr. Christopher Heath. (Page 132.)

- A. Aortic sac.
- B. Sac in front of sternum.
- C. Innominate artery.
- D. Left clavicle.







On dissecting the neck, the collateral circulation through the vessels of the neck and arm was found to be fully established, being carried on principally by a large *transversalis humeri* or *supra-scapular* artery coming off from the thyroid axis and anastomosing with a large *dorsalis scapulae* artery. There was also an ordinary-sized *transversalis colli*, arising from the third part of the subclavian immediately to the inner side of the point of ligature. The subclavian artery was reduced to a fibrous cord one inch in length, immediately outside the scalenus, beneath which muscle the *transversalis colli* artery referred to came off. The inferior thyroid and vertebral arteries were natural, but an additional branch rose by the side of the vertebral, and passed backwards to the muscles. The right internal mammary was enlarged, and so also the intercostals meeting it, but the lateral intercostal branches were no larger than usual.

The carotid sheath was natural, the *descendens noni* nerve passing within it; the jugular vein and pneumogastric nerve were also normal. The right common carotid was four inches in length, and was obliterated in the whole of its course, the lower two inches forming a flat fibrous band nearly a quarter of an inch wide, the next inch—the point of ligature—being a slender rounded fibrous cord like cat-gut, and the upper inch resembling the lower two inches. The injection had been able to pass from the internal to the external carotid, but could hardly be said to have entered any part of the common carotid.

*Thorax.*—Immediately in front of the *manubrium* of the sternum was an aneurismal tumour, the thin wall of which had given way towards the left and upper part. The tumour was conoidal in shape, and projected an inch and a half beyond the surface of the chest, being three inches by two and a quarter in diameter at the base. This was full of soft coagulum. On passing the finger into the sac the inner end of the right clavicle was found exposed, expanded, and cupped on the posterior aspect. The greater part of the manubrium had disappeared, except the articular cartilaginous surface of the left sterno-clavicular articulation, which was normal.

The innominate artery was one inch in length and healthy, except that it was slightly dilated at its origin. The arch of the aorta was extensively aneurismal. Immediately above the pulmonary artery the aorta was dilated, and presented a double pouch to the right side. Immediately above this, and extending up to, but not involving, the origin of the innominate, was the origin of the sac of the aneurism which had burst through the sternum. On opening the aneurismal

tumour within the thorax it was found to be a distinctly sacculated aneurism, springing from the right side of the ascending portion of the arch of the aorta higher than appeared externally, owing to the lower part of the aneurism having grown downwards and to the right (Plate IV.). This portion of the sac contained firm laminated fibrine, to the thickness of one third of an inch. The portion of the aneurism attached to the sternum contained no fibrine except the loose clot in the outer sac.

19th April, 1870.

28. *Aneurism of the arch of the aorta proving fatal by pressure on the left recurrent nerve; irregular origin of the large vessels.*

By T. B. PEACOCK, M.D.

**E** A., a farm labourer, æt. 44, was admitted into St. Thomas's Hospital, under Dr. Peacock's care, on the 17th of December, 1869. He was a powerful-looking man, and said that he was of a healthy and long-lived family, and that he had never had any serious illness or accident before the commencement of his attack. He ascribed his illness to having been working hard threshing with a flail, and then getting chilled, after which he suffered from palpitation, and shortness of breath and cough.

When admitted he had much wheezing, and bronchitic rhonchi were heard in all parts of the chest. The cardiac dulness or percussion was greatly extended, both vertically and longitudinally, and a double murmur was heard all over the front and left side of the chest, but much the most loudly about the junction of the upper and middle third of the sternum. The first murmur was loud and creaking, the second rather of a hissing character; and the former was heard most distinctly towards the upper part of the sternum, the latter to the left of that middle of the bone. There was also dulness on percussion to the left of the upper part of the sternum. The external jugulars were very much distended, and there was obvious pulsation in them. There was also marked pulsation in the right carotid, and the pulsation of the aorta was felt very strongly behind



### DESCRIPTION OF PLATE III.

This Plate illustrates Dr. Peacock's case of Aneurism of the Aorta with irregular origin of the large vessels. (Page 134.)

Fig. 1. Anterior view. } *a*, the left subclavian artery; *b*, the right subclavian  
Fig. 2. Posterior view. } artery.

The enlargement of the thyroid gland, and the diseased and dilated ascending aorta are well shown. The small pouch on the right side of the vessel is seen in the posterior view; that on the left side in the anterior view. The course of the right pneumogastric nerve is also seen in the posterior view.







the upper part of the sternum, between the sternal attachments of the sterno-cleido muscles. The murmur was indistinctly audible to the left of the spine behind. The pulse at the wrist was large, full, and rapidly disappeared, having the regurgitant character. There was not any œdema of the face or ankles. On June the 11th he had been better till the more severe weather set in, when he suffered more from cough and expectoration, and had increased difficulty of breathing. The bronchitic wheezing in the chest became more marked, and the cough acquired a peculiar ringing laryngeal character; the pulse at the wrist had become more decidedly regurgitant, and he had occasional paroxysms of excessive dyspnœa in which he was compelled to sit up in bed, and appeared to be on the point of death, and when they passed off he was left excessively exhausted. These attacks occurred chiefly at night, and came on without any obvious exciting cause. The larynx was examined by Mr. Croft with the laryngoscope, and the left vocal cords were seen to be loose and motionless. He died after one of the attacks on the 3rd of February.

The heart was found greatly enlarged in all its dimensions, and the left ventricle especially was dilated and hypertrophied. The aortic valves were very incompetent, and this was chiefly due to the shallowness of the folds from the dragging of the dilated outlet. The valves were thickened but not retroverted. The mitral valves also were thickened. The aorta was greatly dilated from its origin to the descending portion of the arch; the dilatation was, however, much marked in the transverse portion, where also there were two distinct pouches, one at the right side and in front, and the other at the left and behind. The left recurrent nerve was lost in the walls of the aneurism. The coats of the aorta were much thickened, and the lining membrane was throughout rough and atheromatous. The origins of the large vessels at the arch were irregular. The right carotid was the first vessel given off, and it arose from the aorta, at a point to the left of the ordinary situation of the *arteria innominata*; the left carotid arose immediately after; the left subclavian was given off directly beyond the left carotid, and, lastly, the right subclavian had its origin beyond and behind the left subclavian. The right subclavian then passed behind the œsophagus and trachea to reach its usual situation. There was also a bronchocele of considerable size. The other organs of the body

though congested were free from disease. The following are the weights and dimensions of the heart:—

Weight of the heart . . . . .	16 ozs. avoirdupois.
Girth of right ventricle measured externally	56 Fr. lines = 126 mm. 4.97 En. in.
„ left „ „ „	70 „ = 157.5 „ 6.21 „
Length of right ventricle measured internally,	48 Fr. lines = 108 mm. 4.26 „
„ left „ „ „	48 „ = 108 „ 4.26 „
Thickness of walls of right ventricle—	
At the base, . 3½ Fr. lines	= 7.87 mm. .31 Eng. inches.
„ midpoint 2½ „	= 5.62 „ .22 „
„ apex . 2 „	= 4.5 „ .17 „
Thickness of walls of left ventricle—	
At the midpoint 6½ Fr. lines	= 14.62 „ .57 „
Near apex . 3½ „	= 7.87 „ .31 „
The right auriculo-ventricular aperture admitted a ball measuring in circum- ference . . . . .	
	63 Fr. lines = 141.75 mm. 5.59 En. in.
The pulmonary aperture . . . . .	39 „ = 87.75 „ 3.46 „
The left auriculo-ventricular aperture .	54 „ = 121.5 „ 4.79 „
Aortic aperture . . . . .	36 „ = 81 „ 3.19 „

The question was asked when the case was read whether the patient was left-handed, and it appeared on subsequent inquiry that that was certainly not the case. *May 17th, 1870.*

29. *Diffuse aneurism of thoracic and abdominal aorta, terminating in chronic peritonitis, with copious liquid effusion.*

By CHARLES MURCHISON, M.D.

**J**AMES D., *æt.* 42, coachman to a surgeon, was admitted into the Middlesex Hospital on September 13th, 1869, suffering from peritonitis. His father and mother had both been strong and healthy, and had both lived to over seventy: they had left a family of twelve children, of whom all were alive, and only one sister was delicate. Excepting the usual infantile diseases, the patient himself had always

enjoyed excellent health. He had formerly been engaged in the ice trade, and had there been accustomed to drink a considerable amount of beer and spirits, but for two years he had been a gentleman's coachman and lived more temperately. On the 1st of January, 1869, while cleaning the brougham, he suddenly felt very ill; he was able to lie down upon some straw, but he then became quite unconscious, and according to his master's (a surgeon) account he remained in a state of profound syncope for half an hour. Immediately after this he had an attack of right pleuropneumonia, by which he was laid up nine weeks; but in the beginning of March he was able to resume his work, and for nearly five months he drove out every day. Still all this time he complained of a constant wearing pain in the back and right shoulder; his appetite was good, though not so good as before; he had no pain in the stomach, and no sickness.

At the beginning of August, without any strain or unusual exertions, or in fact any obvious exciting cause, the patient was suddenly taken with urgent vomiting and severe pain and distension of abdomen, with constipation. These symptoms lasted about a fortnight, when they gradually passed off and he recovered his appetite. On the 4th of September the sickness recommenced, and was attended by pain in stomach, but less severe than on the former occasion. He had severe pain, however, in the right shoulder and great thirst, and the abdomen began to enlarge. After two or three days he felt better again, and for two days he was able to go out for a little, but on the 10th he became worse, and since then he had been in great pain, and had vomited everything he swallowed. For nine days his bowels had been relaxed, and shortly before admission he had passed a considerable quantity of semi-coagulated blood from the bowel, which his wife compared to the clots passed after childbirth. He had never suffered from piles.

The patient's "state on admission" was noted as follows: "Very emaciated. Chief complaints are of pain and swelling of abdomen, and of inability to retain anything on stomach. Abdomen is considerably distended, measuring at the umbilicus thirty-two inches, this enlargement partly due to fluid in the peritoneum, but mainly to a tumour occupying the centre of the abdomen, and apparently connected with the liver. Hepatic dulness in right mammary line six and a half inches, and in the middle line, including the tumour which extends three inches below the umbilicus, ten inches. The lower edge of this mass feels hard, but above this, in the epigastrium,

there is distinct fluctuation with moderate bulging over a space five or six inches in diameter. The thrill on tapping other parts of the abdomen is not propagated to the fluctuating mass in the epigastrium. No pulsation or bellows-murmur at epigastrium. The abdomen generally is tender on pressure, and its walls scarcely move in respiration. Patient lies for the most part on right side, and says pain is always increased when he lies on left. Is liable also to paroxysms of severe pain irrespectively of position. Splenic dulness appears increased, but spleen not perceptible beyond the ribs; no enlargement of the abdominal veins; no jaundice; tongue moist and white; says he vomits almost immediately after eating; bowels open three times to-day. Pulse 108, regular and feeble; apex of heart elevated, beating in nipple-line; no bellows-murmur anywhere over chest. Occasional cough; respiration thirty-six, and respiratory movement almost entirely confined to left side of chest. Over whole of right lung there is marked dulness on percussion, with very feeble, slightly tubular breathing; in front the vocal resonance, and still more the vocal thrill, are exaggerated; posteriorly they are absent. Skin covered with a clammy sweat; temperature  $97.8^{\circ}$ ; slight œdema of the feet and ankles. The urine contains one-twentieth (in volume) of albumen and much lithates."

The patient was ordered ice to suck, lime-water and milk every hour, two teaspoonfuls of brandy every hour and a half, a grain of opium twice a day, and linseed poultices to the abdomen. Subcutaneous injections of morphia were afterwards substituted for the opium pills, the stimulant was increased as the patient became weaker, and he was allowed small quantities of solid food when his stomach would bear it.

Under this treatment the diarrhœa was at once checked, and by September 20th the vomiting had also ceased, while the patient's general appearance improved. The abdomen, however, slowly but steadily increased in size, and on September 29th the parietes were tense and glistening, and the girth at umbilicus  $33\frac{5}{8}$  inches. On October 2nd the skin and conjunctivæ were slightly yellow, and there was bile-pigment in the urine. On October 18th the girth at umbilicus had increased to thirty-five inches, and the patient complained much of paroxysmal pain and tightness in the abdomen, and of increasing weakness. The pulse was usually about ninety-six, and the temperature about  $97.5$ . On October 22nd there was a great increase of the abdominal pain, and in the evening the vomiting

returned. He gradually sank, and died on the morning of the 23rd.

On *post-mortem* examination several quarts of turbid alkaline serum, having a specific gravity of 1020, and containing flakes of lymph and pus-corpuscles, were found in the peritoneal cavity. The surface of the intestines and other abdominal viscera, and the peritoneal lining of the abdominal wall, were coated with a thin layer of recent lymph easily peeled off. There was nowhere any sign of tubercle or cancer. The liver extended downwards beyond the umbilicus; its tissue was firm, but did not seem particularly abnormal. Between the liver and the diaphragm was an enormous cyst, quite distinct from the peritoneum, and containing fluid red blood. On opening the chest, the right lung was found to be everywhere firmly adherent, collapsed, dense, and carnified. Posteriorly, beneath the thickened pleura, and extending as high as the third rib, and outwards to the angles of the ribs, was another collection of fluid blood, and on further examination this fluid behind the right pleura, and that above the liver, were found to be contained in a common sac, formed by a large aneurism of the lower part of the thoracic aorta originating immediately above the diaphragm, and terminating below at the giving off of the superior mesenteric artery. This aneurism consisted of a large rounded sac formed by a dilatation of the entire aorta over two or three inches of its course. The arterial trunk entered this sac abruptly above, and passed off from it as abruptly below. The cœliac axis was given off from near the lower end of the sac. On the right side the sac had given way, and blood was infiltrated between its coats for a short distance, as in "dissecting aneurism," but the entire coats had also ruptured behind the peritoneum, and the blood escaping had dissected its way in different directions. The main portion was that seen at the epigastrium between the liver and diaphragm, but it had also burrowed upwards behind the right pleura. It contained several pints of blood, and its walls were formed partly by the expanded coats of the vessel, lined with laminated fibrine at some places nearly an inch thick, and partly by the diaphragm, liver, vertebræ, ribs, and pleura. The bodies of the lower dorsal vertebræ were eroded and rough, and the right ribs, at their origin, were also bared. The entire liver was displaced forwards, so that its upper surface was opposed to the anterior abdominal wall. In this way the organ appeared to be enlarged, but its weight was only fifty-four ounces. The heart was not enlarged,

and its valves were healthy; there was extensive atheroma of the aorta. The left lung was voluminous and healthy. The right kidney was compressed and altered in shape by the aneurism, and its cortex at the point of contact was opaque and white. The mucous membrane of the stomach was much injected and studded with hæmorrhagic erosions.

*Remarks.*—The history and *post-mortem* examinations of this case seemed to leave no doubt as to what was the sequence of events. 1. An aneurism formed at the lower part of the thoracic and upper part of the abdominal aorta without causing any symptoms. 2. On January 1st this aneurism ruptured and caused syncope, and the blood burrowing from the posterior mediastinum behind the right pleura excited pleuro-pneumonia. 3. The pressure of the aneurism eroded the bodies of the vertebræ, and accounted for the persistent dorsal pain. 4. In August the aneurism burst in a downward direction, and the blood pressing forward the liver and the peritoneum excited chronic peritonitis, and, by interfering with the portal circulation, caused fluid to be effused into the peritoneum, and induced catarrhal inflammation of the stomach.

The case is of great interest from several points of view.

1. Although the *post-mortem* appearances satisfactorily explained the clinical history, it was impossible during life to diagnose the real nature of the case. Peritonitis, such as existed here, extending over many weeks or months, and causing great distension of the abdomen from the accumulation of fluid, is in almost all instances the result of cancer. This circumstance, in conjunction with the existence of a large abdominal tumour, the constant vomiting, the severe attacks of abdominal pain, the great emaciation, and the signs of extensive disease on the right side of the chest, suggested the idea of cancer; the separate collection of fluid in the epigastrium being, on this supposition, explained by a portion of the peritoneal effusion being encysted above the liver, or circumscribed by extensive cancerous deposit in the omentum. On the other hand, all the physical signs on which we rely for the diagnosis of aneurism were absent, and the severe dorsal pain might be explained by the pressure on the nerves of a cancerous mass. The only circumstance that cancer left unexplained was the syncope which preceded the attack of right pleurisy, and which so commonly occurs in aneurism when the coats of the vessel rupture, but this circumstance was not in itself sufficient to justify the diagnosis of aneurism.

2. Death from chronic peritonitis, with abundant liquid effusion into the peritoneum, is a very rare mode of termination of aneurism. I have been unable to find any such case on record. Cases have been observed where an aneurism has burst into the peritoneum or in its neighbourhood, and where death has resulted from shock or from acute peritonitis, but in this case the peritonitis lasted for nearly three months, and was characterised by abundant effusion, owing no doubt, in part, to pressure of the aneurism upon the portal veins.

3. The sudden syncope, followed by severe inflammation on the right side of the chest, seems to leave little doubt that the aneurism burst into the posterior mediastinum on the 1st of January. The long interval between this date and that of the patient's death, and still more the circumstance of his recovery so far as to be able to resume for months a laborious occupation, are facts worthy of notice, though not very uncommon. Provided blood does not escape into a serous cavity, the patient may recover from the primary rupture of an aneurism, and live for months or years afterwards. It is well known that in what is called "dissecting aneurism" the patient may live for years after rupture of the internal and middle coats of the artery;<sup>1</sup> and the same may happen in the case of an ordinary aneurism. Dr. W. T. Gairdner, indeed, has shown that a patient may live for many years after an aneurism has burst<sup>2</sup> through a mucous surface and caused copious hæmorrhage. *May 17th, 1870.*

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30. *Embolism of pulmonary artery from latent phlebitis of femoral vein.*

By W. MOXON, M.D.

THE interest of this case lies in the fact that the patient, whose death was caused by the embolus exhibited, had not shown any signs of phlebitis in the vein where the embolic clot had formed, and was thought to be convalescing favorably at the time when he suddenly died.

<sup>1</sup> See Dr. Hilton Fagge, 'Med.-Chir. Trans.,' vol. lii, p. 311, and Dr. Peacock, in 'Path. Trans.,' vol. xiv, p. 98.

<sup>2</sup> 'Clinical Medicine,' 1862, p. 509.

On 26th July a man, aged fifty, was admitted to Guy's under Mr. Birkett's care, having struck his foot with a pick-axe so as to cause a wound that bled freely and was very painful. The wound did not heal, and hence Mr. Birkett, on 30th August, explored it, but no exposed bone was detected. On September 28th the wound is reported as healing. On November 4th, however, the man had to take to bed with an erysipelas-like attack of inflammation in the foot. On November 10th the inflammation had ceased, and the man was thought likely to be soon fit for presentation as cured. There was then no œdema of the limb, and there had not been any œdema of it during the illness, neither had the man complained of pain in the thigh.

On November 11th the man got up as usual in the morning, and ate two eggs for his breakfast, but it was said that at breakfast he complained to some one of faintness, not, however, so as to draw serious attention to his state. He went to the water closet, and on returning complained of difficult breathing, and died in five minutes. It was difficult breathing and not pain that he complained of, and his face was pale, his finger-tops only rather bluish.

On inspection the body was that of a remarkably well-made man, and was well nourished. The right lower limb was a little tumid, but there was no œdema that would pit on pressure. A blue rather ill-looking scar three inches long ran in the course of the tibialis anticus tendon on the dorsum of the foot. On examining this wound deeply we found some half drachm of thick pus close down on the bone.

The lungs were rather drier on section than natural. The right heart was full of liquid blood, but did not appear excessively engorged, and there was no excess of liquid in the pericardium. *The blood in the body was all liquid* except the clots now to be described. There was a clot filling up the pulmonary artery. This was not moulded to fit the artery, but was a clot smaller than one's little finger bent about and doubled up, being really a long clot forced into the artery. It appeared to have two sets of valve points upon it corresponding to vein-valves, and had two small branches starting from it, *and one end of it was perfectly rounded off into a smooth blunt end coated with fibrin.* This bent clot packed the pulmonary artery quite full, as far as its second divisions. I did not follow many branches, wishing to exhibit the specimen with its main features undisturbed.



There was liquid blood in both sets of iliac veins, but the right femoral and profunda veins contained *ante-mortem* clots of older, semirecent, and recent date. The former was whitish and flesh-like, and inseparably adherent to the vessel's wall. This was at junction of profunda. Then comes a particoloured semirigid clot, slightly and partly adherent to the vessel, and continuous with the first described, and, lastly, a black finished cylinder of recent clot, with a broken end about two inches below Poupart's ligament.

The evidence of embolism is quite decisive. The *absence of all other clots*—for the blood generally, as usual in cases of sudden death, was liquid—would indicate that these clots had some special history. The form of the clot in the pulmonary artery, its blunt end, its bent state, its valve-marks, and branches, all prove its origin as a mould of a vein. The decolorised clot, adherent to the vein wall, was of course beyond question of old date, and here lies the chief interest of the case, for no sign existed externally of this menacing condition except a slight sodden look of the limb, which might well appear due to the old inflammation of the foot. If the patient had been wasted and bedridden this would be nothing unusual; although difficult of explanation, when we reflect, first, that the vein-stream is naturally feeble, and, second, that in states of extreme feebleness it is yet more susceptible of check, so that obstruction would be expected to lead to more decisive signs of impediment and engorgement. But this patient was well nourished, and constantly in the habit of moving about, so that it appears to me worth notice that he should not show signs of the entire blocking of the principal vein of his thigh, although, no doubt, the muscular movement in the limb was less than natural, so as to take away one cause of fulness of the vessels while it favoured stagnation in the veins. *November 16th, 1869.*

*Report on Dr. Moxon's specimen of thrombosis of the pulmonary artery.*—We have carefully examined the specimen of thrombosis of the pulmonary artery exhibited by Dr. Moxon, and we agree with him that the patient's death was doubtless caused by the presence of coagula blocking up the ramifications of this vessel; but we do not agree with him in thinking that there is sufficient proof that these coagula were carried thither bodily from a remote part of the systemic venous system.

The considerations which have led us to the latter conclusion are briefly these :—The coagula were numerous, and at short but irregular

intervals throughout the arterial ramifications of both lungs. They formed cylinders (occasionally branching) of various lengths, for the most part distinctly moulded to and filling the channels in which they lay, and presenting rounded ends; and, indeed, the lower extremity of the clot occupying the trunk of the pulmonary artery tapered down through the pulmonic orifice, as do the lower extremities of ordinary *post-mortem* clots occupying this situation. There seemed little or no difference in the characters of any of them, and they had all, therefore, had probably the same origin. But it is almost impossible to conceive how, if these coagula had been formed in the venous ramifications of the pelvis and lower extremity, those occupying the smaller and more distant veins could have slipped, so universally as they must have done, past those larger clots which occupied the trunk veins, and have become impacted beyond them in the smaller branches of the pulmonary artery. We know, however, that coagulation of blood in the pulmonary artery during life, even to a considerable extent, is of common occurrence—nearly as common, indeed, as its coagulation in the systemic veins. Further, no proof is afforded by dissection in this case that the clots in the lungs were brought thither from a distance, beyond the mere fact that there were clots of a similar character in the veins of one of the lower extremities. We did not ourselves recognise any impression of valves upon the surface of any of them.

We admit that, on either view of the question with regard to the mode of production of these clots, there are some difficulties which it is not quite easy to explain away; and amongst others which may be considered adverse to the view which we have taken, is the fact that some of the coagula in the trunk and larger branches of the pulmonary artery were bent back upon themselves, and that in one place two cylinders lay side by side. Still it is quite as easy, we think, to believe that these peculiarities of position were the result of displacement of the clots in the pulmonary artery, which may have taken place at or about the period of death, as that they were a result of their having been transferred to this part from the veins.

In conclusion, it seems to us that it may fairly be deemed an open question, whether the coagulation in the pulmonary artery may have been determined by the conveyance thither from below of minute emboli, or whether it originated on the pulmonary artery from the occurrence of the same morbid process there that set up the throm-

bosis in the femoral vein. We did not, however, discover any obvious embolism.

J. S. BRISTOWE,  
C. MURCHISON.

7th December, 1869

31. *Purulent thrombosis of vena and iliac veins; embolism of pulmonary artery; incipient sloughing of lung.*

By W. MOXON, M.D.

ON the 16th of November of this year I showed a specimen of sudden fatal embolism of pulmonary artery. The specimen I now show illustrates a system of effects of embolism very different from the simple mechanical obstruction that was the cause of death in the former case.

The specimens shown were a portion of lung and the vena cava inferior from the body of a woman who died of pyæmia.

The left lung in its lower lobe showed a sharply circumscribed patch of pneumonia. The pleura was inflamed and some three quarters of a pint of liquid was present in its cavity. The pneumonic patch was of a bluish or blackish grey colour, and was otherwise peculiar through having a deeply injected zone around it, purplish red in colour. This zone formed on any section a strongly-marked narrow margin to the pneumonic patch. The colour and smell of the patch proved it to be in a state of incipient gangrene. On examining the artery that supplied this patch there was found in it a yellowish-coloured clot lodged at a bifurcation adherent to the wall of the artery at one point, and extending a little way into each arm of the fork of the artery. The main pulmonary artery and its other branches were occupied, on the contrary, with a prolongation of the post-mortem or deathbed clot that was in the right ventricle, as usual in death from inflammatory diseases.

The vena cava inferior was occupied in its whole length by a clot having the same yellowish colour as that in the diseased branch of the pulmonary artery. This clot extended up from the iliac veins, both of which were full of a like clot. It adhered to the left side of

the vena cava and was rounded on the surface, and did not entirely fill the whole channel up, there being space for the passage of a small stream of blood between its smooth surface and the vessel's wall. The clot presented upwards a rounded end that reached a little way into the right auricle of the heart. The clot appeared oldest in the left common iliac vein, and there the vein was in contact with an abscess which was between the rectum, blood ligament, and pelvic wall. This abscess had semiorganized walls corresponding to an age of four or five weeks; it appeared dependent on an inversion of the uterus, from which the woman had suffered for eight months, and it was the only cause of the pyæmia that could be discovered. The clot (which I have said was adherent to the left side of the vena cava) extended from this into the left renal vein, and followed up all the divisions of this to the smallest ramifications, filling it with curdy-looking pale-coloured clot that was easily removable from the vessel's channel. It was curious to observe that this kidney did not show any suppurations, whereas the right kidney in whose veins were no ante-mortem clots, had numerous points of suppuration present in it. The clot in the cava ran up through its hepatic portion, but did not extend into the hepatic veins. Examination of this yellowish clot showed it to be made up of cells having the characters of pus-cells; these were in parts mutually compressed and flattened, being crowded together so that they made up the bulk of the clot. These microscopic characters showed it to be of very different nature from the passive clots that form and soften in the heart and in the vessels of uninflamed parts.

There was suppuration of both knee-joints.

The details of the state of the uterus, which was found to be inverted, will, I believe, be published in another place by Dr. Phillips, who was physician to the case.

In reference to the features that I have detailed, it offers several points of great interest.

1st. As a good example of the conveyance of suppurating action from the veins to the lung by means of a piece of purulent clot, illustrating this important proposition, which I believe is now generally allowed, viz., *that a portion of matter removed from a suppurating spot and impacted in a healthy spot will set up in the healthy spot an inflammation like that in progress in the spot it came from.* In this way embolism of the lung becomes the cause of gangrene or abscess there, and only in this way, so that, on the other side, when

a clot comes from a spot where there is no inflammation and is impacted in the lung, no evil results, except in so far as the blood supply is mechanically stopped by it. Partial embolisms of the lung of this more innocent kind are very common in phthisis.

2nd. The case shows how a large mass of clot may exist in the cava, and hence may be transferred from the cava to the heart and pulmonary artery. I mention this because, when the specimen of fatal embolism I have before alluded to was exhibited, it was objected by some gentlemen who took interest in the case that the presence of clot in the femoral vein in that case showed that no clot could have been dislodged, as it was assumed by them that clot would not have formed in the iliac and cava veins. The present case, however, shows that in a case where there was no emaciation, and where little œdema of the lower limbs existed, there nevertheless was a large clot in the cava, which, though now adherent, must have passed through a stage when it was nonadherent. At that time it is easy to conceive that it might at any moment have been broken off in some effort, and conveyed into the pulmonary artery to cause sudden death.

*December 21st, 1869.*

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### 32. *Case of coagulation in the pulmonary artery.*

By J. F. PAYNE, M.B.

THE specimen exhibited consisted of the lungs from a woman æt. 45, who died in St. Mary's Hospital, under the care of Dr. Sieveking. Both main divisions of the pulmonary artery contained clots which were not large enough completely to obstruct them. In the right lung the secondary branch to the upper lobe was unaffected, but those to the middle and lower lobes were completely blocked, and the coagula thus formed terminated towards the heart by blunt rounded extremities. They were not strictly cylindrical but of unequal diameter, or, so to speak, varicose. The secondary and many of the tertiary branches were completely filled by coagula which fitted them precisely. The coagulation was not traced into the capillaries, nor was the lung tissue in connection with the coagulated vessels inflamed or hæmorrhagic. In the left

lung the main artery contained a clot which was doubled on itself in such a way that the convex curvature was turned towards the heart; the part doubled over was about three quarters of an inch in length and tapering; it was very closely applied to the piece on which it was folded. The coagula filled all but one of the secondary branches and ramified into the tertiary branches, which they fitted precisely. They ended somewhat abruptly, generally in branches smaller than a quill, and did not reach the capillary terminations. No part of the lung was inflamed or hæmorrhagic. The coagula generally were somewhat rough on the surface, and had a whitish cortical covering or envelope and a black central substance. In the smaller coagula this envelope was somewhat thicker in proportion to the size of the clot than in the larger.

At the *post-mortem* examination (forty hours after death) the body was found very stout, and with a great deal of subcutaneous fat; legs and lower part of trunk anasarcaous. There was no noticeable effusion into the serous cavities. The right cavities of the *heart* were very full of blood and soft black coagula; the left side was imperfectly contracted. Muscular substance of a good colour. Aorta atheromatous, but semilunar valves and coronary arteries normal. The left auriculo-ventricular orifice was not narrowed, the mitral valves permitted regurgitation. There was an atheromatous patch on the anterior flap, the edge of which was thickened; the organ weighed fourteen ounces. There was no important change in any other organ except that the uterus had attached to it a globular fibrous tumour nearly as large as a cricket-ball. No coagula except ordinary *post-mortem* clots were found in any veins; those of the legs were examined as far as the junction of the profunda femoris with the femoral. The head was left untouched at the request of the friends.

*History.*—The patient was a cook. She was admitted into St. Mary's Hospital under Dr. Sieveking with a well-marked mitral murmur and very feeble heart. She complained also of a train of abdominal symptoms, pain, morning vomiting, &c., which were explained by the presence of the uterine tumour above described. The day after admission, about five o'clock in the afternoon, she fainted on getting out of bed. Stimulants were administered, but the heart's action was not fully restored, the pulse being hardly perceptible. About four hours afterwards she seemed to have another fainting fit and died.

*Remarks.*—It is not easy in this case to form a complete rationale of the coagulation of blood in the pulmonary artery. Proof is certainly wanting that any detached mass or embolism was the determining cause, nor was any source of such embolisms discovered; on the other hand, there was no evidence that the process had begun in the peripheral terminations of the pulmonary artery, nor was there any inflammatory or other change in the lung which would tend to produce coagulation. A great part of the clot, namely, that in the smaller branches, must have been formed *in situ*, since it exhibited a perfect mould of the vessels in which it lay. But it seems quite possible that some mass passing through the heart may have been the determining cause of this coagulation; and this supposition seems, perhaps, most in accordance with the general history of such cases, as well as with the results of experiment. It has been shown that when a branch of the pulmonary artery is obstructed by an embolism, a thrombus extends in both directions from the obstructing mass, so far as the column of blood is brought into stagnation. As the distal portion of the artery is not emptied (the *vis à tergo* being wanting) the blood contained in it solidifies into a complete mould of the vessel. This is a possible explanation, but it is not put forward as one for which distinct proof can be offered, collateral evidence being, in this case, unusually deficient.

February 15th, 1870.

*Report on Dr. J. F. Payne's case of coagulation in the pulmonary artery.*—We have carefully examined the specimen exhibited by Dr. J. F. Payne, with regard to which he inclined to the belief that the coagulation in the pulmonary arteries was due to embolism. We are of opinion that not only is there no proof of embolism, but that the evidence, so far as it goes, is in favour of spontaneous coagulation in the pulmonary arteries themselves.

In the first place, no source of embolism could be discovered. There was none such in the heart, and none could be discovered in the systemic veins, which were examined in a great part of their distribution. We can see no good reason why spontaneous coagulation should not occur in the pulmonary artery and its branches as well as in the systemic veins, and it appears to us that to endeavour to trace every coagulum in the pulmonary artery to embolism, merely because it is difficult to understand how or why blood should coagu-

late in that artery, is merely to shift the difficulty from one part of the vascular system to another.

Secondly, Dr. Payne seems partly to base his explanation on the supposition that the coagula do not extend into arteries much smaller than a quill; but, on careful dissection, we find a large number of arteries much smaller than quills, and even the peripheral arteries subjacent to the pleura, as far as they could be traced, blocked with coagulum. Further, on microscopic examination, most, if not all, of the interlobular arteries are found to be full of solid blood, which we presume had become solidified during life. The coagula, in fact, in each lung seemed to form an almost continuous tree, and we may add that the medium-sized and smaller arteries presented, in many cases at least, unusually thick walls.

Lastly, we failed to find anything like emboli anywhere in the lungs.

CHARLES MURCHISON, M.D.

J. S. BRISTOWE, M.D.

March 15th, 1870.

33. *Gangrene of the portion of the femoral vein, with perforation of the artery after ligation of the saphena.*

By JOHN GAY.

A SMALL man with pallid skin and black hair, a shoemaker by trade, æt. 43, was admitted into the Great Northern Hospital for epithelial cancer of the scrotum with enlarged inguinal glands on both sides. The cancer was removed, and the wound healed well. In the course of a fortnight suppuration took place in connection with one of the glands in the left groin, and a considerable quantity of matter was let out. The wound took on cancerous disease, forming an ulcer of considerable size, with the gland, also cancerous, projecting from its centre.

I was induced, owing to the sufferings of the man and his request that what chance remained should be given him, to remove the diseased parts; which was done on the 2nd February. In the course of the operation it was discovered that the cancerous tissue had so invaded the saphena vein, near its junction with the femoral, as to render it necessary to remove at least an inch of the vein. The



bleeding was very free, and required several ligatures for its arrest. A compress was put on the vessel and secured by a bandage. The case went on favorably until the twelfth day after the operation, when, after straining in the act of evacuating the bowels, a profuse flow of venous blood took place from the wound. Mr. Willis, the house surgeon, applied a plug soaked in perchloride of iron, and compressed it with a bandage. The bleeding ceased, but two days after it returned again, and with it a smart flow of decidedly arterial blood. Mr. Willis again stopped it by local compress and tourniquet. I saw the man late at night. He was exceedingly low, and panting rather than breathing. There was no bleeding. Stimulants and nourishment were given to the extent that he could bear them; and I proposed that he should remain until the morning, when, in case the arterial hæmorrhage returned on removing the tourniquet, I intended to tie the external iliac. He, however, died during the night. There had been at no time any pain along the course of the femoral vessel, but the limb was somewhat œdematous.

On examining the limb I found the ligatures that I had placed on the veins (the tributaries of the saphena and the saphena itself at its terminal segment) still adherent, but that the veins themselves, with the portion of femoral for the space of an inch in which the saphena terminated, had become gangrenous and shreddy. The external iliac vein was firmly plugged to the extent of three or four inches by a thrombus, which was, in parts, adherent to its walls. The femoral below the slough, as well as the popliteal veins, were inflamed, thickened, and very irregularly and deeply puckered. Their free surfaces were less glossy than in health, free, as far as I could discover, from epithelia, and slightly discoloured by blood stain. A thin layer of blood fibrine adhered to the walls, but were easily removeable. The tributary veins for a short distance were in the same condition, but obliterated by clot. The cellular tissue forming the walls of these veins was extremely vascular, and large bloated veins surrounded and appeared to be almost imbedded in their middle coats throughout their entire course.

The distal end of the saphena had not been tied. It lay flat as though compressed against the fasci, and was empty to where it gives off a branch to the femoral, about the middle of the iliac. Below this it was moderately full of blood.

The sloughing had extended into the side of the femoral artery, and formed an aperture in its coats about the size of a large probe. A

small elongated and somewhat flattened clot lay against the aperture, but was not adherent to its edges excepting at one point. It acted somewhat as a valve, but could not have stayed this flow of the blood. Dr. Cruicknell, who examined the other parts of the body, informed me that the head was healthy, weighing eleven ounces; that there was a long, pale, fibrinous clot a foot long adherent to the chordæ tendineæ of the right ventricle, passing through the pulmonary orifice into the pulmonary artery, and extending into its two great divisions.

The left auricle was filled with a similar clot, which passed into the ventricle, and was adherent to its chordæ tendineæ also. There was also a clot, two inches long, in the first part of the arch of the aorta.

From the character and connections of the clot, Dr. Cruicknell does not attribute death to an embolus carried from the femoral vein.

I am inclined to think the man died from repeated bleeding. It is difficult to account for the sloughing of the veins. It was not from pressure; for the first compress had been removed for some days prior to the secondary hæmorrhage, and the parts appeared healthy. The phlebitis which followed was probably due to the admixture of sanious matter with the blood in the vein, for it extended only in the direction in which it could possibly mingle with it.

Mr. Tait also showed a photograph of a patient where an iliac abscess had produced obstruction of the iliac vein, and the blood returned from the limb through the gluteal and circumflex ilii veins, and through the pubic and hypogastric. *February 15th, 1870.*

34. *Cyst communicating with a large branch of the pulmonary vein. (? Varix of the vein.)*

By C. H. FAGGE, M.D.

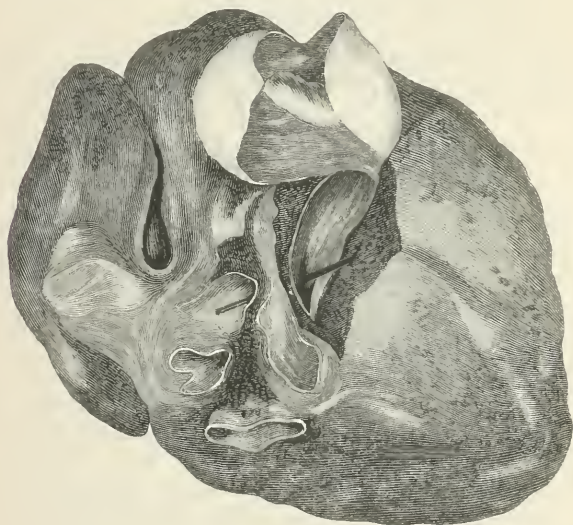
A WOMAN died under my care in Guy's Hospital of hæmatemesis resulting from chronic ulcer of the stomach.

Connected with the inner edge of the middle lobe of the right lung

was a rounded body, looking very like an hydatid cyst. It lay quite external to the tissue of the lung to which it was fixed only by loose connective tissue; nor had it any closer adhesion to the pericardium. Some old adhesions existed in its neighbourhood, especially between the middle and lower lobes of the lung.

On laying the cyst open it was found to consist of a tough, rather opaque, yellowish material. Its inner surface was smooth. It con-

WOODCUT 8.



tained a clot, part of which was buffed, and which appeared to have been formed *post-mortem*. From this clot a long slender process was given off, readily traceable into a canal which communicated with the cyst by a large though somewhat oblique aperture. This canal, perhaps of the size of a goose quill, led directly into a main branch of a pulmonary vein, and so into the left auricle of the heart. The vein was for a short distance imbedded in the pulmonary tissue.

I have not been able to find any recorded instance of such a cyst-like dilatation, connected with a pulmonary vein, as was found in this case.

April 19th, 1870.

## IV. DISEASES, ETC., OF THE ORGANS OF DIGESTION.

## (A) DIGESTIVE CANAL.

1. *True diaphragmatic hernia with stricture of the œsophagus.*

By JOHN D. HILL.

THIS specimen consists of a hernial tumour connected with the diaphragm, and a stricture of the lower portion of the œsophagus.

One inch and a half behind the aperture for the vena cava is a circular opening with smooth and rounded edges, which before removal from the body was about the size of a half crown.

This appears to be a dilatation of the œsophageal opening of the diaphragm communicating with a large cul de sac, which contains the stomach and greater part of the omenta.

The sac, thick and strong at its neck, but thin towards the fundus, is apparently lined with peritoneum, which is reflected upon the contained viscera. It is covered externally by pleura, and probably receives at its lower part an intermediate coat of muscular fibres from the crura of the diaphragm.

The hernial tumour, before removal from the body, encroached upon the right pleural cavity and displaced the lung; the first portion of the duodenum is seen passing through the ring into the sac. On emptying the latter and looking from behind, part of the great omentum is found adherent to the right and left margins of the ring, so that the stomach is slung up to the diaphragm, and the small omentum is partially adherent to the sac.

On making slight traction upon the stomach the œsophagus becomes invaginated and the sac inverted. About one and a half inches from the termination of the œsophagus is a stricture (an inch in extent) which is laid open; this before decomposition was very dense, and would only just admit a probe.

It was firmly attached to the spine by scirrroid tissue, and partially so to a piece of the aorta which is seen in the specimen; passing downwards it is lost in the sac externally, and seems to spread out some of its fibres upon that structure.

The hernia is exhibited in its entirety, no section having been made.

CASE.—Philip H—, æt. 54, by occupation a coachman, and a native of Dorsetshire, was admitted into the Royal Free Hospital under my care, May 22nd, 1869.

*History.*—He had always enjoyed good health until twelve months preceding admission, when he first observed a gradually increasing difficulty in swallowing both solids and liquids, but especially solids; this went on from bad to worse, and for three or four weeks previous to his first attendance at the hospital he had been unable to take any nutriment except a little milk, and even this gave him the greatest trouble; becoming therefore reduced almost to a skeleton, and literally starved, he determined to come to London for advice.

*Upon inquiry*, there was no history of phthisis, cancer, or other constitutional diseases in the family, nor any chance of such local mischief in the œsophagus as might have been produced mechanically by foreign bodies, or chemically by corrosive poisons.

*On examining* the œsophagus with a medium-sized bougie a stricture of its lower part was detected; the point of the instrument was grasped by the stricture, but neither this nor bougies of smaller size could be passed onward to the stomach. Further examination revealed the presence of dense scirrroid tumours, one in the substance of the left deltoid muscle, another in the integument above the left knee, and a third below the right nipple; moreover, he was so attenuated that the branches of the abdominal aorta were traced through the parietes, and even the buccal and orbital fat had become absorbed.

*Treatment and progress.*—During the four ensuing days he was fed by nutrient enemata every three hours (consisting of beef tea  $\zeta$ iv, wine  $\zeta$ iss, and the yolk of an egg), and he was not permitted to attempt deglutition, in order that any congestion or spasm of the stricture might subside, and so provide for ultimate dilatation, and, the latter failing, that he might be placed under the most favorable circumstances for gastrotomy, if such might be entertained in so hopeless a case. But it should be observed that the poor fellow, suffering terribly from incessant hunger, expressed an earnest desire to undergo any operation which might prolong his life, even for a few days.

May 27th.—This morning he attempted to swallow and could do so with less difficulty. Enemata to be continued. Is troubled with a cough and short breathing (thoracic), and on examining the chest large crepitation is heard at the base of left lung, and puerile respiration throughout the upper part of right lung; there is considerable dulness posteriorly and diminished thoracic movement on this side, and the heart beats two inches to the left of its usual point. Some of the abdominal organs do not yield the customary percussion sounds, probably by reason of the collapsed condition of the intestines. The liver and spleen dulness can, however, be defined, but there is no trace of the stomach or intestines, except the lower part of descending colon, which is slightly tympanitic. Bowels relieved.

29th.—Dysphagia is increased, cough is very troublesome, and sputa are viscid. Slight tympanitic sound over cæcum on percussion.

31st.—Cough is worse, and there is much purulent expectoration. Complains of tightness of the chest, thirst, and headache.

June 1st.—Is sinking. Breathing more embarrassed; orthopnoea; complains of difficulty in expectorating.

2nd.—Died at twelve, noon.

*Autopsy eight hours after death.*—*Body* extremely emaciated.

*Head.*—Brain healthy.

*Chest.*—Heart pushed over to left side by a tumour encroaching upon right pleural cavity; tumour covered by parietal layer of pleura. Left lung congested; bronchi inflamed; lining membrane thickened and coated with pus. Right lung congested at apex, compressed by tumour, and hepatized towards base. Bronchi inflamed.

*Abdomen.*—Liver small, spleen ditto; duodenum running vertically towards diaphragm. Small intestines empty, translucent, and collapsed; large intestines ditto ditto. Bladder empty. Kidneys small. Stomach and omenta absent. Pancreas placed vertically. Three hard tumours, about the size of a large filbert, were excised respectively from the left deltoid muscle, the integument above the knee, and below the right nipple; these had all the characteristics of scirrhus cancer.

Liver, spleen, and pancreas removed; duodenum first ligatured and then cut across. Ileum ligatured near ileo-cæcal valve and cut across. Small intestines removed.

Duodenum traced to a ring in diaphragm which communicates with a hernial sac containing the stomach and omenta. This hernial

tumour is lying in the right chest. The diaphragm has apparently yielded at the œsophageal opening.

The œsophagus is strictured about one and a half inch from its apparent termination at the upper part of sac.

*Remarks.*—Cases of diaphragmatic hernia are recorded in volumes 14, 13, 12, and 6 of the ‘Pathological Transactions,’ by Drs. Peacock, Murchison, Hillier, and Beck, and in the ‘Lancet’ of August 31st, 1867, by myself under the head of “Laceration of the Diaphragm;” also special treatises upon the same subject have been published by S. Alphonse Bignardi, M. Dugnet, and Dr. Bowditch; but the remarks and references which Dr. Peacock has appended to his case supply the chief information to be found on this pathological condition. He divides these cases into two classes, “true and false,” of which the former is uncommon, while the latter embraces the greater number of cases described.

Now, it appears that a true diaphragmatic hernia is characterised by a sac, which is lined with peritoneum and covered by pleura; but a false hernia has no such covering, the latter may be congenital or accidental (*i. e.* from arrest of development or rupture of the muscle), and possibly the former may have a similar origin: in the one case I refer to a congenital pouch, in the other to a dilatation of those apertures which transmit viscera, and perhaps muscular atrophy following extreme emaciation, in some instances of carcinoma ventriculi (where vomiting has been excessive), may sometimes cause yielding of the diaphragm; indeed, Dr. Brinton and myself observed such a result in a post-mortem examination at the Royal Free Hospital in the year 1860.

Three cases of dilatation of the œsophageal opening are mentioned by Bowditch, but he can give no details. Schobcrus has, however, recorded a case very similar to the above, which is referred to in Morgagni’s work; and the plate of Bignardi’s treatise at first sight resembles it in regard to the appearance of the sac, its size, and situation on the right side of the body; but on further examination one of the spaces on the side of the ensiform cartilage described by Morgagni and Senac is the seat of rupture, while, in this case, the sac is formed on the right of the centre of the diaphragm, one and a half inches behind the caval aperture, and at the œsophageal opening, which is pulled forwards and over to the right side.

They also differ as to the probable cause. Bignardi attributes his case to injury, but mine gives no such history, and it would appear

to be either a congenital condition, or more probably the result of gradual yielding of a weak muscle at one of its natural openings.

The stricture of the œsophagus, by continued traction, may have caused or contributed to this lesion, and, indeed, the history points to such a probability; assuming, however, the hernia to be congenital, it is difficult to understand how digestion could have been effected without signs of discomfort or uneasiness at some period during life. But whatever may have been the cause, it is certainly surprising that no symptoms of strangulation ever occurred, nor was there any trace of constriction at the neck of the sac.

In conclusion, one word in regard to the question of gastrotomy. Now, whatever opinions may be entertained as to the expediency of this operation, I am inclined to think, if it had been attempted, that the proper course with such an abnormality would have been to open the duodenum.

November 16th, 1869.

*Report on Mr. Hill's case of diaphragmatic hernia.*—We agree, generally, with the description given by Mr. Hill, and the specimen is one of great interest.

On emptying the hernial sac, and thus replacing the stomach within the true abdominal cavity, it is evident that a considerable portion of the diaphragm to the right of the opening for the œsophagus, has yielded (either through congenital formation or through change after birth), so as to be pressed up towards the mediastinum, and to encroach, chiefly, upon the cavity of the right side of the chest. In the sac formed by this yielding of the diaphragm, the portion of alimentary canal referred to by Mr. Hill is wholly contained.

When the stomach is returned into the true abdomen, there is a septum between the sac and the opening for the œsophagus (see fig. 1), but when it is protruded and thrust up towards the thorax, this septum is comparatively obliterated, and the right hand side of the œsophagus (which canal is dilated as it enters the stomach) is drawn out and doubled upon itself, following the displacement of the corresponding extremity of the stomach, and owing to this up-drawing of the œsophagus, and to some yielding of the diaphragm on the left side, the neck of the hernial sac is bounded on the left by thickened tissues beyond the corresponding wall of the œsophagus, as that canal passes through the diaphragm (see fig. 2). The circumference of the neck of the sac is much indurated.

There is no evidence before the committee to enable them to decide



as to the origin of the displacement. It is evident that in the lapse of time various adhesions have formed between the omentum, the

WOODCUT 9.

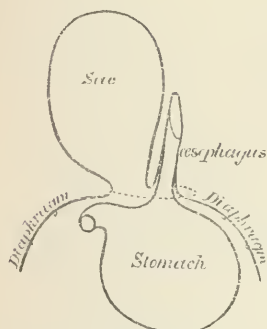


FIG. 1.

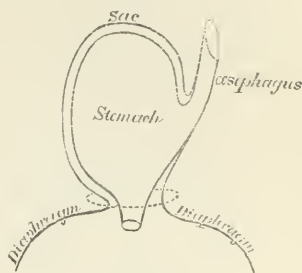


FIG. 2.

stomach, and the tissues, about the neck of the hernial sac. The comparative fixity of the duodenum accounts for the fact that the omentum and the cardiac extremity of the stomach are the structures furthest protruded towards the chest.

GEORGE W. CALLENDER,  
HENRY ARNOTT.

December 2nd, 1809.

2. *Post-mortem solution of the œsophagus and not of stomach.*

By W. MOXON, M.D.

THIS little specimen I bring before the Society on account of its rarity, but more because it illustrates an incident, which if it were not found actually to occur, one might, I think, be disposed to think very unlikely.

This child's œsophagus is pressed outwards by a knob of about the size of a halfpenny piece. This knob is soft edged and there is no sign of reaction about it. It has, in fact, from its simply dissolved appearance exactly the character of a post-mortem solution,

it leads into the mediastinum and there were a few grains of rice in the mediastinum that had passed out of the œsophagus through it.

Test-paper showed an intense acid reaction in the liquid about the part. The stomach was pale, empty, and only slightly acid. One is led, I presume, to suppose that the last act of the life of the child's stomach was to reject the little it contained, so that the few rice grains and gastric juice were thrown into the gullet which died before it could carry them back in its ordinary way.

*March 15th, 1870.*

*Report on Dr. Moxon's case of perforation of œsophagus.*—We have examined a portion of œsophagus sent to us by Dr. Moxon, with a perforation which he regards as due to post-mortem softening.

We are of opinion that the perforation in question is certainly not due to violence and laceration during dissection, since the walls of the œsophagus in its neighbourhood are thinned, and the epithelium is partly wanting, partly detached from the subjacent tissue, and the muscular fibres are shreddy and ragged.

We have, therefore, to consider whether the perforation is due to a post-mortem solution by gastric fluid or to any ulcerative process.

There is no sign whatever of any morbid growth or of any inflammatory reaction in the neighbouring parts, and it must, therefore, be concluded that the softening and perforation were accomplished either after death or immediately before.

CAMPBELL DE MORGAN,  
J. F. PAYNE.

*April 5th, 1870.*

### 3. *Perforating ulcer of stomach.*

By E. CLAPTON, M.D.

MARÏ ANN RUCK, æt. 37, a cook, was married at seventeen years of age, and had four children, the youngest being now thirteen years old. Her first child was born dead and syphilitic, and from the time of its birth she has always had bad health. Her principal complaints were referred to the stomach and bowels; and her medical

attendants told her she had liver complaint. Latterly she had been an out-patient at Guy's Hospital in the department for special diseases of women.

On the occasion of my visit in consultation with Mr. Burton, of Lee, one evening two or three weeks ago, she was found very hysterical, and rambling as though she were under the influence of intoxicating drink. Half an hour previously she had suddenly rushed into the drawing-room in a state of intense excitement, as though suffering from hysterical mania, and appeared in great agony in the bowels. Her mistress thought she would have died there and then. After a short time she was put into bed, became calmer, though wearing an anxious expression of countenance, and complained of great pain all over the abdominal region. Her pulse, however, was good and about 80. Opium was prescribed. Next morning she was in a state of collapse, and died at three p.m.

On *post-mortem* examination, the peritoneal cavity was found to be filled with about five pints of fluid, chiefly beer, with a little food and oil (her sister had given her a dose of castor oil). The small intestines were slightly adherent to each other from recent effusion of lymph. The fluid was found to have escaped from an ulcer situated near the smaller curvature of the stomach. The stomach and a portion of liver were removed for further examination. There was chronic congestion and enlargement of the uterus. The liver was much paler and softer than natural, and on microscopical examination the hepatic cells were found gorged with oil. The stomach presented a large perforation with dense callous margins in the anterior wall, near the lesser curvature, and rather nearer the pyloric than the cardiac end. In the neighbourhood of this perforation were a few shreds of recent lymph, and the margins of the opening itself were dark and congested.

On laying open the stomach there was seen in its posterior wall a large opening leading to the anterior surface of the pancreas, and situated on a level apparently lower than that of the perforation in the anterior wall, so that the two points of disease were not opposite to one another. From this opening in the posterior wall a probe passed readily downwards in front of the pancreas and appeared behind the lower border of the stomach in a smooth walled sinus, with no evidence of recent inflammation about it. Owing to the stomach having been removed before it was examined it was impossible to determine accurately the relation and value of this sinus, but

it appeared to open into the lesser sac of the peritoneum. Of the nature of the perforation in each case it appeared, from the smooth edges, the healthy aspect of the mucous membrane, the yielding nature of the walls, and the absence of any nodulation, unusual hardness or vascularity about the opening in the posterior wall, that this was the result of a simple ulcerative process in the position usually attacked by gastric ulceration; and a patch of adherent lymph on the mucous membrane towards the cardia was the earliest form of what might ultimately have passed on to the same condition. Of the opening in the anterior wall the nature does not appear so evident. Its margin was sharply defined, its walls extremely dense and unyielding, and a thickness of fully half an inch separated the muscular from the serous coat. This thickness was occupied by a white fibrous material, which cut under the knife very much like scirrhus; on the peritoneal surface, too, there were faint lines, apparently of lymphatics, radiating from the margin of the perforation. The deposit did not appear to infiltrate the muscular coat of the stomach, was not nodulated, did not present forms distinguishable from those of ordinary inflammatory deposit, and there was no evidence, according to the account given of the *post-mortem* examination, of the existence of any glandular or other deposits of cancer in the abdomen.

December 21st, 1869.

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4. *Two cases of fatal hæmatemesis from very minute ulcers perforating a small artery in the coats of the stomach.*

By C. MURCHISON, M.D.

THE two specimens which I now exhibit to the Society were obtained from two patients who have recently died under my care in the Middlesex Hospital. They are remarkable, not only for the minuteness of the ulcers, which were little more than hæmorrhagic erosions, but also for the absence of the usual symptoms of ulceration of the stomach. Neither of the patients had suffered from vomiting prior to the occurrence of hæmorrhage. Both had been spirit-drinkers; in one the liver was healthy, in the other it seemed to be the seat of both cirrhosis and syphilitic perihepatitis.

CASE 1.—Sarah C—, *æt.* 50, was admitted early in the morning of June 15th, 1869. Her father had died of consumption at 38, but her mother had lived to 70. There was no history of cancer in her family. For three years the patient had been addicted to drink neat gin several times a day, besides ale at meal-times; but, with the exception of infantile diseases and an attack of typhus fever at the age of 32, she had enjoyed good health until twelve months before admission, when she began to complain of persistent nausea and loss of appetite for breakfast, and of a pain under the left breast, but without vomiting. She had always been stout and plethoric, and had not lost flesh since her illness began. Twelve hours before patient's admission the lodger underneath her room heard a heavy fall, and on going upstairs found her sitting on a chair and very faint and pale. She had no cough, but complained of great nausea, and soon vomited a very large quantity of semi-coagulated blood. The vomiting recurred at intervals up to the time of the patient's admission.

On reaching the hospital the patient's clothes were drenched with blood, and there was also a quantity of blood at the bottom of the cab. She was extremely prostrate and anæmic, and complained of pain and tenderness below the left breast and at the epigastrium and of great nausea. The tongue was large, white, and moist; the bowels had been rather costive before the attack. She had occasional palpitation; but there was no evidence of organic disease of the heart or lungs, and no albumen in the urine. She was ordered to keep quiet in bed, to suck ice, to have no nourishment except iced milk, and to take every four hours a draught containing gallic acid (*gr.* x), dilute sulphuric acid (*℥xv*), and *Liq. Opii. sed.* (*℥v*). On the following day, as there had been no recurrence of vomiting, and the bowels remained confined, this draught was discontinued, and one containing a drachm of sulphate of magnesia and twelve minims of dilute sulphuric acid every six hours substituted. Next day the patient seemed better, and in the night of the 17th she passed four tarry motions. On the 18th she had a small quantity of cold beef-tea and bread for dinner. Shortly after this she sat up in bed, and became very faint, and soon vomited nearly a pint of coagulated blood mixed with food. Recourse was again had to ice and to gallic acid and opium, and a bladder of ice was applied to the epigastrium; but the vomiting of blood recurred at intervals, and, notwithstanding the administration of enemata of beef-tea and brandy, the patient con-

tinued to sink, and died between six and seven on the morning of the 20th.

On examination of the body the liver was found to be small, smooth, and apparently healthy. The stomach and intestines contained a large quantity of dark blood. The mucous membrane of the stomach was thickened and coated with adhesive mucus, but its vessels were not injected. In the great cul-de-sac a small patch of the mucous membrane, measuring four lines by three, was yellow and opaque, and defined at its margin by a fine, dark, slightly depressed line, the appearances being those of an incipient slough. In the centre of this patch, on a slight eminence, there was a rounded perforation from which blood could be squeezed, and through which a small probe could be passed into an artery of the size of a stocking-wire. The corresponding peritoneum was unchanged. About two inches from this perforation there was another minute superficial ulcer, and close to this a third, both exactly like what are known as "hæmorrhagic erosions." The mucous membrane of the stomach and intestines presented no other loss of surface. Permission to examine the rest of the body was withheld.

CASE 2.—John R—, æt. 28, was admitted on the 10th and died on the 15th of November, 1869. He had been a private soldier, and had contracted constitutional syphilis five years before, and ever since had been the subject of slight cough and huskiness of voice. He had also been very intemperate. In March, 1869, after severe straining in lifting heavy weights, he was seized with nausea and giddiness, and next day he brought up a large quantity of dark fluid blood mixed with food, and for two days he continued to bring up a little blood. The hæmorrhage then ceased, and neither before its occurrence nor subsequently did he suffer from pain or uneasiness at the epigastrium, or from vomiting after food. He had occasional night-sweats, but did not lose flesh. He was discharged, however, from the army on account of his health, and on October 25th he began to suffer again from giddiness and nausea, and from fits of retching always preceded by cough; but he continued to eat his food as usual, and had no pain after eating nor actual vomiting till November 10th, when he suddenly brought up a pint of blood, and was conveyed at once to the hospital. After admission he continued to bring up large quantities of blood, notwithstanding the remedies employed (gallic acid and opium, sulphuric acid, turpentine, ice both internally and ex-

terually, abstinence of food by mouth, and enemata of beef-tea and brandy), and the loss of this blood rendered him blanched and prostrate, and in fact ultimately killed him. Each attack of hæmorrhage was preceded by vertigo and nausea; the blood was on several occasions, though not always, mixed with food and never frothy, and a large quantity of black blood was also passed per anum; while on examination of the chest, although a systolic murmur could be heard loudest over the left apex of the heart, and there was thought to be slight dulness below the right clavicle, the respiratory murmur was everywhere normal, and there was nowhere in the lungs any crepitation. On the other hand, the blood issued from the mouth in gushes, without any obvious retching; when first discharged it was almost invariably bright red, and it soon formed a firm coagulum; after several of the attacks the patient continued to hawk up (from the throat?) mucus coloured with blood; the first attack of hæmorrhage had followed a severe strain in an individual who had suffered from constitutional syphilis, and at no time had the patient suffered from symptoms of gastric disease (for the nausea and other symptoms between October 25th and November 10th had probably been due to internal hæmorrhage having actually commenced). No sign of aneurism could be discovered in the chest or abdomen. The hepatic dulness was diminished, the splenic dulness increased, and before death there was evidence of slight ascites. The patient was by no means emaciated, and there was no œdema of the lower extremities. It was difficult in this case during life to decide whether the hæmorrhage was due to a small latent aneurism which had burst, to a latent ulcer of the stomach or duodenum, or to obstruction of the portal circulation from cirrhosis of the liver.

On *post-mortem* examination the liver was found to be contracted and the seat of true cirrhosis, while at the same time its outer surface was marked by deep cicatrix-like depressions, from which fibrous tracts extended into the interior, apparently the result of syphilitic perihepatitis. The spleen was very large, and weighed  $22\frac{1}{2}$  oz., and the peritoneum contained about two pints of serous fluid. The mucous membrane of the stomach was not congested, and was free from hæmorrhagic erosions, and the source of the bleeding was found to be a minute superficial ulcer, not more than a line and a half in diameter, at the cardiac end, within half an inch of the lower end of the œsophagus. In the centre of this ulcer was a rounded opening, with well-defined slightly thickened edges, into a large branch of the

gastric artery. There was no other ulcer or source of hæmorrhage in the stomach or bowels. The intestines contained a large quantity of black blood. There was old disease of the mitral valve. Both lungs were voluminous and everywhere œdematous, but they were not otherwise diseased.

November 2nd, 1869.

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5. *Chronic ulcer of the stomach proving fatal by perforating the splenic artery.*

By T. B. PEACOCK, M.D.

**K**S—, æt. 20, a servant, was admitted into St. Thomas's Hospital, under the care of Dr. Peacock, on the 9th of November, 1869. She stated that she had always been delicate, and had twice suffered from rheumatic fever, for the first time when she was eleven years old, for the second when sixteen years of age. On the last occasion the attack was a severe one, but in neither illness did it appear that she had had any cardiac complication. Two years before her admission into the hospital she had hæmatemesis, and brought up a large quantity of blood, and passed some by stool, and she did not recover her usual health till after three months had elapsed. A year later, she had pleurisy on the left side, and then experienced palpitation, and had never been well since, having suffered from pain after taking food with sickness and vomiting, and being very short-breathed and weak. The day before her admission she again vomited blood, and the hæmorrhage recurred the following day, about a pint of blood being passed, mixed with the contents of the stomach. The next morning she brought up about half a pint of blood, which was pure, bright-coloured, and coagulated, and a little was passed by stool. Subsequently having taken tannic and sulphuric acid she vomited a large dark-coloured clot. After these losses of blood she was excessively faint, her lips and tongue almost colourless, and the pulse barely perceptible at the wrist. She, however, gradually rallied, and continued better till the evening of the 16th, when she suddenly vomited about three pints of pure blood, and became excessively faint. She rallied to some extent, but suffered from



sickness and vomiting, and continued very much prostrated. On the 27th she had a sudden recurrence of the bleeding, brought up about two pints of blood, became collapsed, and died in about twelve hours.

The body was examined by Dr. Lees, the Demonstrator of Morbid Anatomy. The stomach was found distended by semi-coagulated blood, and, on clearing that away, an ulcer, about the size of the little finger nail, was found at about the middle of the lesser curvature, towards its posterior aspect. The ulcer was oval, had abrupt edges, and was deeply excavated, penetrating the coats of the stomach. At the base at one end of the ulcer there was a small papilla, with an open orifice at its apex, through which a probe could be passed into the splenic artery. The vessel was adherent to the stomach in the seat of the ulcer, and there was considerable thickening and induration of the adjacent parts, and also of the coats of the stomach around the ulcer.

The heart was healthy, and weighed  $9\frac{1}{4}$  ounces avoirdupois. The kidneys appeared healthy, but the epithelium of the tubes was somewhat opaque from the presence of a granular material.

The other organs were all examined, and were found free from disease, though remarkably pallid and bloodless.

January 18th, 1870.

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6. *Note on sarcinæ ventriculi which had remained for three years in the vomited matters they originally appeared in.*

By DYCE DUCKWORTH, M.D.

THIS specimen came from a middle-aged man who was under Dr. Martin's care in St. Bartholomew's Hospital early in 1867. His case was believed to be one of fibroid thickening of the pyloric orifice of the stomach, with dilatation of that viscus. Periodical vomitings, with yeast-like scum on the surface, occurred. The man left the hospital relieved, but was not again heard of.

There are manifest under the microscope numerous masses of sarcinæ. They are of dark yellow colour, and, though retaining their

general pack-like form, are more or less coarsely granular. Only the dissepiments of the secondary cells can be seen. The reaction of the vomited matter is highly acid, and the odour is very rancid. Starch-corpuscles are clearly visible, and they react powerfully with iodine.

The specimen has been laid by in a stoppered bottle.

*March 3rd, 1870.*

### *7. Fatal stricture of the pylorus.*

By R. QUAIN, M.D.

THE specimen laid before the Society consists of the stomach, which had been removed from the body of a gentleman aged fifty-three years. It is seen that the walls of the viscus become thicker and firmer as they approach the pylorus. This altered condition had become such at the outlet from the stomach as to cause, I am told—for I did not see the specimen before it was laid open—complete obstruction to the passage even of liquids. This obstruction, and the presence of a small gland of almost stony hardness in close proximity to the diseased wall of the stomach, are the points which seem in a pathological point of view to claim the attention of the Society. An examination of the more minute textural changes will probably be thought worthy the attention of the Morbid Growths Committee.<sup>1</sup> Except that the liver was said to be large, the other organs of the body were described as healthy.

I had been asked to see the subject of this lesion by Dr. Marsden, to whom I am indebted for the specimen (and subsequently in consultation with Mr. Hancock and Sir William Fergusson), for obstinate constipation and vomiting. The history given was simply that the patient had long been subject to what he called bilious attacks, and for which he was accustomed to take calomel and similar remedies. When first seen he complained of vomiting; everything which he swallowed came back within an hour or two, partially digested, and having generally an acid reaction. His bowels had not acted for three days, and then

<sup>1</sup> The condition of this specimen precluded its further examination.—ED.

only as the result of a copious injection. His tongue was furred, his body was thin, but there was no constitutional disturbance. His urine was scanty and high coloured, and it contained neither albumen nor sugar. On examining the belly with a view to ascertain the cause of the symptoms, one felt towards the left side, midway between the umbilicus and the ribs, a swelling which gave the impression of being about the size of a flattened walnut. The patient was conscious of pressure being made on the point, but did not complain of pain. Various remedies were prescribed, but without effect. The vomiting continued, so did the constipation. There was no action of the bowels during sixteen days, after which he died exhausted. He never complained of pain, there was no blood in the vomited fluids at any time, nor was there a smell or other appearance of feces.

The constant vomiting of everything taken by the mouth and the obstinate constipation established the conclusion that there was complete obstruction of the bowels.

The diminished secretion of urine rendered it probable that the obstruction was situated high up in the bowel, an impression further confirmed by the absence of fecal vomiting. The discovery of a small tumour existing at or near the pylorus led to the formation of a diagnosis as to the existence of obstruction at this point, a conclusion which was fully confirmed by the *post-mortem* examination.

May 17th, 1870.

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8. *A pin which had been swallowed, and discharged from the bowels.*

By W. HOWSHIP DICKINSON, M.D.

**A** LARGE pin was exhibited which had been swallowed by a child between two and three years old, and was safely passed by the anus. The child was seen by the mother to put the pin into its mouth, point foremost, and to swallow it before she could prevent it. She at once brought it to the Children's Hospital. The treatment adopted was the use of food which from its bulk and slowness of digestion was adapted to keep the intestines full and

prevent their collapsing upon the pin. The child was fed upon vegetable diet, such as bread, buns, dumplings, and potatoes, while aperient medicines were withheld. After the lapse of three days the point of the pin was seen emerging from the anus, whence it was removed, the child being apparently none the worse for the misadventure.

Foreign bodies are retained in the healthy bowels with comparative rarity. When the vermiform appendix has become ulcerated in consequence of the presence of a solid mass within it, the cause of the mischief is a fecal concretion far more often than the traditional cherry-stone. I published three cases of ulceration of the appendix in the 15th volume of the 'Transactions,' in each of which the offending body proved to be a semicrystalline concretion which had clearly formed within the bowel. The concretions bore a rough resemblance, in size, shape, and colour, to cherry- or date-stones; they proved on examination, however, to be laminated concretions, of which no materials which could be recognised as having come from the outer world excepting some microscopic fragments of hair which lay among the concentric layers of which the concretions consisted. The safety with which small fruit-stones traverse the healthy bowels is seen in Switzerland, where during the cherry season excrement is often seen by the road sides stuffed with cherry-stones, showing that the inhabitants swallow and evacuate great quantities of cherry-stones without apparent harm. If there be a constriction in the bowels, indigestible matters, such as fruit-stones or fish-bones, not infrequently collect behind it. No doubt it sometimes happens, even without previous disease of the bowel, that rounded bodies, such as stones, which have been swallowed, lodge in the appendix and cause perforation, though such an occurrence is much less common than is generally supposed, and is far less frequent than the formation in the appendix of the morbid concretions which have been described.

Hair and such filamentous matters, which have been swallowed with the perversity of taste which occasionally accompanies hysteria, travel with less safety than rounded substances, and are apt to collect in the alimentary canal and there set up disease. I once discovered wood-shavings in connection with perforation and abscess, which probably had been wilfully eaten under some such circumstances.

*Nov. 2nd, 1869.*

9. *Congenital constriction of the ileo-cæcal orifice ; dilatation of the ileum ; retention of fruit-stones in jejunum and ileum.*

By J. WICKHAM LEGG, M.D.

THE exhibitor is glad to have this opportunity of thanking Sir William Jenner for his kindness in allowing the following case to be published.

A woman, æt. 26, single, a native of London, and an ironer by trade, was admitted on April 26th, 1858, into University College Hospital, under the care of Dr. Walshe. She stated that her general health was good, but that since the age of five she had been subject to attacks of colic ; vomiting, constipation, and pain in the abdomen being the chief symptoms: These attacks averaged about four in the year, but had never followed so closely as they had just before admission. Her mother told her that the attack which she had æt. 5 was "gatherings in her inside ;" at eighteen years of age, when living at Bethnal Green, she had a violent attack of colic, and at the end of a week she passed some fæces containing what were considered by herself and her sister to be cherry-stones, but they were not examined by the surgeon in attendance. A little after this she went into St. Bartholomew's Hospital, and was there treated for "inflammation of the bowels." She did not pass any cherry-stones while in the hospital, and only stayed there three weeks. Since that time up to her admission into University College Hospital she could not remember having passed a single cherry-stone.

She could not remember having eaten any large quantity of cherries at one time, or having the habit of swallowing both fruit and stones together, nor was she ever told by her mother anything which referred to this possible habit.

On the 6th of April, before her admission, she had an attack of colic, but was about her usual occupation again on the 12th. On the 22nd, after eating an indigestible meal, the pain in the bowels, the constipation, and vomiting returned ; no relief was afforded by the remedies employed, and she entered University College Hospital on the 26th.

The following notes were taken by Dr. Walshe, on admission :

"On back, aspect slightly febrile ; pulse 114, regular, sharpish.

Respiration 26. Tongue dry, red at tip, rough; slight sordes on teeth; was still drier and glazed in the morning. There is much thirst. Nausea is absent now. Since admission this morning she has vomited a small quantity of bile and mucus. There is disgust at solid food. Paroxysms of pain come on from time to time; these pains extend all over the abdomen, commencing indifferently, according to patient, in all directions, and accompanied with knotty elevations over the abdomen. According to Dr. Albert Buchanan,<sup>1</sup> the swellings generally commence about the right iliac fossa. At this moment there is slight elevation, and the outline of coils of intestine can be seen in other parts.

“On very gentle percussion the note is tympanitic everywhere, except in the left flank. Seized with a paroxysm before us, the coils of intestine become exceedingly well defined, but apparently simultaneously in all parts.

“In left iliac fossa, and a little above left flank, a most singular phenomenon both of sound and feel discovered. In regard of sound, it is like dryish crackling, not unlike surgical emphysema. Is by others likened to peas in a drum, shaken about; by others to marbles. She finds relief by gentle pressure on abdomen during paroxysm.”

On April 30th an enema was given, and it brought away some cherry-stones, which floated in water, and some other fruit-stones which were thought to be damson; the total number was ten.

The same phenomena of sound and feel in the abdomen were again observed on May 6th, and, after this date, almost daily during her sojourn in the hospital.

On May 18th the collision of the fruit-stones was heard on the right side of the abdomen, a day or two before being audible on the left. The motions were clay-coloured, not biliary, on May 1st, but there was not the slightest appearance of jaundice. On June 19th the motions were of the natural diameter and formed. Usually they were soft and of pale colour.

On July 10th, as no cherry-stones had been passed since April 30th, it was thought advisable to attempt some procedures with a view to their removal. A dose of castor oil was given over night, and then a fluid drachm of chloroform was administered in vapour *per anum*. A copious motion was passed, but no cherry-stones. Later in the day an enema was given, and then half a fluid drachm

<sup>1</sup> Then Dr. Walshe's Physician's Assistant.

of chloroform in vapour as before; the injection, however, brought away no cherry-stones with it.

Belladonna also was given, at first in small doses and then in large. Ten minims of Tinct. Belladonnæ were given in camphor mixture every six hours; on the 19th of August one grain of the extract of belladonna was given every six hours in an effervescing draught, and on the 21st this dose was repeated every three hours. On the 24th marked symptoms of belladonna poisoning were produced, and the drug was discontinued.

On August 18th galvanism was applied, one pole being placed in the mouth and the other in the rectum. All these means were without any visible effect upon the fruit-stones.

On the evening of the 28th five gutta-percha pills were given, and the next morning a dose of castor oil was administered; a copious motion was passed, which was carefully searched for the pills, but no foreign body could be found, and she left the hospital on August 31st, without having passed any foreign body whatever by stool since April 30th.

The patient was quite lost sight of until April 13th, 1864, when she again entered University College Hospital. She stated that since she left the hospital in 1858 she had been pretty well, with the exception of some few attacks of vomiting, constipation, and pain in the bowels. In 1861 she had married, but had never become pregnant. She had gone on with her occupation as ironer.

When readmitted she had symptoms of intestinal obstruction, and on the day of admission she vomited a blackened polished fruit-stone, considered to be a plum-stone. On the 16th of April she vomited about eleven such stones, two or three of which resembled cherry-stones, and one small spherical body which had the consistence and appearance (especially on section) of gutta percha.

Her state on admission is thus described by Sir William Jenner:

“Below the umbilicus the abdominal walls give a sensation to the touch very like that of emphysema, which may be, and is by some supposed to be, a friction fremitus. This is felt and heard, sometimes more distinctly on the right side of the abdomen, sometimes on the left; in addition, there is occasionally heard such a sound as may be produced by the shaking together of a number of dry, polished, small fruit-stones, and, besides this, a gurgling, evidently the result of air and fluid. The emphysematous or friction

sound is evidently superficial, the chinking sound is deep-seated, as is also the gurgling."

Her condition improved until the 25th, when she began to be sick again; the abdomen was convex, and its walls were tense, with tympanitic percussion note; there was tenderness in the left iliac region, where, two inches in front of, and rather above, the anterior superior iliac spine, there was produced, by percussion, a sound as of solid dry substances rattling together. Percussion was followed by spasm, and then the rattling sound was heard in the *right* iliac fossa.

The next day the rattling could only be elicited in the left iliac fossa, accompanied by the splashing of fluid. Once the patient said that she could almost feel the foreign bodies in the bowel.

On May 6th Sir William Jenner noted:

"Since the acute symptoms have passed by, the abdomen has been generally more or less distended, but now it is only moderately distended, but more below than above the umbilicus. The abdomen is resonant everywhere, except the deeper parts of the iliac fossa and flank. There is no evidence of fluid in the abdomen, and none of the tenderness which there was on admission, and there is none of the emphysematous feel which was then so marked. It is still felt and heard on the left side of the abdomen, to the left of the rectus muscle. In addition, there can be heard, on deep palpation, and better on percussion, the chinking sound, which is more perceptible than on admission, when the inflammatory condition was better marked.

"On placing centre of left hand across the left side of the abdomen, at the level of the umbilicus, and striking firmly, there is driven up between the left hand and Poupart's ligament a something against the left hand which feels very like some loose bodies, and there is also a sense of fluctuation. Still, over all this part, even to Poupart's ligament, there is the ordinary intestinal note, and after manipulation one sees, even in this region, a deep line, as separating the coils of intestine."

The great peculiarity, Sir W. Jenner observed, was the shifting in position of the emphysematous and chinking sensations, at one time being more distinct on the right side of the abdomen, and at another on the left.

On May 12th the vomiting, constipation, and pains in the abdomen returned. They were not relieved by any of the remedies



employed; she began to wander, became much weaker, and died on May 20th, 1864, at 4.30 a.m.

The *post-mortem* examination was made by Sir W. Jenner about nine hours after death.

The emaciation was considerable, but the cadaveric rigidity was moderate.

On opening the abdomen in the usual way, *i. e.* by a vertical incision from the sternum to the pubes, the small intestines were seen occupying their usual place; the ascending transverse and descending colon was contracted, and the cæcum, occupying the right iliac fossa, was also small and contracted. The vermiform appendix was adherent to the left side of the mesentery. The ileum was dilated, offering a marked contrast to the jejunum.

The fluid in the peritoneum was not more than the usual amount, though the peritoneum was more vascular than it should be; no lymph nor even any adhesions were at first noticed. There was no air under the peritoneum, nor subcutaneous emphysema; no cherry-stones were loose in the peritoneum, nor could any collection in the intestines be felt through their walls, except at one spot, where a body the size of a walnut could be made out. On shaking the small intestine there were produced the same rattling sounds that were audible during life.

On opening the small intestine all its coats, especially the muscular, were found greatly hypertrophied. Immediately above the ileo-cæcal valve no trace could be found of Peyer's patches, or of valvulae conniventes. On opening this portion of intestine a great quantity of fluid fæces and a few fruit-stones escaped. Before being punctured it measured seven inches in circumference. Only one small opening into the cæcum existed, and this would just allow a No. 9 elastic gum catheter to be passed through it into the cæcum. Immediately above this passage from the ileum into the cæcum a large opening with smooth edges, of the size of a florin, and leading at once into a higher part of the ileum, was seen, the two coils of intestine being joined to each other by adhesions. Above this spot was another similar passage into the small intestine.

The greater part of the cherry-stones were found in the jejunum and ileum. They were free in the cavity of the intestine, and were not contained in any pouch or diverticulum, nor was there any dilatation of the intestine where they lay.

The under surface of the liver was of a dark grey colour, and the

whole organ was raised; the lungs were small but healthy, and the rest of the organs examined were normal.

The fruit-stones removed from the small intestine nearly filled an imperial pint fluid measure. They were for the most part cherry-stones; but there were also a few plum-stones and intestinal concretions, the nuclei of which were cherry-stones. All the fruit-stones were coated with a black material, which was analysed by Professor Williamson, and in which iron was found in quantity quite sufficient to account for the colour, probably due to some inky compound formed in the bowel.

*Remarks.*—The clinical history of this case is believed to be unparalleled. Nothing in any way resembling the physical signs can be found in the periodical literature of the last thirty-five years. There is a plate in Cruveilhier's 'Anatomie Pathologique,' vol. ii, livr. 26, of a colon distended with cherry-stones, where the abdomen presented during life the same emphysematous sensation as in the present case.

Constriction of the ileo-cæcal orifice is by no means a common pathological condition. The writer has looked through the literature of the subject, so far as his opportunities extended, and he has been unable to find more than six cases even mentioned. He regrets that a monograph by Schutzenberger, in the 'Archives Médicales de Strasbourg' for 1836, is not contained in any of the public libraries to which he has access. The details of one case, almost identical in *post-mortem* appearances with that now described, have been placed on record by Schroeder von der Kolk in the 'Nederlandsch Lancet' for 1853. No history of the patient could be obtained when the body was brought for examination. The ileum, just before it passed into the cæcum, was extremely dilated, and the muscular coat much hypertrophied; this part of the bowel contained many cherry-stones and pieces of bone. The ileo-cæcal orifice was so small that a needle could scarcely be passed into the cæcum, which, with the colon, was contracted and small. Bourdon, in No. 57 of 'L'Union Médicale' for 1856, describes at length a case of a woman, aged 32, who enjoyed good health until within ten months of her death, after a series of attacks of colic. At the *post-mortem* examination the small intestine was extremely dilated, its diameter being twice that of normal intestine; the valvulæ conniventes near the ileo-cæcal valve had disappeared, and immediately over the ileo-cæcal orifice was a large mass of cherry-stones and gooseberry-seeds, which nearly filled

a litre measure. The ileo-cæcal orifice would scarcely admit the little finger; the cæcum contained firm fæces, but no cherry-stones. A similar case has also been cursorily mentioned by Hervez de Chégoïn. Abercrombie, in his work on 'Diseases of the Stomach,' 1828, page 127, relates the case of a woman, aged 63, who died three months after she had begun to suffer repeated attacks of colic. Her health had previously been good. *Post-mortem*, there were found great thickening and induration of the coats of the ileum at its termination into the cæcum, while the ileo-cæcal valve only admitted the point of the little finger. There are two other cases, both of which ran an acute course; one mentioned by Méliér in the 'Journal Générale de Médecine' for 1827, where, after symptoms of intestinal obstruction for five days, the patient died, and on examination the cæcum and appendix were found gangrenous, the ileo-cæcal valve being thickened and indurated, completely closing the orifice of the ileum; the other has been recorded by Dr. Thomas Short in fourth volume of the 'Edinburgh Medical Essays and Observations,' published in 1738, where a man lived over three weeks without passing a stool, and after death "the passage of the valve of the colon was found shut up, and about two fingers' breadth of the gut there was degenerated into a hard solid substance."

As might be expected, the cases agree in the dilatation of the ileum above the ileo-cæcal orifice, and, where the disease has lasted a sufficiently long time, in hypertrophy of the intestinal coats, especially the muscular. When the dilatation was great the *valvulæ conniventes* had also disappeared. In the two cases in which foreign bodies were present they were found immediately above the ileo-cæcal orifice, where, as Cruveilhier remarks, it is not uncommon to find them; it is impossible that the passage of the foreign bodies through the ileo-cæcal orifice, and consequent ulceration and contraction of the same, has been the cause of the lesion here, as, in his case, Schroeder van der Kolk suggested. It is by no means rare that foreign bodies, even of large size, pass with but slight inconvenience through the whole of the intestinal tube; and unless the substance be very angular it does not seem to produce any injury to the parts over which it passes. The accumulation of foreign bodies should be regarded as an effect, rather than a cause, of the disease.

The case now described differs from all those which have hitherto been placed on record in the duration of the symptoms of obstruction. In none of those mentioned above did the symptoms extend over a

year, while two ran an acute course. But in the case now brought forward, the patient had been liable to attacks of colic for nearly thirty years, during the greater part of her life. The first symptoms of obstruction were observed at the age of five, and continued until her death when thirty-two years old. It is thus highly probable that the constriction of the ileo-cæcal orifice was congenital, which during the first few years of life, from the soft and pulpy character of infants' stools, and also from the greater comparative size, at that age, of the orifice, was not so apparent as at a later period when the growth of the orifice, as with many diseased organs, did not keep pace with the greater growth of the intestine and of the whole body, thus producing an unequal relation between the calibre of the intestine and the size of the opening into the cæcum.

There are no means of judging when or how the large openings from the ileum, near the ileo-cæcal orifice, into a higher part of the small intestine were produced. Perhaps to their existence the long duration of the case may be due, since they would allow the fæces, when the pressure on the lower end of the ileum became great, again to traverse a large portion of the small intestine.

With a view to ascertain if the rattling, chinking, and splashing sounds, heard during life, could be reproduced under analogous conditions, a cæcum and colon were distended, partly with water and partly with air, several of the cherry-stones removed from the patient having previously been introduced. The intestine was then laid upon a flat table and forcibly percussed or palpated, when chinking and splashing sounds, identical with those heard during the life of the patient, were produced.

The lower portion of the ileum, and the cæcum with the vermiform appendix, are preserved in the museum of the University College, Preparation No. 5050; the foreign bodies removed from the intestine are placed by its side, Preparation No. 5050a.

*November 16th, 1869.*

10. *Perforation of the vermiform process of the cæcum from concretions ; general peritonitis, death on the fourth day.*

By WALTER FERGUS, M.D., introduced by Dr. BRISTOWE.

ON the 24th of November, 1869, a youth 17 years old presented himself, complaining of pain in his abdomen. He had spent the previous evening at a small quiet party, after having taken his part in an exciting game of football.

His idea was that he had eaten something that had disagreed with him. The pain had awoke him towards morning, but had not kept him awake for any length of time. The bowels had acted once on the previous day freely and naturally. The pain was of a diffused character, not sharp, and he bore pressure without any increase of discomfort.

The pulse was quiet, the tongue clean, and he had none of the aspect of suffering.

A dose of castor oil with Tinct. Opii was given, and in a short time the pain was greatly relieved. He was sick after taking some beef tea for his dinner. Six hours after the administration of the oil the bowels moved once very freely.

At night he was better, the abdomen was free from pain, and there was no tenderness on pressure at any point. The pulse and heat of the surface were perfectly natural. He had made a good tea, and feeling well he expressed his conviction that he would have a good night. He was sleeping quietly when last seen about ten o'clock.

Next morning he was awoke at six o'clock by a sharp stinging pain shooting diagonally across the abdomen from the right iliac fossa to the left hypochondrium. The abdomen was flat and retracted, especially in the iliac region, where tense cords were felt under the skin, running parallel to each other in a perpendicular direction.

The pulse was small and rapid, 136 in the minute, and his whole aspect denoted acute suffering. A full dose of opium, with the constant and frequently renewed application of turpentine epithems as hot as could be borne, quickly relieved the pain. The tension of the abdomen relaxed, and he was perfectly quiet, feeling pain only when he moved or when the parts were touched. The beneficial action of

opium was maintained without any affection of the functions of the sensorium. The bowels had not acted; an injection brought away a small quantity of scybalæ of small size; a subsequent injection was followed by a larger stool.

During the day and night following there was a steady improvement. The pulse fell to 96, the tongue continued clean, and on the evening of the 26th he was free from pain in the abdomen and could lie on either side; but he had been sick twice, and had retched frequently in the course of the day, and there was a tendency to fulness of the abdomen. He was asleep, when he was left for the night, between eleven and twelve o'clock. He slept well (having been for a very short time awake once) till about six in the morning, when he had a return with greater severity of the pain in the abdomen. He was continually sick, and had violent retchings. The pulse was small, 120 in the minute; the tongue for the first time was coated, but not heavily, with a light-coloured fur. Relief from the pain was once more obtained by means of opium and hot epithems. The sickness and retching were relieved by ice, of which he took a considerable quantity, and injections frequently repeated of very strong beef tea seemed to give him support.

During the day the pulse steadily increased in frequency, and became very feeble, entirely ceasing at the wrists twenty-five minutes before death, which took place about two o'clock of the morning of the 28th. A large evacuation from the bowels took place about an hour previously.

A *post-mortem* examination was made twelve hours after death (only the abdomen was examined). The body was well nourished and had good muscular development throughout. Strong cadaveric rigidity was everywhere present. On making the usual incisions a small quantity of serum escaped. The omentum covered the whole of the bowels and was inflamed at its lower margin. The right iliac region was full of coagulable lymph, with a few spots of purulent deposit. The surfaces of the intestines were slightly adherent. The vermiform process was tilted forward quite to the front, and larger than natural. At a short distance from its free extremity it was in a state of sphacelation, with a ragged hole large enough to admit a small horse-bean in the centre. The process was removed, and is presented for examination.

The concretions appear to have been located in the canal of the vermiform process for some time, and to have formed a cyst gradually.

The thickening and enlargement of the process show that this must have been the case, yet no history could be had of his ever having had pain or discomfort in the region of the cæcum.

The question of recovery from such affections seems to depend upon the situation in which the ulceration takes place; in the present instance, if the perforation had taken an opposite course, and had opened into the thickened tissue attached to the process, the bodies might have been so enveloped as to form an abscess which might have pointed outwardly, affording an escape for the morbid matter; or they might have been so surrounded as not to escape into the peritoneal cavity till a late period of life, as happened in the case of a very old woman who died very rapidly of severe peritonitis. After death, in the centre of a mass of very old adhesions, and more recent coagulated lymph, a large plum stone was found which, at some previous distant date, escaped from the vermiform process, and had become encysted outside the bowel between the agglutinated surfaces of the intestine. The patient in this case had for years suffered from impaired digestion, having frequent attacks of retching and vomiting.

In the case which is now before us there was no attempt at adhesion of the ragged surface of the appendix with the neighbouring parts.

January 18th, 1870.

*Report on the composition of the concretions found in the appendix vermiformis.*—The concretions had a dull, dark-brown hue, and were of brittle consistence. Under the microscope they were found to be made up largely of indigestible vegetable matters. These were chiefly fragments of hard tissue from the husks or shells of fruit, or from the coverings of seeds (some of which presented numerous thick-walled microscopic hairs), and of spiral fibres and the like. One or two fragments of human hair were also detected. Dr. Bernays, who kindly examined chemically for me a portion of one of the concretions, reports that it was made up chiefly of water, fat (without cholesterine), and phosphate of calcium, the fat forming about fifty per cent., the phosphate of calcium about twenty per cent.

J. S. BRISTOWE.

March 15th, 1870.

11. *Perforation of appendix vermiformis.*

By T. B. PEACOCK, M.D.

THE gentleman, 29 years of age, who was the subject of this case, was first seen by Dr. Peacock, in consultation with Mr. Sargeant, of Camberwell, on Thursday, the 16th of March.

He stated that, not feeling quite well on the Saturday evening, he took an aperient pill which operated freely and with much griping, early on Sunday morning. Soon after which time he was taken with severe pain in the abdomen and sickness, and the pain and vomiting had continued at intervals up to the time of his being seen, and there had been no further action of the bowels. He was found lying on his back in bed, with his thighs drawn up, and breathing hurriedly and almost entirely by the thorax. The abdomen was tumid, tense, and tender, and very obviously fuller in the right ileo-cæcal region than elsewhere, and the pain was more severe and there was dulness on percussion in that situation. He had constant and violent hiccup. The expression of countenance was anxious, his pulse small and quick, and he was much prostrated. He had vomited some bilious-looking matter. He was thirsty and drank much but did not pass much water. Careful search was made for a hernia but nothing of the kind was found. He was directed to have linseed-meal poultices applied to the abdomen, and to take one grain of calomel and one of opium every four hours. The following day he was much relieved, the sickness had subsided, the hiccup was less troublesome, and he expressed himself as free from pain, and he was able to lie on the back with his legs extended. The breathing was less hurried, but the pulse was still quick and weak; the abdomen was swollen and tender to the touch, and especially in the ileo-cæcal region, and there had been no relief to the bowels. He was directed to continue to take the pills every six hours.

The following morning there was still no action in the bowels, and two tea-spoonsful of castor oil were therefore given, and this was followed by enema in about two hours. The bowels then acted, and a feculent and healthy motion was passed, and he felt much relieved by it. On the 19th he was not so well; the sickness and



hiccup had returned, and he had vomited very offensive matter which appeared to have been stercoraceous, and the abdomen, especially in the ileo-cæcal region, was now swollen, tense, and tender. From this time, however, he rather improved in general condition, and as the bowels were freely moved each day the calomel was discontinued, and the opium given at less frequent intervals. On the morning of the 28th his condition was favorably reported upon, but the same day he was taken much worse, had increased pain in the abdomen, especially on the right side, and had several severe rigors; and he became greatly exhausted, and died on the evening of the 29th.

The abdomen was found in the examination of the body still swollen and tense, and on opening the cavity the omentum had a peculiar dry appearance. The small intestines were greatly distended, and were attached together and to the omentum. On separating the adhesions on the lower part and left side of the abdomen several small accumulations of pus were found. The small intestine was greatly distended from the jejunum downwards to near the ileo-cæcal valve, and, though the cæcum also was large, the colon was throughout its course greatly contracted. At the lower part of the ileum and about the cæcum the adhesions were more firm than elsewhere, and between them and the parietal peritoneum a large cavity was found which contained much dark offensive pus. This cavity also extended into the pelvis, but the cellular tissue external to the peritoneum, was everywhere free from disease. The appendix vermiformis was surrounded by this abscess. It was found to be nearly separated from the cæcum, the two being only connected by some ragged portions of membrane, and there were also two other ulcerated openings in the side of the appendix. A probe could be passed from the abscess, through the remains of the canal of the appendix, into the cavity of the cæcum. The cæcum contained some perfectly healthy fæcal matter. Careful search was made in the abscess for any solid material which might previously have been impacted in the appendix and have escaped into the peritoneal cavity, but nothing of the kind could be found. The peritoneal covering of the lower portion of the ileum and of the adjacent portions of mesentery was thickened and opaque, and the calibre of the bowels was much contracted, the contraction evidently being of old date.

1. In reference to this case the diagnosis was sufficiently clear, and the opinion expressed during life as to the nature of the disease

entirely corresponded with the results of *post-mortem* examination.

At first the history seemed to point to the occurrence of intussusception: thus the symptoms suddenly came in after the action of an aperient, with severe pain in the ileo-cæcal region, and there was constant and urgent vomiting and entire confinement of the bowels. But when, two days after, the bowels were freely acted upon, and yet with only very partial relief to the symptoms, that idea became quite untenable, and it was obvious that the mischief was connected with the cæcum and appendix. When, also, the symptoms continued, notwithstanding the full and free action of the bowels, and the enlargement in the ileo-cæcal region rather increased, and there were rigors, it was concluded that matter was probably forming, as proved on *post-mortem* examination to have been the case.

2. In one respect the case was not quite clear: whether the mischief met with in the ileo-cæcal region was only of the date of the active symptoms of illness, or had been in progress for a somewhat longer time. On this point I could not get any satisfactory information, as he was an unmarried man, living away from his friends. I was, however, subsequently told that about six weeks before his last seizure he had had a somewhat similar attack, also after taking an aperient, and that this had left him weakly, and he had never been quite well after. I also understood that he had been in the habitual practice of taking aperient medicine. These facts seemed to point to some old disease in the abdomen, and the peritoneal thickening in the ileo-cæcal region found after death, was confirmatory of that idea. Probably the commencement of the mischief might be dated about the time of the first attack, and the formation of the matter and the extension of the inflammation more generally to the peritoneal sac, had occurred at the time of the last seizure. It appeared that for some time he had had scrofulous glands in the neck, which occasionally suppurred.

May 18th, 1870.

12. *Internal strangulation of the ileum by a band.*

By J. S. BRISTOWE, M.D.

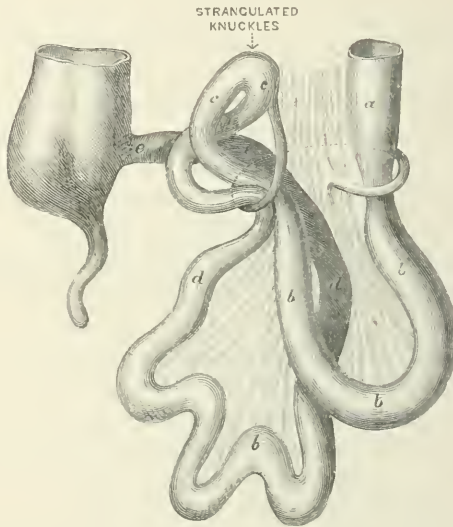
G B—, a drover, 28 years old, was admitted nominally under my care on the 15th January. It was stated that he had been ill for two days only; that on the day in question he had his breakfast at a coffee shop, and went afterwards to the watercloset, where he strained violently, and felt a sudden pain in his belly. The pain increased up to the time of admission, and his bowels were not again relieved. He came into the hospital at ten p.m. He was then sensible, but his features were shrunken, and his expression anxious: he was much collapsed and almost pulseless. The abdomen was tympanitic and tender, and his legs were drawn up. He had had stercoraceous vomiting. He died six and a half hours after admission.

The history of the case is very imperfect, and the account of his condition while in the hospital meager. His extreme illness on admission, the lateness of the hour when he was admitted, and his very speedy death, furnish a sufficient explanation.

*Post-mortem examination.*—The viscera of the head and chest were quite healthy. The peritoneum contained several ounces of turbid sanious fluid, and the surface of the intestines was congested. There were constrictions of the lower part of the ileum, the mass of bowel involved measuring about forty-nine inches, extending to within two inches of the cæcum, and hanging down into the cavity of the pelvis. The small intestines above were dilated and distended with fluid faecal matter; the stomach was healthy, and the large intestines were contracted, but presented numerous scybalæ. The affected portion of ileum formed several loops which were entangled with a band, apparently a vessel, one extremity of which was attached to the mesentery, the other extremity to a portion of the ileum. The arrangement of parts was highly complicated, and impossible to understand without the aid of a diagram. The one which is appended is due to Mr. Stewart. It shows the constricting band, the dotted line indicating the position of that part of the band which is concealed by the mesentery and by portions of the bowel. (*a*) indicates the unaffected portion of ileum just above the first constriction; (*b, b*) indicates a loop, thirteen inches long, prolonged from this, which was slightly constricted above and below, but which was

not obstructed, for it contained much faecal matter, and its parietes were no more congested than those of the ileum above; (*e, e*) indi-

WOODCUT 10.



cates a small strangulated loop, ten inches long; the mesentery of this loop, as well as the upper and lower ends of the loop, were tightly grasped by the band, while the loop itself was dilated, tense, and of a deep livid colour. (*d, d*) represents a subsequent coil, twenty-six inches in length, which was collapsed and nearly empty, and but little congested; and (*e, e*) points to the portion of ileum, seven inches long, which interposes between the constriction and the cæcum. In this diagram the mesentery connected with the involved loops of bowel has only been partially and very imperfectly represented. All other organs were healthy.

It need only be said, by way of commentary, that there is no doubt that the strangulation was, as the symptoms implied, of sudden occurrence; and that there is good reason to believe that an operation performed sufficiently early would have been attended with good results. Certainly the strangulation might have been relieved.

*February 15th, 1870.*

13. *Internal strangulation.*

By SYDNEY JONES, M.B.

THIS specimen was shown by Mr. Sydney Jones for Mr. Air of Lorrimore Square, in whose practice the case occurred.

Mr. Air was called, on the 25th of March, 1870, to see G. C—, who was suffering from intermitting pains in the region of the stomach and transverse colon, increased after eating; there had been no action of the bowels for seven or eight days; vomiting had occurred two or three times after food; tongue clean; skin cool; pulse 80. An aperient was ordered, and a mixture containing bismuth and hydrocyanic acid.

26th.—Pain and vomiting diminished, but has had very little sleep; no action of bowels. An aperient draught ordered of tartrate of soda and senna, as well as a mixture of hydrocyanic acid and chloric ether every four hours.

27th.—Pain and vomiting have ceased; has been able to take some sago and other food; no action of bowels. Enema has brought away some feculent matter; no pain on pressure of abdomen.

28th.—Vomiting returned in the night with violence, and continued until eleven a.m., black grumous matter being ejected; no action of bowels; abdomen very tympanitic. Ordered calomel two grains, opium half a grain, every three hours with effervescing mixture; tartrate of soda and infusion of senna being used as an enema. No recurrence of vomiting until 5.20 p.m., when it returned with great violence, death immediately ensuing.

On *post-mortem* examination the small intestine presented, near the lower end of the ileum, a twist, caused apparently by the dragging of old fibrous adhesions; these adhesions being in the neighbourhood of, and for the most part closely connected with, calcareous deposit, the result of old mischief in the mesenteric glands. Besides this twist, a fibrous band containing fat, and apparently a bit of omentum, passed in front of the intestine and, intimately adherent to it and to cicatricial tissue above and below, caused a well-marked constriction. The intestine above the twisted and constricted portion was much congested, and enormously distended. The ileum for

the rest of its length below was empty and much contracted, this empty portion being from ten to twelve inches in length. The transverse colon presented two or three irregular contractions.

*April 5th, 1870.*

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14. *Polypoid growth in the bowel giving rise to intorsusception.*

By HENRY WILLIAM FULLER, M.D.

MARTHA D—, æt. 21, was admitted into St. George's Hospital on 22nd of November, 1869, suffering from obstruction of the bowels. She reported that at the age of twelve she had an attack of constipation, accompanied by much vomiting and by pain on the right iliac region, but that after the lapse of a week the symptoms were subdued, and the bowels acted. From that time she has been subject to constipation, the bowels rarely acting oftener than on alternate days, even then with difficulty, and often not without the aid of purgatives. With this exception, however, she had enjoyed uninterrupted health until the 16th instant, when she was suddenly seized with severe pain in the right iliac fossa, and this was followed in a few hours by vomiting. The bowels had been costive for some days prior to the attack, and had not acted on the previous day. At no time had she been subject to diarrhœa.

On admission into the hospital she was somewhat flushed, and there was some slight anxiety of countenance, but the pulse did not exceed 96: there was occasional vomiting, but it was not severe, and the matters rejected from the stomach were not stercoraceous. There was decided dulness on percussion at the seat of pain in the right iliac fossa, midway between the navel and the brim of the pelvis, and immediately around this, the intestine was distended with flatus. As it was uncertain whether free purgation had been resorted to, an effervescing saline draught, containing ʒi of sulphate of magnesia, was ordered to be taken every three hours, and a large enema was thrown up the bowels, but no action of the bowels followed, and on the next day (the 23rd) the vomiting was fœcal. The purge, therefore, was omitted: poppy fomentations were applied to the stomach; gr. i of opium was ordered to be taken every six hours; all food by

the mouth was interdicted, and an enema of beef tea was administered every four hours. Under this treatment the anxiety of countenance disappeared, the vomiting ceased, she slept soundly for three hours at a time, and became cheerful and even jocose. Still the bowels did not move; on the 27th the abdomen became more distended, and the pulse quicker, and her face again became a little drawn. Still she passed plenty of urine, which was not albuminous, and she slept at intervals. On the 29th fæcal vomiting recommenced, and she began again to complain of pain in the abdomen, which was generally tender on pressure. On the 1st of December she suddenly became collapsed, and died in the course of the afternoon.

The *post-mortem* examination took place twenty-two hours after death. The body was that of a well-made and well-nourished girl.

The pleuræ and lungs were natural; the structure of the heart and the valves were healthy; the left ventricle was firmly contracted, the right less firmly.

On opening the abdomen the intestines were seen smeared over with a layer of creamy pus; they were slightly adherent to one another, and here and there were patches of intense congestion. At these spots it was found that the ileum was the seat of ulceration, and at one spot two ulcerations had perforated the bowel, and a minute opening was found through which fæcal matter had escaped into the peritoneal cavity. The ulcers followed the source of the circular, muscular fibres of the bowel, and did not present the sharp punched-out appearance of tubercular ulceration. Their edges were neither thickened nor raised. The ulcers did not involve the glands more than the other portions of the intestine, but they were very deep and most numerous about the middle of the ileum where the perforation had taken place. The small intestine throughout its whole extent was greatly distended, and about four feet above the ileo-cæcal valve a large number of lobulated polypoid growths—about thirty—with long thin semitransparent pedicles, were attached to the mucous membrane. The largest of these polypi was about an inch or an inch and a quarter in diameter. About one foot above the ileo-cæcal valve was found a large introsuscepted portion of the small intestine in an extremely sloughy condition. On close examination it was seen that a large polypus had dragged down the portion of the bowel to which it was attached, and thus had caused it to become invaginated on the portion immediately below. Between the two layers of peritoneum at the point of invagination several tolerably firm adhesions had

formed. In the preparation brought before the Society, the polypus which had caused the mischief is visible at the free extremity of the intrususcepted portion of the bowel. About four feet and a half above the ileo-cæcal valve the small intestine was much constricted, the constriction being caused by a thickening of the coats of the bowels consequent on the cicatrisation of an old ulcer. The bowel at this spot resembled the ileo-cæcal valve, a distinct pouch like that of the cæcum having been formed immediately below the constricted portion.

The other abdominal viscera were healthy.

The preparations are preserved in the museum of St. George's Hospital.  
*May 3rd, 1870.*

15. *Non-malignant stricture of the rectum of five years' duration, caused by ovarian abscess; lumbar colotomy, death, autopsy.*

By JOHN COUPER.

THE stricture in this case was about three and a half to four inches from the anus, and did not admit the forefinger. The only certain points in the history were its long duration—more than five years—and the amount of suffering caused by it during those years. By the autopsy it was shown to have been caused by pus from an ovarian abscess finding its way into the rectum at the seat of the stricture, and also making its escape by several sinuses running beside the bowel, and opening at the buttock. The left ovary was converted into a fibrous capsule larger than a hen's egg, containing purulent fluid. From this a sinus ran to the lower part of the recto-uterine pouch of the peritoneum which contained pus. The pus was, however, shut off from the general cavity of the peritoneum by adhesion of the upper part of the uterus to the rectum. It had free vent from this space in three different directions, (*a*) backwards into the rectum by a large aperture close below the stricture, (*b*) forwards into the upper part of the vagina, (*c*) to the buttocks by sinuses traversing the connective tissue of the pelvis close to the rectum and vagina. During defecation, and also when the finger was passed up



to the stricture, fæces and purulent fluid oozed from the vagina and from the sinuses in the buttock. The woman's sufferings were such that she willingly agreed to undergo colotomy when the risks of the operation, as well as the chances of relief which it offered, had been fully explained to her. The operation itself calls for little comment in this place. The bowel was reached by the usual horizontal incision close above the iliac crest. Only one vessel spouted. It was secured by torsion. After the subperitoneal fat was exposed, a little time elapsed before the colon was reached. It was found contracted and empty, although warm water in sufficient quantity to distend the abdomen well had been thrown into it before the operation was commenced. Care was taken to introduce the injecting pipe through the stricture, and it is certain that water did reach the bowel above. The emptiness of the colon must have been due to an unusual size of the sigmoid flexure, and possibly also to contraction of the circular fibres of the exposed portion of gut, causing it to expel its contents.

During the search a small opening was made unintentionally in the peritoneum. The aperture was closed at once by a suture, and no blood passed through it.

The patient had been under chloroform thirty-five minutes.

Vomiting of an obstinate character set in, accompanied by an amount of shock out of proportion to the severity of the operation, which was of an almost bloodless character. Large doses of morphia given subcutaneously failed to relieve the irritability of stomach and remove the shock. She died forty hours from the operation. Her previous state of health led me to anticipate a better result. Scarce a trace of recent peritonitis was found after death at the wound, and no vestige of it in the general cavity of the peritoneum. Probably the shock was greatly aggravated by the chloroform vomiting.

*November 2nd, 1869.*

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16. *Congenital absence of the rectum ; operation ; death.*

By JOHN COUPER.

THE preparation was taken from a child which died three days after an unsuccessful operation for imperforate anus. I saw the child at the request of Dr. Hall, of Hornsey, about forty-six hours after its birth. The anal cul-de-sac was a mere shallow dimple, into which a probe hardly entered. I made a mesial skin incision, about three quarters of an inch in length, from the anus toward the coccyx. When the subcutaneous fat had been divided I could feel a bulging downward of the floor of the wound when the child cried, and on separating the edges of the incision there appeared what I took for the cul-de-sac of the rectum. It lay immediately above the apex of the coccyx. I readily dragged this to the surface, and on opening it was able to pass my finger into an empty mucous canal, corresponding in position and dimensions to the rectum. Having by inspection ascertained that the canal I had opened was lined by mucous membrane, and that it lay closely applied to the hollow of the sacrum, I entertained no doubt that I had found the rectum. Its emptiness was explained, as I thought, by the presence of a second interruption of the intestine, felt when the finger had reached the level of the promontory of the sacrum. After a prolonged and ineffectual search for a communication with the colon I was obliged to abandon the attempt to relieve the child by that operation. As the parents refused their sanction to a further attempt to reach the colon from the left loin, the child died unrelieved after surviving three days.

On dissection it appeared that a much dilated upper portion of the vagina had taken the place of the absent rectum, and had filled the hollow of the sacrum. It descended sufficiently low to be readily reached between the anus and coccyx when the skin and fat had been divided. I had opened it in that situation, believing it to be the rectum, which, in fact, ended in a cul-de-sac at the brim of the pelvis. While searching during the child's life for a communication with the colon I felt the os uteri, and mistook it for an invagination of the

gut, which it somewhat resembled. I was unable to pass my finger into it. Even the escape of a little blood from the vulva did not enlighten me at the moment. I at first took this to mean that the gut terminated by a narrow outlet in the vagina, but as no fæces escaped evidently such was not the case.

The preparation shows the sigmoid flexure suddenly tapering to an imperforate fibrous cord, which is adherent to the promontory of the sacrum. The vagina has its usual small dimensions at the lower end, but quickly expands into a wide diverticulum, which fills the hollow of the sacrum and replaces the rectum. The removal of a portion of the lower end of the sacrum in the preparation shows this arrangement. Had no opportunity been given me of *post-mortem* dissection I should have believed that a double interruption of the gut was present, *i. e.* that the rectum was isolated from the colon above and the anus below, and was shut at both extremities. The preparation is now in the museum of the London Hospital.

*April 5th, 1870.*

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### 17. *Peritoneal cancer.*

By J. S. BRISTOWE, M.D.

**E**S—, a brushmaker, 28 years of age, came into the hospital under my care on the 30th April, 1870. He is said to have been ailing since October, from which time he appears to have had gradually increasing enlargement of the belly, with progressive emaciation and debility, associated at first with vomiting, and persistently with diarrhœa. Early in his illness one leg became painful and œdematous, and when, at the end of a month, this subsided, the other leg became affected in the same manner.

When he came into the hospital he was extremely emaciated and feeble, and suffered from shortness of breath, but he was perfectly rational.

I did not myself see him until the morning of the 2nd May. I then learnt that he had remained in much the same state as on

admission up to the evening of the 1st, from which time he had been gradually becoming unconscious. He now lay on his back, breathing rapidly and somewhat noisily, taking no notice of what was going on around him, except that when spoken to loudly he answered "Yes, sir," and went on repeating "Yes, sir," at intervals. His face was extremely pale, his surface generally sweating copiously. The pupils were widely dilated, and did not contract under the influence of light; but they were equal, and there was no strabismus. He occasionally moved his arms, and at such times they were seen to be very tremulous. The abdomen was much enlarged, uniform of shape, and tense; there was no indication of the presence of a tumour in it, and it distinctly contained a considerable quantity of fluid, but it was not so much expanded laterally as an ascitic abdomen usually is. The superficial veins in its parietes, as also those in the thoracic walls, were remarkably dilated and tortuous. Legs a little œdematous.

Heart's sounds healthy; pulse 124, full and soft. Chest resonant in front, and free from abnormal sounds; urine albuminous.

He was able to swallow, but his evacuations had all been passed unconsciously since last night. The bowels had been somewhat relaxed.

While I was examining him and taking notes he improved a little as regards consciousness, began to take more notice of what was said to him, and put out his tongue when told to do so. It was moist and clean.

May 5th.—He continued in the above condition up to the evening of the 3rd, when he became conscious; he wandered occasionally during the ensuing night, but remained on the whole fairly sensible. On the morning of the 4th he was still sensible, knew his friends, took nourishment well, and complained much of thirst, and he continued in this state up to about four o'clock this morning, when he lapsed gradually into his previous state of insensibility. During this time he had suffered from diarrhœa; his urine had been re-examined, and found to be albuminous and of specific gravity 1030; and his temperature in the axilla had been ascertained to be 100-2. -

At the time of my visit this morning he was as nearly as possible in the same state as when I saw him first. He took no notice, lay on his side groaning, and appearing, when moved, to suffer pain; the pupils were dilated, but they acted slightly to light, the right more

readily than the left. Skin moist, pulse 128. From this time he gradually sunk, and died unconscious at 9 a.m. on the 6th.

*Post-mortem examination.*—The body was extremely emaciated, and the superficial abdominal veins were still very obvious.

There was some excess of serum in the subarachnoid tissue and marked congestion of the pia mater, but in all other respects the brain and all parts connected with it were healthy-looking.

Pericardium and heart healthy. There were some adhesions at the base of the right lung, and some cancerous nodules in the pleura of this part; the right lung also contained a few minute cancerous spots. In all other respects the pulmonary organs were healthy.

The peritoneal cavity contained a few pints of clear straw-coloured serum, and connected with nearly every part of its surface were innumerable rounded white lumps, single or clustered, and varying individually from the size of a hazel-nut to points just visible with the naked eye. These were most abundant in connection with the parietal peritoneum (including that of the diaphragm and of the pelvis) and the great omentum, which latter had very much the aspect (at least in some parts) of being formed of innumerable clusters of various-sized white currants, and formed a large loose floating mass. Considerable numbers were connected also with the surface of the stomach and intestines and mesentery, and a few sprung from the capsule of the liver and the spleen.

All the smaller tumours (that is to say, those up to the size of a small pea) were smooth, and either globular or lenticular, the latter being in many cases remarkably flattened. Some seemed imbedded in the substance of the serous membrane, some were attached to it by broad bases, some by mere points of their circumference, while numbers of them (even of the most minute) were suspended by means of thread-like peduncles, varying from about a line in length downwards, and of exquisite tenuity. The larger ones were more or less lobulated, and these, together also with some of the smaller ones, had in some places run together, and thus formed lobulated masses to which it would be difficult to assign any definite size. These masses were chiefly abundant in that part of the great omentum which was connected with the stomach and the transverse colon, and about the coronary ligament of the liver.

The peritoneal membrane appeared to be generally opaque; undoubtedly there was unusual opacity of the mesentery, and that irrespective of the tumours which sprung from its surface.

Although much of the great omentum was occupied by the clustered masses, and was thus rendered perfectly opaque and totally unlike great omentum, large tracts of this duplicature (though studded pretty thickly with scattered single nodules) retained their membranous character. These membranous portions were, I think (though the fact did not strike me at first), generally a little more opaque and milky than natural, and they were studded very thickly with well-defined round perforations, varying from the size of mere pin-holes to a quarter of an inch in diameter. They were traversed, moreover, by numerous branching bands of an opaque white aspect, due evidently to some deposit in the substance of the membrane: which bands were flattened in conformity with the surface of the membrane, and presented edges which were more or less irregular, being here and there sinuous, here and there hairy with minute offshoots, here and there passing off gradually into the surrounding healthier tissues, and frequently studded in their course with distinct though minute tumours. To describe the arrangement from another point of view, it may be said that (at all events in many cases) the white tumours (especially those imbedded in the substance of the membrane) formed the centres from which innumerable processes or rootlets branched into the tissues around. The branching lines had very much the character which would be produced by making marks with ink upon a damp surface, or by wetting a surface on which such lines had been somewhat freshly drawn. In some cases it was quite obvious that the bands above described were determined by the course of the small vessels.

The stomach and intestines were, so far as regards their muscular and mucous coats, quite healthy. The liver weighed 5lb. 11 oz.; its capsule was thickened and adherent to the diaphragm. It contained several masses of cancer, of which one, as large as an orange, occupied the back part of the right lobe. The splenic capsule was thickened; the spleen itself weighed 5½ oz., and was healthy. Pancreas healthy. The kidneys weighed together 11 oz.; they were somewhat congested, but in all other respects appeared to be normal.

The mesenteric glands were little, if at all, affected, but some of the glands at the back of the abdomen were the seat of cancerous growth.

Microscopic examination showed that all the distinct cancerous nodules were formed of densely packed groups of large, irregular, nucleated cells, individually like those of scaly epithelium, par-

ticularly, perhaps, like those of the urinary bladder ; and it showed that in the great omentum (and presumably, therefore, elsewhere) there were numerous cancerous tumours or nodules, which were invisible to the naked eye, but in other respects exactly resembling the larger and more obvious tumours. These latter (of which I have represented one of the smallest, Plate IX, fig. 2) appeared to be composed entirely of clusters of large, closely compacted cells, and presented a very definite outline or line of separation from the tissues in which they were imbedded. The microscope showed also that the white branching lines were composed almost entirely of close-set cells of much smaller size than those just described, cells resembling closely in size and general character those of lymphatic glands ; and it showed also (a fact for which I was not at all prepared) that every part of the great omentum, including those parts which were membranous, transparent, and which the naked eye might have regarded as healthy, were similarly studded with these smaller cells, which were so abundant that they concealed the normal fibrous tissue of the part. I believe, indeed, that they in great measure replaced it. One of the appended drawings (Plate IX, fig. 2c) exhibits a portion of the membrane here described. I made a careful comparison of the tissues of the great omentum in this case with that of the great omentum taken from a patient who had died of a totally different kind of disease, and the contrast between them was striking. In the healthy membrane, before the application of reagents, nothing was visible except wavy bands and fibres of white fibrous tissue ; and after the application of acetic acid the delicate nuclei of the serous epithelium became very distinct ; while in the apparently healthy portions of membrane from the present case no white fibrous tissue whatever could be distinguished, nothing but a kind of fibrillated matrix crowded with the cells which have been described.

It would seem as if the whole of the peritoneal membrane, commencing from the lines of small vessels, had become the seat of the formation of lymph-like cells, and that here and there among these, and probably from them, groups of large cells became developed, which groups, increasing in size, ultimately formed the tumours visible to the unaided eye.

I must acknowledge that the case puzzled me a good deal while the patient was still living. I need not go into the alternative opinions which I passed in review, nor give the reasons which induced me to lean to the belief that the patient was suffering from

general tuberculosis, with involvement of the membranes of the brain. But I must confess that I was very much surprised to find the brain and its membranes apparently free from disease; certainly, beyond some congestion, there was nothing in the condition of the part which to the naked eye indicated departure from health. It was only some days subsequently to the performance of the *post-mortem* examination that the generally diseased condition of even the apparently healthy portions of the peritoneum were discovered; and that discovery raised a very strong suspicion in my mind that if the pia mater had been similarly examined the same kind of diseased condition would have been discovered there. It was, however, too late then to verify this suspicion. *May 17th, 1870.*

18. *Two cases of fibrous tubercular growth in the peritoneum, with caseous formations in other organs.*

By J. F. PAYNE, M.B.

CASE 1.—*General miliary tubercle of the peritoneum; vomica in one lung without separate granulations; induration of the pylorus.*

WILLIAM J—, æt. 40, a pianoforte maker, was admitted into St. Mary's Hospital, March 21st, 1870, under Dr. Sieveking. The patient, on admission, was much emaciated; he stated that he had been losing flesh for about four months, but before that time had had no serious illness, except that twenty years before he had suffered from what he believed to be syphilis. His illness came on with vomiting and other gastric symptoms, and ever since he had suffered from pain in the abdomen, not in the epigastrium, increased on pressure, with constant vomiting after food. The region of the stomach was retracted; there was no enlargement of the liver. The whole of the thorax was resonant; there was no cough or dyspnoea. The vomited matters were strongly acid, with a brown yeasty foam on the surface, in which were a large number of sarcinae. The exhibition of hyposulphite of soda removed the sarcinae and at first



diminished the vomiting, which, however, soon returned, and did not again leave him. The urine was several times found to contain a small quantity of albumen. During the whole of his illness he complained of feeling cold, and the body temperature was found to range from  $95.6^{\circ}$  to  $96.4^{\circ}$ . He died, apparently from inanition, on April 16th, 1870.

*Post-mortem examination, two days after death.*—Body extremely emaciated. The right lung contained in its upper lobe, but some distance from the apex, a cavity as large as a walnut, with ragged inner surface, and dense walls infiltrated with yellow caseous matter. Some bronchial tubes as large as a crowquill opened into the cavity, and one or two trabeculæ of lung tissue ran across it. Its general appearance was not precisely that of a vomica formed in chronic phthisis. It contained a good deal of nearly liquid yellow puriform matter. No tubercular granulations were seen round it, or in any part of either lung, nor was there any other caseous mass. The remainder of right lung and whole of left lung were quite natural. The heart was very small, but natural. The stomach was very large, and contained a large quantity of black liquid matter, like coffee grounds. There were marks of hæmorrhage on the mucous surface, which was generally vascular and thickened. Near the pyloric extremity, on the larger curvature, was a round ulcer, half an inch in diameter, with thickened edges and hard base. From this to the pylorus the walls were very much thickened, more than a quarter of an inch in section. The pyloric orifice itself was much contracted, being less than a quarter of an inch in diameter, but by general thickening rather than by any distinct tumour. In the duodenum was a round ulcer as large as that in the stomach, but without thickening or induration. The peritoneum contained no fluid; it was slightly hyperæmic, but there was no general inflammation, thickening, or shortening. On its surface were a number of nodules and granulations, of which the larger were the size of a pea, and resembled lymphatic glands, while others were hardly perceptible; some were connected with fibrous threads and others pendulous. A careful examination left no doubt that these were tubercular. The mesenteric and lumbar lymphatic glands were not enlarged. The intestines were examined in several parts and found quite normal. Urinary organs natural. All other viscera natural.

*Microscopic examination* of the cavity in the lungs showed that, though there were no discrete tubercles, there was general tuber-

cular infiltration of the walls of the pulmonary alveoli, which were studded with small round cells and some nuclei with indistinguishable protoplasm. The ulcers in stomach and duodenum showed no tubercular structure, and were apparently of the kind commonly met with in this situation. The appearance of one of the smallest tubercles from the omentum is represented in the accompanying figure (Plate V, fig. 2). It is quite unlike any syphilitic growth yet described.

CASE 2. — *General thickening and adhesions of peritoneum from fibroid tubercular growth; caseous material in lungs and suprarenal capsules.*

Benjamin Cook, æt. 38, admitted into St. Mary's Hospital, March 22nd, 1869; died March 23rd, under care of Dr. Sibson.

When admitted was in a state of collapse, but complaining of severe pain in the abdomen. He died in eight hours after admission.

*Post-mortem examination, thirty-six hours after death.*—Body thin. On opening abdomen the liver was found depressed, its lower edge being two and a half inches from umbilicus, and bound down by adhesions of the peritoneum. The left lobe was firmly adherent to a fold of peritoneum reflected from the abdominal walls, which formed a crescent-shaped band reaching nearly to the pubes. The right lobe was attached to a similar and corresponding band situated at about the same distance from the middle line on the other side, so that the two left a longish oval opening, the edges of which were tightly stretched. The liver was further adherent to the transverse colon, the mesocolon, and the great omentum. The adhesions were formed by dark grey cords and bands, sometimes nearly a quarter of an inch thick, intersecting in every direction and uniting together all the folds of small intestine. There were also round nodules, as large as a pea or smaller, on the surface of the peritoneum, from which proceeded numerous fibrous cords. The substance of all these growths was hard and fibroid, not caseous. In some parts of the peritoneum very small miliary granulations were seen. The liver had its capsule thickened irregularly with white tallowy patches, and thick fibrous bands connected it with the peritoneum. Its substance just below the capsule was indurated, and fibrous bands could be traced into it from the capsule itself. There were also considerable



## DESCRIPTION OF PLATE V.

Fig. 1 illustrates specimens of Syphilitic Growths in the Liver, exhibited by Dr. Payne (page 211) from drawings by Dr. Cavafy. Magnified 420 diameters.

Fig. 1. The figure represents a portion of liver from the periphery of a large syphilitic tumour; the liver-cells mostly removed by pencilling.

*a.* Nucleated growth.

*b b b.* Spaces from which liver-cells have been removed.

*c c.* Liver-cells *in situ*; hardly altered by the new growths.

Fig. 2 illustrates a case of Miliary Tubercle of the Omentum, exhibited by Dr. Payne (page 200), from drawings by Dr. Cavafy. Magnified 420 diameters.

Fig. 2. *a* represents one of the smallest miliary tubercles in the omentum.

*b.* Beginning of another focus of tubercular growth, which is becoming connected with the former by cell-growth.

*c.* Extension of tubercular growth by multiplication of small cells, which show a tendency to form a fibrous structure.

All the isolated cells are distinctly superficial, showing that the growth originates in the serous epithelium rather than in the deeply-seated cells.

Fig. 3 illustrates a case of Disseminated Growths throughout the Liver, with Fibrous Granulations on the Peritoneum. Exhibited by Dr. Payne. (Page 238.) From drawings by Dr. Cavafy. Magnified 420 diameters.

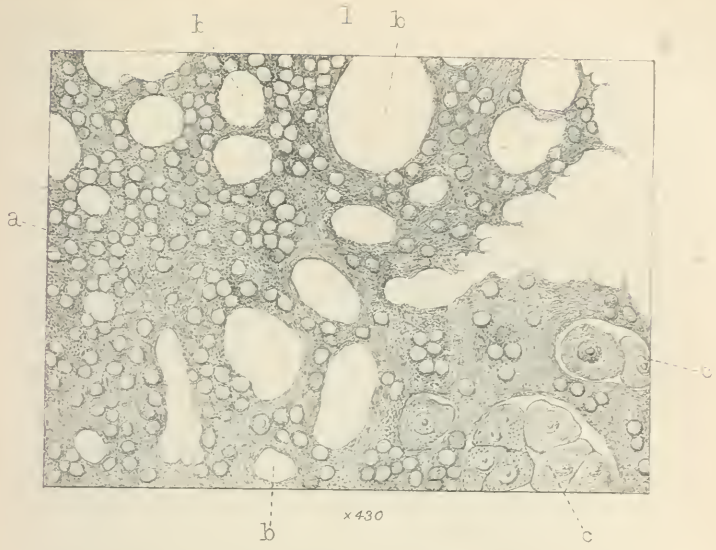
Fig. 3. The figure represents a portion of liver showing a nuclear growth, extending along the intercellular network; the liver-cells mostly removed by pencilling.

*a.* Nucleated growth.

*b b b.* Spaces from which liver-cells have been removed.

*c c.* Liver-cells left *in situ*; almost unaffected by the new formation.

*d.* Amorphous granular mass; probably resulting from the transformation of liver-cells.





fibrous areas round the portal canals, and in one place a round capsulated nodule of caseous consistence was found. The capsule of the spleen was also thickened. The mucous surface of the intestines natural. The inguinal and mediastinal glands not enlarged or hardened. No traces of syphilis on the penis. The lungs both contained scrofulous matter, viz. in the apex of the right was a nodule, as large as a pea, of hard obsolete scrofulous or tuberculous matter, which was of a grey colour and cartilaginous consistency, not calcified. In the left apex was a mass, as large as a hazel nut, of incapsulated caseous material. Both suprarenal capsules contained degenerated caseous matter. The other organs were natural.

The microscopical examination of the fibrous masses in the peritoneum showed either indistinct fibrous structure or amorphous material, freely punctated with fat. The younger or less advanced portions showed miliary granulations which agreed precisely with the appearance presented by miliary tubercle of the peritoneum.

*Remarks.*—The interest of the first of these cases lies in the association of general miliary tuberculosis of the peritoneum with a softened cavity not connected with separate tubercles in the lungs. The significance of one such case is not much, but when many such are accumulated they tend to show the dependence of generalised tubercle upon caseous degeneration. Moreover, the extreme degree of emaciation to which the patient was reduced brought out with special clearness the mode of growth of the minute tubercles in the omentum represented in the accompanying figure (Plate V, fig. 2).

The second case was a very peculiar one, and differed widely from the classical type of tubercular peritonitis. Masses of horny fibroid tissue, which were evidently the result of tubercular growth, reached a very considerable bulk and thickness without passing into caseous degeneration, while the condition of other organs plainly showed that the patient was affected with phthisis, probably tubercular. It is now generally agreed that all caseous masses do not represent tubercle, and it would seem that neither can the converse affirmative proposition be made general, viz. that all tubercular growths become caseous, for a fibroid or even truly fibrous condition may just as well be their final metamorphosis. This fact may lead us to see a closer connection between tubercle and certain states of the lung called fibroid or fibrous; this character, at all events, is not in itself

sufficient to exclude such formations from the category of tubercle. The close affinity of fibroid and tubercular growths has already been defended on very various grounds by many pathologists. It must be admitted that the affection of the lungs was not, taken alone, characteristic of tubercle.

May 17th, 1870.

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(B) DISEASES, ETC., OF THE LIVER.

19. *Syphilitic cirrhosis of liver.*

By FREDERICK ROBINSON, M.D.

W R—, æt. 22, military service three years, a young soldier of delicate appearance, was admitted into the Hospital of the Scots Fusilier Guards on August 12th, 1869. He had then a sore on the glans penis, which he had concealed for some time. It was slightly indurated, and the induration increased further afterwards. The glands in the groins were enlarged. This man was also under treatment in 1867–8 with syphilis, a sore, cup-shaped, with indurated base, situated at the extremity of the prepuce, which latter was phymosed. He then was put mildly under the influence of mercury by means of inunction. He remained in hospital a period of twenty-nine weeks, and the records of the case do not speak of the employment of any other remedies. The inference, therefore, is that the man remained in a debilitated state unfitted for military duty. No secondary affection was known to have supervened or occurred between these two periods, but some doubt is necessarily entertained on this head, owing to the patient's desire to avoid coming to hospital. The only other admissions during the patient's period of service were of a trifling nature, boils and such like. He was a man of irregular habits, but not said to be addicted to drink.

After his last entry into hospital, August 12th, the sore healed up in a few days under simple treatment—lotions. As some degree of hardness existed, it was thought advisable by the medical officer then in charge to administer iodide of potass in combination with a vegetable tonic. The patient was in a cachectic state, and his



strength was supported by a liberal diet; no secondary affection, however, followed.

On September 25th he was attacked with diarrhœa of an obstinate form, associated with flatus, and which did not yield readily to the treatment pursued. It consisted of alterative doses of grey powder with Dover's powder, vegetable astringents, and enemata of starch and opium. On the 30th September it became evident that effusion of fluid had taken place into the cavity of the abdomen; the urine was then scanty and high-coloured, the skin dry.

Diuretics in various forms and combinations failed to afford relief, and the fluid continued gradually to increase until the distension of the abdomen caused much pain. On October 3rd, when the patient was first seen by me, I found him in this condition. The kidneys acted very little, some ten ounces in the twenty-four hours. The bowels were settled; skin wanting in the performance of its function; tongue tolerably clean, not indicative of gastric disturbance. On examination the liver was not found to be enlarged, as far as the state of the case admitted an opinion to be formed. The pulse was tolerably good. With a view to relieve the patient's distress, about a week before death the question of tapping the abdomen was entertained, and antecedent to such proceeding the thoracic viscera were examined, to ascertain how far their state warranted the step. The lad had complained of pain referable to the hepatic region and epigastrium occasionally, and the symptom was believed to be attributable to the organs in such locality. It was unaccompanied by marked febrile disturbance, and soon relieved by hot fomentations. When the chest was examined, however, there was evidence of extensive effusion in the right side, although not associated with any marked difference in the size; no protrusion of the wall. This circumstance precluded operative interference. The patient lingered until October the 16th, his life being sustained by the large quantity of nourishment and stimulants which he was able to take. Towards the end of the illness the kidneys almost completely failed to perform their function, some six ounces of urine only being voided in twenty-four hours. No albumen was found in it; it was loaded, tinged with bile sometimes, and of acid reaction. The stools were dark coloured and scanty.

*Autopsy.*—The upper part of body somewhat emaciated—the lower extremities very slightly.

*Chest.*—The right side, although not bulged out perceptibly, con-

tained nearly eighty ounces of clear serum. The right lung, free from pleuritic deposit, lay close to the spine, compressed to the size of a small closed fist.

There was extensive deposit of lymph, both old and recent, on the diaphragmatic pleura of this side.

Heart somewhat large, structure healthy.

The left lung healthy, as well as its investment.

*Abdomen.*—A large quantity of fluid, of the same character as that contained in the chest, was found in the abdomen. The intestines were firmly agglutinated to each other and the liver by somewhat recent exudation of lymph, shreds of which also lay loose on the surface.

*Liver.*—This organ, below the normal size, weighed about 2 lb. 6 oz. It was dense and firm in structure, of yellow colour, the whole areolar tissue infiltrated apparently with the deposit described by recent authorities as syphilitic. The under surface of the viscus was lobulated. There was an absence of the "hobnail" character pathognomonic, when taken with the more shrunken, corrugated appearance and smaller bulk of the cirrhosis of drunkards.

*Kidneys.*—Were of large size, much congested, but otherwise healthy.

*Remarks.*—The history in this case was essentially syphilitic in character. The first sore would appear to have been of a specific character, but there is no conclusive evidence of secondary symptoms following, only a state of cachexia while the man was under observation in hospital. Possibly they may have supervened and been neglected after his discharge to duty. The second admission, also for a sore of doubtful appearance, tends somewhat to oppose the views of surgeons who maintain that insusceptibility to the disease follows after inoculation previously with true syphilis. It was stated by the orderlies that the man, during the time he was first in hospital, complained of pain or uneasiness in the abdomen. The opinion may, perhaps, be hazarded, in the absence of direct testimony to the contrary, that the materies morbi, failing to be eliminated by the skin and other excretory channels, became centred in the liver, thus engendering a somewhat rare form of syphilitic deposit, while leaving the other viscera unaffected. The association, too, with dropsy I am not aware has been found before with such disease.

October 19th, 1869.

*Report by the Committee of Morbid Growths on the specimen exhibited by Dr. F. Robinson as "syphilitic cirrhosis of the liver."*—The liver is scarcely more than one half of the normal size, and weighs only about thirty-eight ounces. Every part is uniformly atrophied. The outer surface is nowhere nodulated or granular, and presents no cicatrix-like depressions, nor any fibrous thickening of the capsule. In the interior, also, there are no deposits like the "fibroid nodules" usually ascribed to syphilis, and the tissue nowhere exhibits any amyloid reaction. The morbid appearances of the organs are as follows:

Lying beneath the serous membrane, which presents its usual smooth and polished surface, is a thick layer of a pale greyish, firm, uniform tissue. In some places this is of considerable thickness. It penetrates amongst the lobules, so as to divide them into masses more or less insulated, which at their well-defined margins have a foliated appearance, and the yellowish colour of which contrast strongly with the pale tint of the new deposit.

In structure this tissue is granular. In some parts it is void of definite arrangement, but in others it has, when seen under moderate powers, a fibrous appearance; but there are no definite fibres, and the appearance is the result of a linear arrangement of the granular matter.

It is abundantly supplied with vessels, and in some parts the remains of the bile-ducts can be seen.

Thickly studding this granular matrix large cells are observed—some solitary, many arranged in rows or in clusters. The cells are mostly ovoid or circular in form, but some have an angular outline; they contain granules, but not oil.

Where the granular formation encroaches on the lobules these are found to be broken up, and at their margins the cells can be seen to be dispersed in the tissue, presenting the same appearances as do the separated cells in the surrounding matrix.

The cells vary very much in definition, some showing a clear marked outline, from which there are gradations down to those which look like mere spots of discoloration. The farther the section is taken from the lobules the fewer and more indistinct do the cells appear to be, but they can be traced in every part.

The secreting cells in the lobules of the liver are smaller and less angular than natural. They contain much granular matter, but little oil or pigment.

The appearances presented by the liver in this case are not such as have been ordinarily referred to syphilis. There were no fibroid nodules in the interior, and no cicatrix-like depressions on the exterior, such as are common in syphilitic peri-hepatitis. The disease appears to be an example of what Frerichs and other pathologists have described as "simple induration of the liver." In this affection "a dense mass of areolar tissue becomes substituted for the parenchyma of the liver, from which, in many cases, every trace of the glandular tissue has disappeared over large spaces, whilst at other parts brown, uniformly distributed dots of the remnants of the secreting cells can still be distinguished. The surface of the organ, under such circumstances, is sometimes smooth. . . . . The extent to which the liver is involved in this induration varies. Sometimes the induration extends throughout the entire thickness, while at other times it penetrates from the surface more or less deeply into the parenchyma, and is separated from the surrounding glandular tissue by a sharply defined margin."<sup>1</sup>

The etiology of this simple induration of the liver is still obscure; but in two cases observed by Frerichs, one of which he has recorded in detail, the disease was induced by an attack of peritonitis, and it is to be observed that in the case submitted to us for investigation not only did the abdomen contain a large quantity of fluid, but "the intestines were firmly agglutinated to each other and to the liver by somewhat recent exudation of lymph, shreds of which also lay loose on the surface."

The liver exhibited by Dr. Robinson is a rare and remarkable form of disease, but the conclusion at which your Committee has arrived is that it does not present any of the lesions usually found associated with syphilis, while it may be added that, although there is a history of the patient having twice suffered from venereal sores, there is no evidence of his constitution having become infected with syphilis.

C. MURCHISON,  
CAMPBELL DE MORGAN.

*December 21st, 1869.*

<sup>1</sup> Frerichs, 'Klinik der Leberkrankheiten,' Syd. Soc. Trans., vol. ii, p. 96; also 'Atlas,' vol. ii, plate v, fig. 1, which represents appearances similar to those found in the liver examined by the Committee.

20. *Three cases of syphilitic growths in the liver.*

By J. F. PAYNE, M.B.

CASE 1.—J. P—, æt. 30, admitted into St. Mary's Hospital January 7th, 1870, under the care of Dr. Sibson; died there February 8th. He was on admission much emaciated, but the abdomen was greatly distended with fluid, the lower ribs being a good deal pressed outwards. He complained of pain in the stomach and across the loins, especially on the right side. The spleen was found to be enlarged. There was dulness at the apex of the right lung, and over nearly the whole of the left. The urine was scanty, turbid, and albuminous. According to his own account he had generally enjoyed good health, and had not noticed the swelling of his body till a fortnight before admission, but he had been losing flesh for some little time. The slight cough which troubled him he referred only to the last few days. While in hospital the abdominal pain and distension increased, and he suffered from epistaxis. He was twice tapped, with very great temporary relief, two gallons of fluid being removed on the first occasion, and nearly as much on the second. He died in great pain and prostration.

The liver could not be felt during life, except immediately after the tapping, when it was felt below the ribs, and recognised as hard and irregular in shape.

The patient confessed to having drunk a good deal.

At the *post-mortem* examination the abdomen contained a large quantity of fluid. The thorax was much encroached upon by the highly arched diaphragm. The lungs completely covered the heart, and were very generally adherent on both sides. The apex of the right lung was very much indurated, with numerous hard fibrous granulations and nodules, some of which were caseous in the centre, and some calcified. Similar structures were found distributed all through the upper lobe of the left lung. The lower lobes of both lungs were engorged. The liver was found lying at the back of the abdomen, near the spine, and though large, weighing 6 lbs. 15 oz., presented only a small area on the anterior surface. It was dark coloured, with a granulated surface, and had several large nodes projecting on its surface. In one or two places there were depres-

sions. The elevations were principally in the upper surface, but not entirely. The lobulus quadratus was so much nodulated as to resemble a group of enlarged lymphatic glands. On section these projections were found to be caused by a number of hard yellowish-white tumours, from three quarters to three inches in diameter. They were generally irregular in outline, sending out prolongations into the neighbouring liver tissue, which was indurated and pale. The mass of the tumours was composed of firm, opaque, granular material, not fibrous, not giving any juice on pressure. The outer part was pearly and translucent fibrous tissue, having somewhat the appearance of a capsule. Several of them contained small cystic spaces filled with biliary matter. The remaining liver tissue was firm, dark coloured, and coarse in texture, recalling the early stage of cirrhosis. The depressions corresponded to fibrous cicatrices, each enclosing a small yellow granular mass. The spleen was large, weighing  $20\frac{1}{2}$  oz., very dark coloured, and full of blood. Its substance was firm and looked waxy, but gave no reaction with iodine. The penis showed a well-marked hard cicatrix in the corona glandis, evidently resulting from a chancre. The inguinal glands were not notably altered. No other sign of syphilis was observed.

CASE 2.—William H—, æt. 38, was admitted into St. Mary's Hospital November 26th, 1869, under the care of Dr. Sibson, and died there February 7th, 1870. He was suffering from well-marked symptoms of chronic morbus Brightii or tubular nephritis. He had swollen abdomen and legs, scanty urine, with abundant albumen and hyaline casts, &c. The disease had come on insidiously, the first symptoms having been observed about six months before, and ran the course usual in such cases. No inquiry was made regarding syphilis.

At the *post-mortem* examination the body was found very pale; abdomen distended and legs anasarcaous. The pleuræ contained much serum. Lungs: upper lobes on both sides œdematous, lower lobes consolidated. No hypertrophy of the heart, which weighed  $10\frac{1}{4}$  oz. The liver was of moderate size and pale, its capsule opaque and irregularly thickened. On the upper surface of right lobe were several depressions corresponding to irregular solid tumours, some of which were yellow, others more greyish, and each surrounded by some firmer tissue resembling a capsule. The largest was about two inches in diameter, the others smaller. There were altogether about

twelve. The liver tissue around them was not altered, so far as seen with the naked eye, and the organ generally was not affected. The spleen was small, the capsule thickened, and the substance containing a number of translucent granules like sago, which were coloured brown by iodine. Kidneys large, weighing together  $18\frac{1}{2}$  oz.; surface smooth, substance pale, especially the cortex, which was increased. Microscopical examination showed general tubular nephritis, with commencing waxy degeneration of the Malpighian tufts. There was no cicatrix on the penis, or any other sign of syphilis.

CASE 3.—Thomas B—, æt. 40, was admitted into St. Mary's Hospital April 24th, 1869, under Mr. Haynes Walton, and died May 20th. He was suffering from a lacerated and contused wound of the left shin, exposing the tibia, which had been caused by the wheel of an omnibus.

In about three weeks after his admission symptoms of pyæmia came on; the attack proved fatal in three days. At the *post-mortem* examination the lungs were found simply œdematous, but there were well-marked pyæmic abscesses in the liver, and a number of similar small abscesses in the spleen. Besides these abscesses the liver contained several nodules of fibroid material, parts of which were yellow and almost caseous. The yellow material was in the centre, and surrounded by the fibrous cicatricial masses. Above each of these masses, which were near the upper surface of the right lobe, was a considerable depression, so that great irregularity of outline was produced. The organ generally also was unequally contracted and shrivelled. The kidneys were very large (weighing together 22 ounces); they were smooth, and on section showed a cortical portion very greatly increased and extremely fatty. They gave no amyloid reaction with iodine.

There is no record of any signs of syphilis, and it does not appear that any inquiries were made during life.

*Remarks.*—The minute structure of the growths met with in these three cases was in all the same, and may be thus described. The central parts of each tumour were composed of granular, almost amorphous material, not fibrous, though sometimes with indistinct fibrillation.<sup>1</sup> There were in these parts hardly any nuclear or cell

<sup>1</sup> Treatment with much acetic acid, or immersion of thin slices in Canada balsam, showed in many parts a very dense fibrillar network.

forms. The only structures which seemed characteristic were certain round or irregular translucent bodies of the size of several lymph-cells, which were imbedded in the granular mass. It seemed probable that these masses represented collections of degenerated liver-cells. There were also very numerous fine granules of fat, but not any distinct or larger drops. The granular portions passed imperceptibly into fibro-nucleated structure, which formed a transition to the external fibrous tissue, but was not universal or characteristic.

The fibrous tissue, which formed a kind of capsule round the mass, was in a thin section remarkably transparent, and in this respect contrasted both with the central parts of the tumour and with the liver substance outside. A section through the circumference of the tumour showed, when viewed with a low power, the opaque centre, the transparent zone of fibrous tissue, and a portion outside this where the fibrous tissue and the liver substance were irregularly arranged in belts or islands. When examined with a higher power the fibrous zone was seen to consist of dense connective tissue, in which were crescentic or irregular spaces, containing fatty globules or granular matter, evidently resulting from the incarceration and decay of liver-cells, but also, as it was thought, sometimes from the obliteration of vessels containing blood. This fibrous structure was separated by no clear line from the amorphous mass in the centre, and on the outside was clearly continuous with the interstitial connective tissue of the liver, for it could be traced into masses of nucleated tissue, which plainly arose from the interlobular network.

In the liver tissue outside the tumours small foci of this nucleated growth were easily traced. They appeared to start in the neighbourhood of the portal canals, that is, either round small branches of the portal vein or of the hepatic artery. The *venæ centrales* seemed not to be affected, and might often be seen with unaltered walls in the neighbourhood of such growths. In almost all some sign of the transverse striation of an artery could be made out. These nucleated growths are, in the earliest stage, similar to the beginning of ordinary cirrhosis. Nor would it have been possible to distinguish the closely set collections of nuclei from the early stage of tubercle or that of the structure described as "adenoid tissue." In a somewhat more advanced stage the morbid growth seemed, however, to agree with the latter and differ from the former species of growth in



this respect, that it was especially situated in and caused a general thickening of the intercellular network of the liver. Taking its rise, as has been said, in the neighbourhood of the portal canals, a nucleated growth spreads along the *tela conjunctiva*, gradually incarcerating and destroying the liver-cells. When these are removed from the section, by pencilling or otherwise, a network comes into view corresponding with the normal structure, but enormously increased in thickness, and with meshes proportionately small (see Plate V, fig. 1). It is singular that though the liver-cells gradually disappear, leaving a mass of fibro-nucleated tissue, they never became gorged with fat and bile-pigment, as in cirrhosis. Whether the growth proceeds from the "lymphatic sheaths" of the capillaries<sup>1</sup> could not be made out. No new formation of blood-vessels could be seen, and it seemed as if the pre-existing vessels became obliterated, so that the condition contrasted very greatly with the vascular richness of the newly formed fibrous tissue in cirrhosis. The deficiency in, or loss of, vascular supply is doubtless connected with the early decay of syphilitic growths, and explains to us how it is so large a portion of each tumour consists of tissue which is degenerated, and has lost all distinct anatomical character.

Looking at the continuity of the amorphous central portions, the intermediate fibrous structure and the nucleated growths, we cannot but regard them as originally identical, and are led to adopt the interpretation of Virchow<sup>2</sup> that these three structures represent the beginning, the acme, and the decline of one organic growth, each part of the tumour successively passing through these three stages. This view differs very much from the interpretation of the same phenomena given in earlier volumes of the Society's 'Transactions' by Dr. Bristowe, Dr. Wilks, and some other pathologists. They speak of the amorphous central portions of these tumours under the name of fibrinous deposit or lowly organized deposit, as being the characteristic condition, and not, as is here supposed, the stage of involution and decay. A careful study, however, of the gradations of structure must show that the amorphous condition is one subsequent and not prior to organization. The explanation of Virchow has also been

<sup>1</sup> Hering (Stricker's 'Handbuch der Lehre von den Geweben') questions the existence of these sheaths.

<sup>2</sup> Virchow, 'Archiv,' xv; 'Krankhafte Geschwülste,' ii, 427; also Klebs, 'Pathologische Anatomie,' p. 411.

attacked and a very different view of the growth of syphilitic gummata taken by MM. Cornil and Ranvier.<sup>1</sup> These observers found their views on the observation of tumours which they believe to have been in an earlier stage of development than those usually met with. They describe a syphilitic tumour as one which reaches a considerable size and becomes highly vascular before undergoing degeneration, so that its history is not represented by the scheme of Virchow, and the fibrous tissue which he regards as the intermediate stage of growth they believe to be probably of later formation. The type of growth described in this paper as existing in the margin of the tumours they recognise only as occurring in general syphilitic cirrhosis, and not, apparently, as the process by which gummata are formed. But it was clear in two of these cases that such a growth was going on, and was adding to the bulk of the tumours; a fact confirmed by the history, which clearly showed increasing obstruction of the liver. So that if this be not the mode of origin of gummata, it is certainly a method by which they increase. The only other way of stating the facts would be that the case was one of gummata, combined with general syphilitic induration of the liver. However this may be, it is a fact of great practical as well as theoretical importance that syphilitic tumours do not of necessity undergo involution or remain stationary, but that even when the degenerative process is going on there may be in another part increase of the growth.

P.S.—In connection with these cases there is one recorded in this volume (p. 236) of a peculiar general affection of the liver, where the microscopical appearance agreed precisely with that of the early stage of the morbid growth here described. *March 15th, 1870.*

*Report upon Dr. Payne's specimens of syphilitic growths in the liver.*—We have carefully examined the specimens submitted to us, together with fresh thin sections and those already made by Dr. Payne and kindly placed by him at our disposal, and we have little to add to the detailed report already furnished by Dr. Payne. We think, however, that we can generally detect, towards the borders of the nodules, traces of a fibrillated stroma, and of small, round, or angular corpuscles; and as the same structures are clearly seen in the capsule and its prolongations into the surrounding liver tissue,

<sup>1</sup> 'Manuel d'Histologie Pathologique,' p. 191.

we have little doubt that the bulk of these tumours consisted originally of this fibro-nuclear tissue, which has undergone degeneration in the centre, whilst still, in some places, growing at the margins.

C. H. FAGGE,  
HENRY ARNOTT.

*April 19th, 1870.*

I have less hesitation in confirming this opinion, since it agrees in the main with most of the observations already recorded. In other and more recent gummata, where little caseation has occurred, I have noticed the growths to be made up, in some instances, almost wholly of these small, round nuclear bodies imbedded in a scanty granular-looking or fibrillated stroma, and surrounded by nothing like a capsule, whilst in others the same nuclei have been contained in the meshes of a very distinctly fibrillated network, sometimes each corpuscle in a single alveolus, as described by E. Wagner, but more generally in larger groups, then much resembling lymphatic gland structure, to which this tissue has been compared by Foerster. I have thought that the mode of preparation has affected these appearances, sections taken from pieces of liver hardened in a solution of chromic acid showing the alveolar structure more clearly than those taken from fresh or spirit-preserved specimens. Since, then, these growths are often microscopically indistinguishable from early cirrhosis, or from grey tubercle, or from the structure met with in the floor of an indurated ulcer, or, in some instances, from the fibroid induration of a chronically diseased lung, I believe that we should regard them (with Billroth) as of purely inflammatory origin, and hence retain the idea suggested by Wedl, that these tumours differ from the changes met with in ordinary cirrhosis only in that the hepatic parenchyma is affected in a concrete rather than in a diffuse form, the essential inflammatory process being identical in the two cases.

*April 19th, 1870.*

HENRY ARNOTT.

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21. *Syphilitic disease of the liver, associated with amyloid disease of all the viscera and peritonitis, in an imperfectly developed girl, æt. 20 years.*

By HENRY MORRIS.

*History.*—Emmeline M—, æt. 20 years, born of healthy parents, the mother still alive, the father committed suicide a few years ago. The mother has had three miscarriages and nine children in quick succession, the miscarriages occurring at the fourth, eighth and eleventh confinements. The subject of the present remarks was the eighth child; five of those older and the one younger than her are all living, and enjoy good health. The cause of the deaths of the other two children could not be ascertained. The mother has never suckled any of her children, and for this child a wet nurse was obtained from a workhouse. This woman was described as a young, apparently healthy, married woman, whose husband had deserted her previous to her delivery. Nothing could be ascertained respecting the state of the nurse's own child, or of the state of health of the nurse herself, after she had suckled Emmeline M—. During the early months of infancy no illness affected the child. At the age of four months she was vaccinated by a relative of the family, who took every precaution to ensure the goodness of the lymph used. During dentition period she had several small "blind boils" about the buttocks, and a slight mucous discharge from the rectum, but with this exception remained in fair health till her eleventh year, although she had always had an earthy sallow complexion, and was regarded as being of a delicate constitution. Now, however, she suffered from ophthalmia and interstitial keratitis, which showed itself first in the right eye, but very shortly afterwards in the left also. For six months the child was quite blind; towards the end of this time she had the measles, and her recovery from this illness corresponded in date with the return of vision.

Between the twelfth and thirteenth years sore throat came on, the left tonsil sloughed away, and she became permanently deaf in one ear. Attacks of sore throat were frequent up to two years ago, when she began to suffer from ozæna. She had never had jaundice, but was told, at the end of 1868, that her liver was diseased and

enlarged. In January, 1869, she was admitted into Middlesex Hospital, suffering from ascites and ozaena, but after some few weeks was sufficiently recovered to be made an out-patient. In October, 1869, however, she was readmitted for an ulcer on the upper lip, close below the nose, and involving part of the septum, and an abscess connected with the right nasal duct, which had existed three weeks.

At this time she was chlorotic, had never menstruated, had one or two patches of opacity on the right cornea, was deaf on one side, and for a girl of twenty years was very imperfectly developed.

After her readmission the ulceration about the lip and nose increased, an abscess formed in connection with the left nasal duct, bone was discharged from the nose, her urine became highly albuminous, ascites and general œdema supervened, diarrhœa of a severe character set in, and she died on February 27th, 1870.

*Post-mortem examination.*—This was made eighteen hours after death. The body was small, but not stunted; breasts and external genitals very imperfectly developed, and very little hair on pubis. No enlarged scars or glands in the groins, no nodes on clavicles or tibiæ; one well-formed vaccination cicatrix on the left arm. The abdomen was distended and fluctuating. Liver dulness, which commenced between fifth and sixth ribs, was not increased downwards. The whole of the nasal bones and the soft tissues about the nose destroyed and absent. The upper incisor teeth were notched, discoloured, and loose, but were not pegged. The palatine plate of the superior maxillary bone was carious and in places perforated, and the mucous membrane covering it destroyed or thickened.

The lungs were small, weighing together only  $16\frac{1}{2}$  ounces; the heart also small, and weighed  $4\frac{1}{4}$  ounces. The abdominal cavity contained 69 ounces of turbid yellow fluid, in which were several flakes of lymph. Peritonitis was general, the surfaces of the liver and spleen and the peritoneum in the lumbar region were coated by a thick layer of lymph, easily separable from the inflamed membrane beneath. The small intestines, coiled closely together, had some soft recent lymph along the surfaces of contact. The mucous membrane of both small and large intestines to the naked eye were normal, but the microscope showed amyloid disease to be present about the small arteries.

The kidneys were both large, the right weighed  $6\frac{1}{4}$  ounces, the left 7 ounces, and mottled by numerous pale yellowish specks upon their

outer surfaces. To the naked eye there was no change with iodine, but under the microscope the Malpighian bodies were observed to be amyloid. The spleen was dark, cut firm, and gave a reaction with iodine very evident to the naked eye. The liver weighed 39 oz., was much puckered and deeply fissured, as well as altered in shape. The capsule was somewhat thickened, and several large gummy nodules were imbedded in different parts of the organ, one close to the surface at the upper and posterior border; another, the largest, the size of a walnut, in the extreme part of the right lobe; and a third large one close to the under surface. In one section, near a deep fissure on the upper surface, was a circular area of very dark and congested, but otherwise unaltered, liver tissue, surrounded by bands of fibres, excepting where the capsule itself helped to complete the circumference of the area.

Iodine applied to the cut surface caused no change, but a thin section soaked in it, placed under the microscope, showed that the liver was also undergoing lardaceous change. *The deposits* were seen to be composed of a number of small cellular bodies amongst liver-cells, also much fibrillated matter enclosing the corpuscles in fine meshes, and in many parts more abundant than the corpuscular element. The growth seemed fairly recent, as there was no granular or fatty degeneration.

The pelvic organs were very small; no cicatrix or ulcer was seen on vaginal mucous membrane.

*Remarks.*—The interest of this case does not arise from the actual rarity of the disease itself, but from the comparative rarity in association with the preceding history. The question one would wish to be able to decide is as to the origin of the disease. Was it acquired or congenital? Now, while it is possible to exclude several sources of contracted syphilis, such as vaccination, coitus, and, so far as a legitimate investigation could reach, contraction at the time of birth, yet it is not so easy to decide whether the case was one of inherited syphilis or whether it was acquired from the wet nurse. There are some points in the history which would give colour to the congenital origin, others which would equally favour the belief that it was communicated by the milk, if not the breast, of the wet nurse, but a careful examination of the evidence discovers nothing which amounts to an *instantia crucis* in settling this point.

But whatever the cause or source of the disease, the case seems to support the view that the first symptom of syphilis may, in some

individuals, be one of the later forms of the affection, such as of the bones, eye, or throat, for until the age of eleven the poison lay dormant in the system of this child, and even then did not give rise to any of the early series of symptoms which generally precede the later ones, but expressed itself by an attack of ophthalmia and corneitis.

If, however, as was generally supposed while the girl was a patient in the hospital, the case were one of congenital syphilis, the form of the affection of the liver is somewhat rare. Cases, indeed, have by several observers been recorded of these nodules in the livers of children dead from hereditary syphilis; still, this change is very far from being the most frequent one, and differs much from the description given by Gubler of such cases, and which Dr. Wilks referred to when exhibiting a specimen before the Society in 1866, of which an account exists in vol. xvii of the Society's 'Transactions.'

March 15th, 1870.

*Report on Mr. Morris's specimen of syphilitic growths in the liver.*—We have examined thin sections taken from more than one of these tumours, and we find the prevailing characters to be these. There is a tolerably dense fibrous stroma of broad, smooth, homogeneous-looking fibres, which by their interlacement form a network with meshes of various sizes enclosing small circular or slightly angular corpuscles, about the size of white blood-corpuscles. In some parts each corpuscle is contained in a single mesh, at others they are clustered in small groups, whilst in a large portion of the growth there are none to be distinguished, a very fine network of fibres with granular matter being alone seen. The corpuscular element is in excess of the fibrous where the growths spread out into the surrounding healthy liver tissue, and at the margins specially the growths are extremely vascular, small vessels filled with blood traversing them in all directions.

HENRY ARNOTT,  
C. H. FAGGE.

April 19th, 1870.

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22. *Syphilitic disease of the larynx and liver.*

By T. WHIPHAM, M.B.

THE parts exhibited were removed from the body of Henry P—, who was admitted into St. George's Hospital in August, 1869, with suppuration and thickening of the cervical glands. He had contracted syphilis in 1860. On February 12th, 1870, he was readmitted with extensive ulceration of the soft palate, fauces, and larynx, which had commenced two years previously, and in spite of various treatment had never healed. About a fortnight before his readmission the disease in the throat had become very much aggravated, and he experienced great pain and difficulty in deglutition.

On admission the pain in swallowing was very severe; the uvula had been entirely destroyed, and there was deep and extensive ulceration of the soft palate and back of the pharynx. He improved, to some slight extent, under tonic treatment, but continued subject to occasional attacks of dyspnoea. On March 19th hæmaturia supervened, and the urine was found to contain fibrinous casts and about one fifth of its bulk of albumen. These renal symptoms gradually subsided, and his general health again recovered, so much so that on April 20th he went out for a walk. He caught cold, and on the 22nd was attacked with very severe laryngeal spasm; deglutition became still more difficult, and he was, from pain in the throat, unable to sleep. He never rallied, but sank rapidly till April 25th, the day of his death.

The result of the *post-mortem* examination was as follows:—Externally the body was in good condition, and careful examination of the penis failed to reveal any distinct traces of venereal disease. The bronchial mucous membrane was highly vascular, and the tubes were full of viscid mucus; in the right lung were one or two patches of so-called pulmonary apoplexy. The heart was natural; the spleen large (weight  $18\frac{3}{4}$  oz.), hard and dark coloured, but no reaction was obtained on treating it with solution of iodine. The kidneys were intensely congested, and the uriniferous tubes full of epithelium. Their surfaces were smooth, and the capsules were easily removed. Their joint weight amounted to  $16\frac{3}{4}$  oz. The liver was firmly adherent to the diaphragm, and it was with great difficulty that a separation between the two was effected. The organ was pale in colour,



but of about the normal size and weight. Here and there in its substance, and immediately beneath the capsule, were several hard growths, the surfaces of which were at a rather lower level than that of the rest of the liver. Externally, each growth was of an uniform yellowish white colour, but on section its appearance was somewhat different. The centre of the mass was raised, and when compared with the outer portions soft, while the outer parts were firm and dense, and consisted, to all appearance, of pure fibrous tissue. The largest of these growths measured about one inch and a half in either diameter.

There was most extensive ulceration of the tonsils, soft palate, epiglottis, and surrounding soft tissues. The uvula, the greater portion of the soft palate on the left side, the glosso-epiglottidean folds, and a portion of the right border of the epiglottis, had been eaten away. Above the epiglottis on the right side, and at the base of the tongue, was a large deeply excavated ulcer, and below it on either side, but above the false vocal cords, the soft parts were destroyed to a considerable depth. The surfaces of these ulcers were in a foul sloughy condition.

*Microscopic appearances of the growths in the liver.*—The growths consisted chiefly of fibrous tissue, but in parts where the disease was in an earlier stage islands, as it were, of liver-cells were found surrounded by the morbid material, which in such places was found to be a highly cellular growth. The cells were round, and scattered among those of the liver, in the central parts, but at some little distance from these islands of hepatic tissue they showed a tendency to become elongated, and this tendency became more and more evident until at the outer parts of the growths little else than pure fibrous tissue existed. About midway between the centre of each morbid mass and its exterior isolated liver-cells were found in the meshes of fibrous tissue, irregular in shape and in a state of fatty degeneration; among the meshes also were masses of granular debris and oil-globules, most of them of an elongated shape, as if compressed by the fibrous tissue. In the earlier stages of the growth the vessels were numerous, permeable, and in almost every case in sections examined they contained blood-globules, but in the more advanced portions, where the fibrous tissue was fully developed, the vessels were found only here and there. May 17th, 1870.

23. *Extravasation of blood into the liver and ovaries and under the serous surfaces in a case of death from ante-partum hæmorrhage.*

By JOHN MURRAY, M.D.

C P—, a young unmarried woman, æt. 24, was brought into the Middlesex Hospital on November 15th, at about nine o'clock in the evening, drenched with blood. It appeared that while in a neighbouring church she was seized, without the least premonitory symptoms, with violent flooding. When admitted, immediately afterwards, it was still going on, and she presented all the appearances of having lost a very considerable quantity of blood. The uterus was found high up, and she stated that she believed herself to be about eight months pregnant. Every means were taken to arrest the hæmorrhage—injections of matico into the uterus, and tincture of iron with extract of ergot internally. Barnes's dilator was employed with the object of dilating the os, which was rigid and not larger than a fourpenny-piece, and then delivering the child. Although the hæmorrhage was for a time arrested by the means employed, still it returned again and again, rendering the woman's state most alarming. As a last resource Dr. Hall Davis determined to perform craniotomy and deliver the child. This was done on the 15th, about sixteen hours after admission, with success, but the uterus refused to contract, and the patient speedily sank.

At the *autopsy*, made twenty-four hours after death, the following morbid appearances were found. There were numerous small extravasations of blood beneath the peritoneal covering of the uterus. There was slight superficial laceration of the lip of the os uteri on its right side. Both ovaries contained numerous old corpora lutea, into which black blood-clots were extravasated; blood was also found on the surface of both ovaries. The liver was rather pale. Throughout its whole structure were numerous diffused patches of extravasated blood, and also under its peritoneal surface. Microscopically the hepatic structure was found to be normal. Several small biliary calculi were present in the gall-bladder. Under the endocardial covering of the left ventricle were a few extravasations of blood. There were a few old tubercles in the apex of the left lung. The

body was otherwise healthy, and nothing found in the uterus or other organs to account in any way for the obstinate hæmorrhage.

*Remarks.*—This case I considered worthy of being brought before the notice of the Society because the explanation of the violent and persistent hæmorrhage appeared somewhat obscure. The woman was healthy, and always had been so. Neither she nor any other member of the family had shown evidence of the hæmorrhagic diathesis, and at the *post-mortem* examination no local lesion was found to throw light in any way upon the cause of the hæmorrhage. The only clue was the presence of extravasation of blood into the ovaries, liver, and under the serous surfaces. This it was which led me to consider that the case was probably one of hæmorrhagic diathesis, upon which hypothesis the fatal flooding would be explained.

November 16th, 1869.

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24. *Case of fatal jaundice from obstruction of the bile-duct by a large gall-stone.*

By C. MURCHISON, M.D.

A FEW weeks ago a lady about 45 years of age consulted me at my house, and gave the following history of her ailment. For about thirteen years she had been liable, at long intervals, to severe attacks of biliary colic pain in the region of the liver, coming on in violent paroxysms, accompanied by vomiting, and followed by jaundice which lasted for a few days. During these attacks her medical attendant had often noticed a painful swelling, corresponding to the fundus of the gall-bladder.

In the autumn of 1868 she had an unusually severe and protracted attack. About Christmas, 1868, the attacks of pain became more frequent; they came on almost every day without exception, usually about four o'clock in the afternoon, and lasted for twelve hours. The pain was accompanied by vomiting, but all this time there was no jaundice. In April, 1869, the paroxysms of pain and vomiting became even more frequent, and much more severe, and the patient was reduced to an alarming state of prostration, from which for

many days she was not expected to rally. At this time the liver was found to be considerably enlarged, and deep jaundice set in, which, though varying in intensity, never disappeared, the motions from that date being devoid of bile-pigment. For six weeks during April and May the patient was confined to bed, and although for some months before I saw her she had been able to go about, she continued to lose flesh and suffered much from itchiness of the skin, flatulence, and almost constant diarrhœa. She was also still liable to attacks of pain and vomiting, though less severe and less regular in their recurrence.

I found her, at the time of her visit to me, very thin and weak, and deeply jaundiced. The liver was enormously enlarged, but not tender. There was some tenderness, however, over a rather firm tumour about the size of an orange, corresponding to the gall-bladder. There was no ascites and no enlargement of the spleen. The lady had already consulted several medical men of eminence, and more than one had expressed the opinion that, whether there were gall-stones or not, there was a cancerous tumour in the fissure of the liver. This view appeared to me negatived by the absence of ascites or of any symptom of portal obstruction, while the whole history of the case seemed to point to a large gall-stone, which, from Christmas, 1868, to April, 1869, had made vain efforts to pass through the cystic duct, and thus accounted for the attacks of biliary colic without jaundice, but which, during the severe attack in April, passed into the common duct, and produced enlargement of the liver and permanent jaundice, with mal-assimilation and emaciation. If this were the case, it seemed possible—though, considering the duration of the jaundice, not very probable—that the cause of the obstruction might be discharged into the bowel and the patient get well. I prescribed alkalies and creasote pills to relieve the flatulence, and gave instructions that, in the event of severe pain coming on, recourse should be had to warm baths, opium, and chloroform.

On the afternoon of the same day, probably owing to the fatigue and shaking consequent on the journey from and back to the country, the pain and vomiting returned with great severity, and continued to recur at short intervals until death from exhaustion three weeks afterwards. During the last week of life hæmorrhages occurred from the different mucous membranes, and on one occasion, a few days before death, during a violent fit of retching, the patient felt a sudden sharp pain in the region of the gall-bladder, as if

something had burst, and soon after she vomited some blood mixed with mucus.

A *post-mortem* examination was made, in accordance with a wish which had been expressed by the patient herself, by her medical attendant, Mr. Taylor, of Guildford, who has kindly furnished me with an account of the appearances found, and with the opportunity of exhibiting to the Society the obstructed bile-duct. There was nowhere any cancerous deposit. The liver was uniformly enlarged, and gorged with bile. But the most remarkable appearance was the enormous dilatation of the cystic and common bile-ducts, which admitted the tip of the index finger. The duodenal end of the common duct was blocked up by a cylindrical gall-stone, measuring about an inch in length and half an inch in thickness. This projected into the bowel, where a portion of its surface was bare and exposed from ulceration or rupture of the superimposed mucous membrane. The orifice of the duct was not enlarged, and could be seen like a little dimple in the centre of the projection caused by the gall-stone. It seemed probable that the mucous membrane stretched over the gall-stone had given way during the attack of sudden sharp pain in the region of the gall-bladder, followed by vomiting of blood and mucus shortly before death. Seven smaller polyhedral concretions were found in the gall-bladder and dilated cystic duct. Two others were found in the hepatic duct, and two in the dilated ducts in the interior of the liver. All of them had several facets, and had probably been formed in the gall-bladder. The blood was dark and fluid, and extravasations were found in different parts of the body.

2nd November, 1869.

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25. *Obstruction of the hepatic duct by a large biliary concretion, causing abscess of the liver, perforation of the diaphragm, empyema, and gangrene of the right lung.*

By H. M. TUCKWELL, M.D.

**E** G—, æt. 60, was first seen by me on the 22nd of January, 1870. During the past six years she had had several attacks of severe vomiting, pain at the epigastrium, and jaundice, each attack lasting

from three to six weeks, and leaving her quite well in the intervals. The last of these attacks occurred ten weeks ago. The present one had begun on the day before I saw her, and had set in, just as on former occasions, with severe pain in the epigastrium and back, and vomiting.

I found a healthy looking woman, with a thick layer of fat on the abdomen, suffering from pain in the epigastrium and back, and vomiting all food. No trace of jaundice was present. Pulse 108. Tongue coated. The hepatic dulness extended, in the mammary line, from the sixth rib to the costal margin. She was ordered an effervescent mixture with hydrocyanic acid, a pill of calomel and colocynth, and cold milk with ice. On the 24th I was suddenly called to her in the night, and found her rolling about in a paroxysm of pain referred to the back, between the blade-bones, but not felt in the epigastrium or hypochondrium. She retched violently and shivered a little, though the skin felt hot. She had passed three copious bilious stools, which I carefully searched for gall-stones, by sifting through muslin, without any discovery. I injected subcutaneously half a grain of morphine, which relieved her and gave her sleep in a few minutes. On the night of the 25th there was a recurrence of the same violent pain and retching, again relieved at once by a subcutaneous injection. Still no jaundice. Urine clear and pale, no albumen.

This violent pain and vomiting without jaundice in a woman who had before suffered from similar symptoms with jaundice, made it probable that a large gall-stone was impacted in the cystic duct, which was the diagnosis made.

She continued in much the same state for the next three weeks, vomiting frequently, with a very foul tongue, and suffering from the same interscapular pain, till the 18th of February, when she had a severe rigor. There was still absence of jaundice, but the hepatic dulness in the mammary line now extended an inch and a half below the costal margin. No tumour could be felt in the region of the gall-bladder, but there was a little tenderness on pressure in the right hypochondrium. The stools had been natural throughout, and search had twice again been made for gall-stones without any result. On the 23rd of February she had two severe rigors and a violent fit of retching, the pain in the back being also much complained of. Her face was pinched and her tongue remarkably foul. It was now resolved to give no food by the mouth, but to inject beef tea and

brandy. On the 25th the injections could not be retained; her pulse was 130, very feeble, and she seemed to be sinking; she rallied, however, in a singular way, and lived six days longer, quite free from vomiting; champagne, beef tea, and milk being taken and retained. The severe pain in her back likewise ceased, and the right hypochondrium was now pointed to as the chief seat of pain. On the 27th she began to cough in fits and expectorate small purulent masses with a brownish tinge and fetid smell. At the very base of the right lung, posteriorly, the resonance on percussion was impaired, and friction sound was heard on deep inspiration. On the 28th she coughed up a few ounces of a brownish substance with very fetid odour, and her breath had the penetrating smell that comes from gangrenous lung. The dulness on the right side, posteriorly, had much increased, and where there was friction sound yesterday there was now bronchial breathing.

The occurrence of rigors indicated the formation of pus. It was supposed that rupture had taken place, either of the gall-bladder or cystic duct; that a localised abscess, limited by adhesions, had formed in the neighbourhood, and burst upwards through the diaphragm into the right pleura. This was the diagnosis.

On the 2nd of March she coughed up some more of the same stinking matter, and was evidently sinking slowly. The dulness on percussion now reached to the scapula, and there was loud bronchial breathing in the scapular region, with absence of sound below. Anteriorly, in the subclavian and mammary region, the percussion note was rather tympanitic. She continued to bring up daily small quantities, never more than a few ounces, of the same stinking brown expectoration, till the 4th of March, when, for the first time, her eyes and skin were observed to be jaundiced. The same day she passed from the bowels what the nurse described as an enormous lump of fecal matter, but which was, unfortunately, not saved for inspection. On the 6th she became deeply jaundiced and died.

*Post-mortem examination.*—Well-marked jaundice of the integuments. A thick layer of subcutaneous fat on the abdomen. No sign of peritonitis. The liver, smooth and bile-stained, projected one inch and a half below the costal margin in the mammary line. The gall-bladder, enlarged to at least twice its natural size, projected a little below the liver. The right lung was compressed and pushed upwards by a large collection (forty to fifty ounces) of very fetid

pus in the pleura. One patch, of the size of a small apple, in the lower lobe, was in a state of gangrene. The liver, which was adherent over a considerable space at its upper and posterior part, to the diaphragm, was next removed with the adherent diaphragm and the duodenum. The organ was large and soft, its lobules containing excess of fat, and bile-stained. The interior of its right lobe was converted into a large irregular cavity, crossed by partitions of broken-down hepatic tissue, and surrounded by ragged walls. This cavity was filled with stinking pus, and contained several small biliary concretions. It was bounded above by a thin shell of liver-substance, which remained undestroyed and in part adherent to the diaphragm, while it communicated below, by open-mouthed branches of the hepatic duct, with a large dark biliary concretion to be presently described. The gall-bladder was filled with dark orange-coloured bile and numerous dark green polyhedral calculi of various sizes. The cystic duct was dilated to the size of a large goose-quill, and patent throughout. The common duct was also widely dilated, so that its duodenal orifice would admit a full-sized catheter. A calculus of the size of a small bean lay loose in the common duct, just ready to pass on into the duodenum. The orifice of the hepatic duct was likewise widely patent, but the duct itself was blocked up by a very large dark concretion, which extended downwards nearly to the orifice, and reached upwards to the large terminal branches of the duct, into each of which it sent an offshoot. The concretion appeared to be made up of an agglomeration of smaller ones which had made their way down the different radicles of the hepatic duct, and meeting together at the main outlet had there become slowly impacted. It had the same consistence as the calculi in the gall-bladder, but a darker colour. The bile-ducts throughout the liver were much dilated; one in particular, in the left lobe, formed a pouch filled with a mixture of altered bile, pus, and fine biliary sand, and seemed palpably to indicate the mode of origin of the more advanced abscesses in the right lobe. On examining, next, the pleural surface of the diaphragm, immediately above the part where the liver was adherent, a fistulous opening, large enough to admit a small catheter, was observed to lead from the pleura downwards into a smaller suppurating cavity in the liver (apparently an offset from the large abscess), and thence, through a large open-mouthed branch of the hepatic duct, into contact with one of the offshoots from the large concretion. On pressing the liver, pus welled up



through this opening into the pleura, and the source of the empyema was at once made manifest.

*Remarks.*—This woman had evidently been in the habit of passing gall-stones for years. Concretions had also been slowly collecting for a long time past in the radicles of the hepatic duct, and, thence moving onwards, had met together and become welded into one mass in the hepatic duct itself. From the dilatation of the cystic duct, gall-bladder, and common duct, more particularly of the duodenal orifice of the latter, it is more than probable that a calculus of large size had recently passed from the gall-bladder into the intestine; and there is good reason for supposing that part of her symptoms may have been so produced; the rigors and severe constitutional disturbance being attributable to the active suppuration induced by the large hepatic concretion. It is most likely that had the great faecal mass, passed a few days before death, been searched, this calculus would have been found. From the peculiar appearance presented by one of the dilated ducts in the left lobe of the liver, I would submit that the original formation of the abscesses in the right lobe must be referred to dilatation of the hepatic ducts, and not to direct irritation from the large calculus. This view is strengthened by the important fact that nowhere did the abscesses in question communicate directly with the stone, but only indirectly through the medium of open-mouthed branches of the hepatic duct. The process here seems to have been identical with that in a somewhat similar case related by Dr. Bristowe, in the ninth volume of the ‘Transactions,’ p. 285, viz., dilatation of the ducts above the seat of obstruction; accumulation of bile and biliary concretions in such a dilatation; inflammation and gradual thinning, with ulceration, of the coats of the duct; extension of the inflammatory changes to the adjacent hepatic tissue, and conversion of the dilatation into a genuine hepatic abscess. One other parallel case is detailed at some length by Frerichs (‘Syden. Soc. Transl.,’ vol. ii, p. 457), where the right lobe of the liver was occupied by an immense abscess which communicated by a widely dilated duct with the cause of the mischief, an obstructing calculus. The only essential difference between his case and mine consisted in the situation at which the abscess perforated; in the former instance opening into the peritoneum, in the latter into the pleura. He adds that “the bile-ducts were greatly dilated, and filled with an ochre-yellow crumbling mass; their lining membrane being injected and at some places ulcerated.” Lastly,

the absence of jaundice till so late a period in the illness is worthy of comment, but may perhaps be explained by the very gradual formation of the large concretion, which allowed some bile to pass between it and the inner wall of the duct until the last few days of life, when the stoppage became so complete that jaundice appeared.

*April 5th, 1870.*

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26. *Thrombosis of portal vein; hæmorrhagic infarctus in lungs, with obstruction of vessels.*

By J. F. PAYNE, M.B.

**E**H—, æt. 39, a cab driver, was admitted into Saint Mary's Hospital October 27th, 1869, under Dr. Sieveking. He had previously been under treatment in out-patient department, when his case attracted attention from the extreme rapidity of the pulse, and the absence of any other signs of fever or of cardiac lesion. The heart's action was so weak and tumultuous that he was unable to work, and he complained also of a dry cough. According to his own account he had been a cab driver for twenty years, and during the whole of that time he had suffered more or less from palpitation of the heart. He had been in the habit of drinking a great deal, and never had rheumatic fever. His pulse was about 180, extremely weak, and felt with difficulty. The heart sounds were audible; there was no abnormal bruit, and the cardiac dullness extended over its normal area. There was no evidence of pulmonary congestion. The surface of the body was cold, and the patient complained that he could never get warm. The legs were œdematous, pitting upon pressure, especially the left. The liver was thought to be enlarged. There were no abnormal chest sounds on admission. The urine contained no albumen. After having been in hospital about a fortnight, the cough became worse; he suffered from dyspnœa and considerable hæmopt̄ysis, which ceased for some days. He lay mostly on his face, finding this the most comfortable position. Subsequently to this he became jaundiced, and was very delirious; and died November 17th, 1869.

*Post-mortem examination.*—The body was emaciated; legs œdematous. Abdomen contained some pints of fluid. The liver was of a moderate size, hard, bile stained, and showing uniform congestion of the veins. The bile-ducts contained bile. On examining the portal trunk, it was found at its entrance to the liver to be completely occupied by a coagulum, part of which was dark red, succulent, and apparently recent; part discoloured, adherent to the wall of the vein, and evidently older. These parts were arranged side by side, so that neither of them occupied entirely the section of the vein at any point. On following the portal vein into the liver, it was found that the branch to the left lobe was filled with firm adherent thrombus; while that supplying the right lobe contained only isolated coagula, which were, however, adherent to the walls. The factors of the portal trunk were thus occupied. The splenic contained soft dark red thrombus, which appeared recent, and extended into the smaller divisions of the vein. The main trunk of the superior mesenteric was filled with coagulum, and also most of its branches. One of these was more distended with coagulum than the others, and contained also firmer and harder clots. It was that arising from a coil of ileum lying to the left hand. The portion of intestine connected with this branch was intensely congested, being of a dark chocolate colour, and quite rigid with hæmorrhagic infiltration. The smallest vessels and capillaries were filled with coagulated blood, but the arterial branch supplying it was found to be empty, and contained no visible thrombus or embolus. The mucous surface had evidently been the seat of hæmorrhage, but it appeared otherwise natural. No other part of the intestine presented a similar appearance. Other branches of the superior mesenteric and part of the inferior mesenteric vein contained coagula, but not so dense, or distending the vessel so much as that first described. The hæmorrhoidal veins were free.

The remaining abdominal viscera were perfectly natural. The heart was examined with much care, but nothing was found to account for the acceleration of its action during life. The walls were rather thin, especially those of the right ventricle, which appeared somewhat dilated. The valves were quite normal, except that there was some yellow mottling (without deposit or vegetations) of the tricuspid. The muscular substance was soft, but not otherwise affected. The pleuræ contained each a considerable quantity of fluid; there were no adhesions. The lungs were dense and en-

gorged, but not consolidated, except a mass about two inches in diameter in the lower lobe of each, which was solid, nearly black, and in the condition known as hæmorrhagic infarctus or pulmonary apoplexy. The arterial branch supplying these portions of lungs was, in each case, occupied by a firm discoloured adherent clot (embolic ?), from which extended short thrombus. The head was, at the special request of the friends, left unopened.

*Microscopic examination of the liver* showed the clots in the smaller branches of the portal vein to be not very firmly adherent to the walls of the vessels, and that these were not inflamed. The capillaries round the obstructed vessels were gorged with blood. The hepatic tissue generally was deeply bile stained; the cells generally granular, and sometimes contained fat and yellow pigment. Altogether the alterations seemed to be the consequence rather than the cause of venous obstruction.

*Remarks.*—The explanation of this very obscure case is not easy; more especially there was nothing to account for the rapid pulse, unless we suppose what is not quite impossible, that this was a constitutional peculiarity, not due to disease. The sequence or filiation of the coagulation in different parts of the body is also not clear. The oldest portion appeared to be that in a branch of the superior mesenteric, but there was no obvious cause to occasion coagulation in this part. The general appearance was not unlike that of embolism of the superior mesenteric artery, but no such obstruction could be detected. Capillary obstruction might, perhaps, also produce the same result. At all events, the thrombosis of this branch of the superior mesenteric vein seems to have gradually led to a similar condition of the portal trunk, the complete occlusion of which probably did not occur till shortly before death. The hæmorrhagic infarctus of the lungs were evidently caused by obstruction of the arterial branches; but whether the plugs filling these vessels were brought from a distance was not easy to see. With reference to this point, I have to regret that the hepatic veins were not more closely examined.

It may still be thought possible that an endocarditis, which had at the time of death quite passed away, may have been the original disease, but of this there were none of the characteristic symptoms (except rapid pulse) during life.

*February 15th, 1870.*

27. *Two cases of suppuration in the liver, consequent on irritation in the appendix vermiformis cæci.*

By J. F. PAYNE, M.B.

CASE 1.—*Pin lodged in the vermiform appendix, and surrounded by a concretion.*—This specimen was removed from the body of Mary Ann W—, æt. 37, who died in St. Mary's Hospital, August 12th, 1869, under the care of Dr. Handfield Jones.

The preparation shows a medium sized black pin, of which the head and about three fourths of the shaft are surrounded by a concretion of fecal matter. The cylindrical mass thus formed is about one inch long, and is lodged in the vermiform appendix, in such a way that the bare point projects beyond the incrustation and beyond the opening of the appendix into the cæcum for more than a quarter of an inch. The concretion itself is rounded and smooth at the end which encloses the head of the pin, and which is buried in the appendix. The part encircling the bare point is rough and irregular, being composed of semi-crystalline concretions. It was evident from this arrangement that part, at least, of the concretion had gathered round the pin while in the situation where it was found, and its restriction to one end of the pin could not otherwise be explained. The coats of the vermiform appendix and the adjacent part of the cæcum were somewhat thickened, and this more especially in the serous coat; but they were not red or hyperæmic, and there was no sign whatever of acute inflammation, either on the serous or the mucous surface. The appendix was to some extent doubled on itself, and adherent to the outside of the cæcum.

At the *autopsy* the thoracic organs were found natural, except that the upper lobe of the left lung contained, in its posterior part, a small pyæmic abscess. The liver was found to be large, and to contain a considerable abscess, holding many ounces of greenish pus, and lined with a false membrane of villous lymph. There were two or three smaller abscesses communicating with the large one, and in other parts of the gland were hyperæmic patches. No connection between these abscesses and any one of the systems of vessels in the liver could be made out. The gall-bladder and ducts, the portal vein, &c., were quite natural. The peritoneum was not inflamed, and contained no fluid. The kidneys presented some yellow

mottling, due to fatty change in the cortical portion, and especially at the bases of the pyramids. There was nothing abnormal in the intestines, but the appearances already described in the appendix vermiformis.

*History.*—Was taken ill three weeks before admission with severe pain in right side, which has not yet ceased, though only occasionally felt. No great change within the three weeks. On admission complaining of severe frontal headache. Tongue red and perfectly dry. Some tenderness of abdomen. Bowels regular. Pulse 110, of good force and volume. Respiration 36. Temperature 104.5°. Breath-sounds good, except some quasi-crepitation on deep inspiration in right back.

August 7th.—Temperature 104°. Pulse very weak.

9th.—Passes motions unconsciously; very drowsy.

11th.—Much stupor, but she is capable of being roused. Tongue covered with sordes. Respiration 40; no abnormal lung-sounds. On the 11th some epistaxis; a largish patch of gangrene has appeared on skin of sacral region. Temperature 101°. Throws her head back; neck to some extent rigid.

12th.—Died at 1 a.m.

*Remarks.*—The interest of this case lies in the connection between the abscesses of the liver and the irritation of the appendix vermiformis. The hepatic abscesses were precisely such as would be called pyæmic, and the principal difficulty in thus regarding them was that no seat of primary suppuration was discoverable.

It was, moreover, impossible to trace their connection with branches of the portal vein, but in abscesses of old standing it frequently happens that evidence of their mode of formation is destroyed. Further, no inflammation or coagulation in the veins of the portal system was noticed, so that it must be confessed the precise nature of the causal nexus was not demonstrated. Nevertheless, it is thought that the number of instances pointing to the same or a similar mode of origin for pyæmic abscesses of the liver is sufficient to establish a very high degree of probability for this connection.

As a further contribution to the elucidation of the subject, I have been kindly permitted by Dr. Handfield Jones to relate the following case, the history of which is taken from his private notes.

CASE 2.—*Abscesses of liver connected with branches of portal vein;*

*thrombosis of portal and superior mesenteric veins; chronic inflammation of peritoneum in vicinity of cæcum and appendix; ulceration of mucous membrane of appendix.*—Walter W—, æt. 23, generally healthy. Admitted into St. Mary's Hospital April 2nd, 1867. Had been taken ill fourteen days previously with violent shivering, which lasted three quarters of an hour, and was followed by vomiting: similar signs had recurred at irregular intervals ever since, usually two or three times in the day; he had never been quite free from them for twenty-four hours together. At first he felt well in the intervals, but lately had had considerable fever and profuse sweating after each shivering fit. On the day of admission he had two such fits, at 11 a.m. and 1.45 p.m., lasting twenty minutes, and followed by heat and sweating; and on the next day (April 3rd) there were also two, in which the rigors were strong enough to shake the bed violently. No history of ague or exposure to malaria. Under the influence of frequent doses of quinine the rigors were reduced to one fit in the day, and this in the evening or late at night. After this there were only two days on which more than one fit occurred, but there were few on which shivering was entirely absent. The fits preserved the same character, but were less severe. The only *local uneasiness* was a slight pain in the right hypochondrium, first complained of on April 6th. The liver on that day was found to descend two fingers' breadth below the ribs; there was no tenderness on pressure. This was the greatest enlargement of the liver ever observed.

On the 13th the pain was gone, and liver hardly discernible below the ribs. In a few days the pain recurred, and was felt more especially on inspiration; but there was no tenderness on pressure.

On the 17th the organ was as large as it had been on the 6th. There was some pleuritic friction heard on the same day at the base of the right lung. The spleen was never enlarged. The *temperature* on admission was  $104.4^{\circ}$ ; it gradually sank in three days to  $99.6^{\circ}$ , which was about the lowest temperature observed. The average after this was about  $100^{\circ}$  to  $102^{\circ}$ , the maximum being  $103.3^{\circ}$ .

During his illness he had two attacks of diarrhœa, lasting two or three days. The appetite was generally good. The intelligence was perfect till within two days of death; the eyes always bright and clear. The pulse was throughout rapid, averaging from 100 to 120. The tongue was almost constantly dry and parched.

On April 20th he appeared depressed, and the pulse became

very weak. On the 21st the intelligence was clouded, and the knees were constantly drawn up, though no tenderness in the abdomen could be made out, and the respiratory movements were unimpeded. The next day he became unconscious, and he died on April 23rd.

*Autopsy.*—*Lungs* anæmic and œdematous; in the right were some consolidated patches in process of softening. *Intestines* generally healthy—somewhat anæmic. Appendix vermiformis cæci inflamed, of a dark purple colour, and firmly adherent, both to the peritoneum, in the right iliac fossa, and also to outside of cæcum; these contiguous portions of peritoneum also presented evidences of chronic inflammation, being very dark and sloughy. On-opening the cæcum no ulceration or inflammation of its interior was found. The appendix, however, for the terminal one and a half inch of its length, was much inflamed and ulcerated all round. No foreign body found. Veins in mesentery normal, except that superior mesenteric was blocked up a little below its junction with the splenic, and the coagulum thus formed extended into the portal vein, which was completely obstructed. The clot was firmly adherent to the serous walls, and did not extend into the splenic vein, which was quite natural. The liver was enlarged, weighing 5 lbs. 8 ozs.; it contained numerous discrete foci of suppuration, surrounded and separated by inflamed and darkened hepatic substance. The suppurating cavities were ramified and arranged in groups; they were lined by a (pyogenic) membrane, and contained a peculiar purulent fluid with flakes of yellow pigment; they were distinctly made out to be continuous with the branches of the obstructed portal vein, and which was occupied by fetid and purulent contents mixed up with yellowish pigment. The gall-bladder was empty, and its lining membrane not stained. The duodenum was normal. In the post-peritoneal tissue, in the neighbourhood of the head of the pancreas, was a sloughing cavity, containing two or three drachms of fetid pus. Although close to the commencement of disease in the portal vein, no communication could be made out between the two. Kidneys pale. Other organs quite natural.

*Remarks.*—(1) It is noticeable that in both these cases there was no acute inflammation in the neighbourhood of the cæcum, which would have caused any severe symptoms during life; they are thus very different from the classes of cases described as typhlitis or perityphlitis. (2) There was consequently no perforation or peritonitis.



(3) In the absence of local symptoms the diagnosis could not, at the best, have reached greater precision than to conclude the existence of pyæmia or phlebitis arising from some internal cause. (4) It is, therefore, possible that other cases described as pyæmic of internal origin, and unconfirmed by post-mortem examination, may have a similar explanation.

*November 2nd, 1869.*

28. *Hepatic abscesses, following ulceration of the large intestine.*

By C. HILTON FAGGE, M.D.

HENRY T. H—, æt. 40, admitted into Guy's Hospital under my care March 15th, 1870. He was so ill during the whole period of his stay in the hospital that no thorough examination of him could be made, but I learnt that he had had gastric fever in January, and that ever since he had suffered from cough, and expectoration, pain at the chest, and œdema of the legs.

On admission his complexion was very sallow; but he was not at all jaundiced. He had to be propped up in bed, and complained of pain all over the chest, and of a burning pain at the epigastrium after eating. He also stated that he had had shivering fits, followed by hot sweats. He made no complaint of any symptoms of dysentery; nor could I learn, on inquiry after death, that he had ever suffered from such symptoms.

Owing to the preponderance of the chest symptoms, due weight was not attached to those features of the case which pointed to the existence of suppuration. It was supposed that the disease was pneumonia or acute phthisis; and, although no physical signs decidedly corroborative of this view could be made out, it was thought not to be sufficiently negated by the hasty examinations which were alone admissible. In the course of the night of March 24th he died.

On *post-mortem* examination two large abscesses were found in the liver. One of these, which contained 37 oz. of pus, occupied the whole thickness of the right lobe; it was pointing on the upper surface of the organ, where its wall was only one eighth of an inch

thick. It had ragged walls, formed of broken-down hepatic tissue. The other abscess lay in great part between the liver and diaphragm, but it had apparently begun in the substance of the organ, and at one point it was separated from the abscess first described by only a narrow partition. Its size could not be determined, as its walls gave way as soon as the abdomen was opened.

The large intestine presented in its whole length an ulcerated state of its mucous membrane. The ulcers were round, or oval with the long axis transverse. Many of them contained large sloughs.

The small intestines were quite free from ulceration.

The lungs were healthy.

*April 19th, 1870.*

29. *Minute fibrous granulations of peritoneum ; disseminated growths throughout liver ; fibrous thickening of walls of portal vein and bile-ducts.*

By J. F. PAYNE, M.B.

JAMES W—, æt. 52, was admitted into St. Mary's Hospital December 11th, 1868, under the care of Dr. Sieveking: died December 25th. The history was that he had been in good health till about five months before admission, when he was taken with diarrhœa and general malaise. Though laid up for some time, he returned to his work until three months before admission; he was attacked with jaundice, which followed exposure to cold and wet. Since then he had constant constipation, and passed fœces of a whitish colour. His abdomen was greatly distended with fluid, measuring thirty-nine inches in circumference. The liver was made out not to be enlarged. There was general yellowness of the skin and conjunctivæ. The legs and genitals were œdematous, as was also the subcutaneous tissue of the abdominal walls. The heart and lungs were normal, with the exception of some mucous râles. He was troubled with a slight cough. The urine was in fair quantity, of a dark mahogany colour, and contained much bile. Some epithelium and granular casts were seen, but it never, at any time, contained albumen. The pulse varied from 90 to 100; it was full,

and rather hard. The skin was dry, and there was a good deal of itching. The symptoms were not at all relieved while he was in hospital. He slept badly, and became delirious. Though very weak he was not emaciated. On the 24th he became comatose, and died on the next day.

He denied ever having been a great drinker, his usual beverage being beer, and that to the extent of two pints daily. He had never suffered from any serious disease beside ordinary infantile maladies.

*Post-mortem examination, thirty-five hours after death.*—The body was well nourished; the abdomen greatly distended; legs and scrotum anasarous. Two or three quarts of clear bile-stained fluid being contained in the peritoneum, and about two pints in each pleura. In the apex of each lung was some obsolete, cretified, scrofulous matter, the surface over which was contracted and puckered. At the base of the right lung in front was a singular hard mass, about as large as a hazel nut, attached to the lung only by a thin membrane, and covered by the pulmonary pleura. The centre was calcareous, and the rest quite amorphous and horny. The heart and pericardium were normal. The liver was of moderate size, weighing seventy-three ounces; its substance was firm, and of a remarkable greenish colour. The gall-bladder was full of perfectly colourless clear mucus. The hepatic duct and cystic duct were both blocked up, and the common bile duct also, the latter having its walls greatly thickened by a new growth of yellowish fibrous-looking tissue which connected it with and surrounded also the portal vein. No opening into the duodenum could be found. The lower capsule was thickened and adherent to adjacent organs. The peritoneum was covered all over with miliary granulations, without any larger nodules, and without any general thickening or adhesion. The spleen was soft. The two kidneys were united at the base, forming a horseshoe kidney; their structure appeared natural. The mucous surface of the intestines looked perfectly normal. No enlargement of the lymphatic glands was noticed.

Microscopical examination of the liver showed that though to the naked eye it presented no separate growths, it was in reality very closely beset with small nuclear masses, very much like the early stage of cirrhosis occasionally met with. The growth took its origin in the neighbourhood of the portal canals, but was not entirely interlobular, penetrating very generally into the interior of a lobule.

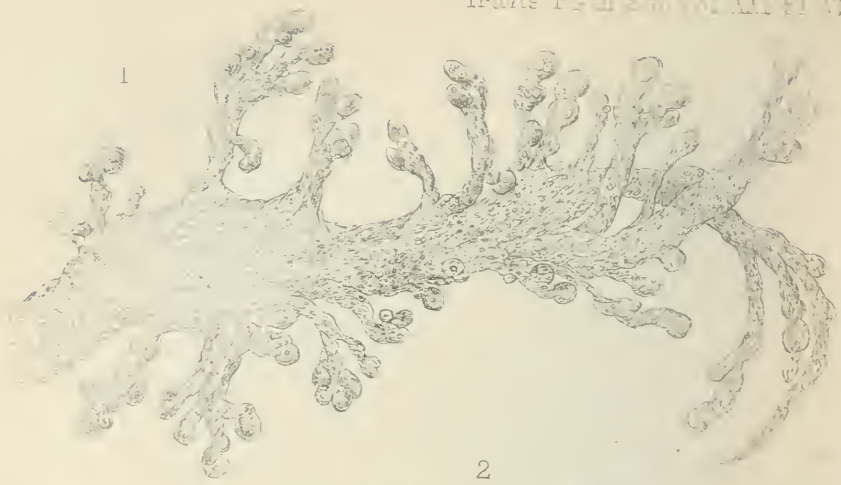
The points of difference from cirrhosis were that there was a more general thickening of the *tela conjunctiva*, and that it did not produce fatty and pigmentary infiltration of the hepatic cells. The network itself was in many places clearly punctated with fat. The structure had an unmistakable resemblance to (1) the peculiar affection of the liver associated with growths in the kidneys, &c., described by Drs. Sanderson and Murchison in the last volume of the Society's 'Transactions'; and (2) to the form of growth in the periphery of syphilitic tumours of the liver (see Plate V, fig. 3) described at page 211 of this volume. Moreover, according to MM. Cornil and Ranvier, general syphilitic cirrhosis of the liver would seem to originate in a similar way. Not having had the opportunity of examining undoubted cases of the latter kind, I cannot venture to pronounce on the identity of these structures; and in the absence both of history and of unquestionable anatomical characters, it would be unwarrantable to set this growth down as syphilitic. The peritoneal granulations were certainly not like cancer, tubercle, or any generalised growth which commonly occurs in the form of a miliary eruption; they were essentially fibrous outgrowths of the peritoneum, and not of its serous epithelium. They were occasionally traversed by vessels, and contained some irregularly-formed cells which seemed to result merely from inflammation of the subserous tissue. Altogether they had more resemblance to the fibrous outgrowths met with in the capsule of the liver or spleen than any other growth with which I am acquainted. In a very few cases small collections of "exudation cells" were seen on the surface. The fibrous tissue surrounding the portal skin was unfortunately not minutely examined, in consequence of the specimen being mislaid. I have not met with the record of any case in which growths of this kind in the liver were associated with any affection of the peritoneum.

May 17th, 1870.

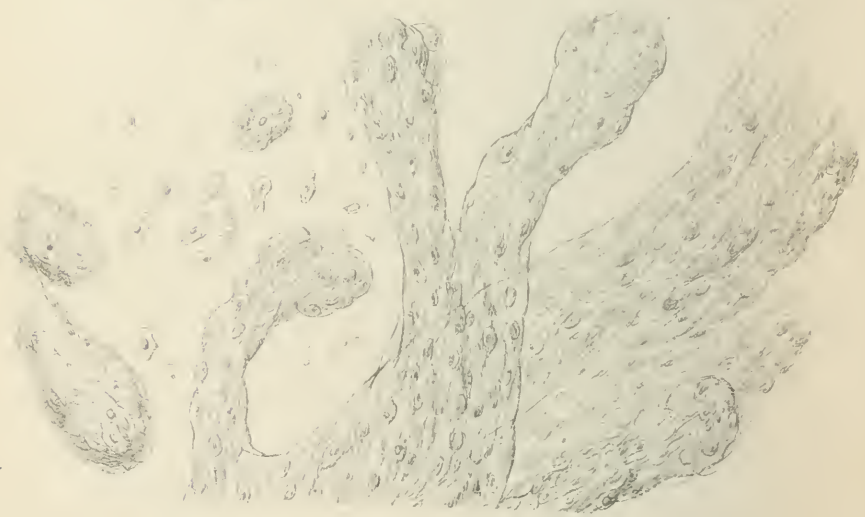
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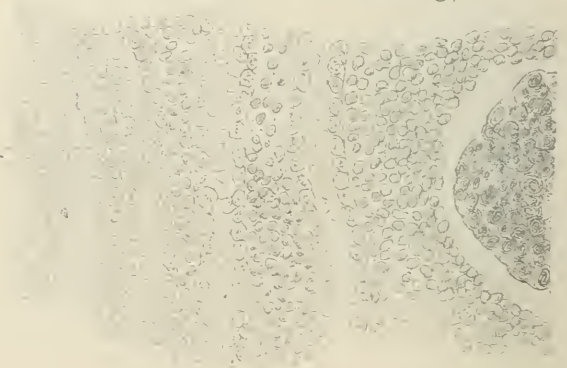
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### DESCRIPTION OF PLATE VI.

Figs. 1 and 2 illustrate Mr. Roberts' and Mr. De Morgan's case of Villous Disease of the Kidney. (Page 239.)

Fig. 1 represents one of the villi slightly magnified, in the case of villous disease of the kidney.

Fig. 2 represents a portion of stroma and cells from the same, more highly magnified.

Fig. 3 represents a section of the kidney from a case of Interstitial Nephritis without Albuminuria, exhibited by Dr. Cayley. (Page 259.) From a drawing by Mr. H. Arnott. Magnified 220 diameters.





## V. DISEASES, ETC., OF THE GENITO-URINARY ORGANS.

## (A) KIDNEYS, BLADDER, ETC.

1. *Villous disease of the kidney.*

By J. H. ROBERTS and C. DE MORGAN.

THE patient, a lady 76 years of age, had had albuminuria for two years, and during that time repeated attacks of hæmaturia more or less severe, at intervals of from two weeks to two months,—two so severe as to endanger life. She had had one attack of hæmaturia ten years before. From the last of these severe attacks six months since, may be dated the entire breaking up of her health.

She was able, however, to get out till attacked with acute bronchitis three weeks before her death. She was slowly recovering from this, when symptoms of strangulated hernia came on, and a lump was found in the groin to which she had never paid attention.

She was so reduced by this new attack that an operation was resorted to as a forlorn hope.

She died about five hours after.

Although she had been unaware of the existence of rupture, the sac was found to be very thick, with a portion of small intestine adherent to it at the neck, the adhesion being evidently of old date. The hernial symptoms had not been severe, and had only come on the day previous to the operation, but a portion of intestine was found on *post-mortem* examination to have been strangulated and superficially ulcerated by the neck of the sac. There was extensive peritonitis.

The right kidney was disorganised, gorged with blood, and so friable as to break up under the slightest pressure.

The cortex of the left kidney was firmer, but the entire pelvis, which was much dilated, was filled with what at first appeared to be a mass of thick shreddy pus. The creamy fluid, however, contained no pus corpuscles, but consisted of a fluid loaded with various sized and shaped nucleated cells, granular corpuscles, granules, and debris of cells, such as would give the impression that they belonged to a

cancerous growth. When some of the fluid had dropped away there was found a soft whitish-yellow mass as large as a damson, occupying the pelvis of the kidney, from the walls of which it sprang. It was supposed at the time to be a mass of soft cancer, and was put in spirit. After some days it was more carefully examined, and on washing it well it was found to be really a villus tumour. The chief mass grows from one side of the lower third of the wall of the pelvis by a broad but thin pedicle, which is continued on the pelvis in the form of a fine flocculent growth. The mass is lobulated, and its surface is covered with outgrowths of villi.

Springing from various parts of the walls of the pelvis are other villi, some single, others forming pencils or tufts. Some of the villi are full half an inch long.

The villi presents a remarkable dendritic growth, as seen in Plate VI, fig. 1. An epithelial covering could be seen in many, but the intimate structure was obscured by the change undergone during the maceration in spirit.

From the length of time the preparation had been in spirit the more compact part could not be satisfactorily examined. It is evidently made up of a delicate fibrous stroma, from which a juice containing nucleated cells exuded.

The stroma itself appears to have a tendency to form bundles, some of which terminate in clavate extremities (Plate VI, fig. 2). Delicate lines of connective tissue run through it in parts, and for the most part it appears to be made up of villi compressed together, and in some places even to have coalesced. In some of them, when teased out, the epithelium could be well seen, and, though obscurely, a vascular loop.

The blood-vessels of the kidney appear to be of unusual size.

The *post-mortem* examination was obtained with difficulty, and a fuller investigation could not be made. It would have been more satisfactory had the bladder been examined. There was, however, no suspicion at any time of bladder mischief. The pain when the hæmaturia came on was referred to the kidney, and after it had passed off she was free from irritation, which would hardly have been the case had there been villus disease of the bladder. No structural elements were ever found in the urine.

Is the more compact portion of the growth cancerous? Probably not, as there is such a disposition in the stroma to forms like those of the villi, of which they seem to form the basis; while in the cancerous

growths with villous surfaces the structure is purely that found ordinary in cancer. The villi themselves have all the characters of the growths found in the bladder and elsewhere, and which have been, since the observations of Mr. Sibley recorded in the 'Transactions,' pronounced not cancerous. I do not know, however, that in other such growths there has been found in connection with them an exudation so loaded with free nucleated and multiform cells as was here present. Still, it is not probable that an encephaloid of the kidney exuding a cancerous juice could have existed for so long a time without giving rise to secondary deposits and a greater outgrowth of true cancer structure.

*October 19th, 1869.*

## *2. Case of villous disease of the bladder and kidneys.*

By C. MURCHISON, M.D.

THE following case is interesting in connection with the one exhibited by Mr. De Morgan.

William J—, æt. 65, a gilder, was admitted into a surgical ward of the Middlesex Hospital on May 11th, and transferred to my care on May 21st, 1869. There was no history of any constitutional disease in his family, and till lately he had always been strong and stout, and, with the exception of slight attacks of gout, he had enjoyed good health. For two or three years he had occasional attacks of increased frequency of micturition, but only slight. He had first noticed blood in his urine in April, 1868, for two or three days. For two or three months there was no recurrence of the hæmorrhage, but since then the attacks had been gradually increasing in frequency. In August they began to recur every ten or fourteen days, and since Christmas the hæmorrhage had been constant. At the commencement of his illness the urine first passed had been only tinged with blood, and the last few drops had been nearly purē blood. The quantity of blood had gradually increased, and during the last three months the patient had frequently suffered from retention caused by the impaction of clots in the urethra. There had never been any pain in micturition except from the impaction of clots, and there was no history

of renal colic; but the attacks of hæmaturia had been accompanied by gradually increasing frequency of micturition, and although the hæmaturia had at first been intermittent, the frequency of micturition had been constant throughout. There never had been any tenesmus or difficulty of defæcation. In March the patient had been sounded for stone by Mr. Hulke, who had found none. On May 9th he had retention of urine for seven hours, which induced him to come to the hospital; he was then again sounded by Mr. De Morgan, but no stone was found.

On admission the patient was found to be a largely built man, with flabby muscles and extremely anæmic. He passed urine about every half hour during the day and every hour during the night, but he had no pain, except now and then when the urine was retained, and relief always followed the escape of small clots. There was no tenderness over the pubes. The urine was acid and of a deep claret colour from admixture with blood, and on standing deposited a copious sediment of blood, partly in small coagula, but without any pus. Under the microscope no crystals and no tube-casts could be detected. The pulse was 78, regular and soft. There was no evidence of disease of the heart or lungs. The tongue was clean and moist, and the appetite was good.

On May 22nd the patient was ordered a draught every six hours, with ten grains of gallic acid and ten minims of dilute sulphuric acid. On the 24th, the bleeding not having abated, ten minims of Spir. Terebiuth. were added to each dose of the medicine. On the 25th the patient was in great distress all day, owing to frequent obstruction of the urethra by clots, which caused great pain at the point of the penis, but not complete retention. On the 26th the bleeding was still profuse, the pulse was very soft and intermittent, and the patient had much thirst and anorexia. A bladder of ice was now applied over the pubes, and the mixture of gallic acid and turpentine continued. The bleeding was at once checked, and on the 28th the urine was no longer red, and there was no sediment on standing. Ten minims of the Liq. Ferri Pernit. were now substituted for the gallic acid and turpentine, and the bladder of ice was still kept on. For two or three days the patient felt much more comfortable, and his appetite improved, but the bleeding gradually returned, and on June 2nd it was necessary to have recourse again to the gallic acid and turpentine. The bleeding again ceased, and on June 7th the urine had not the slightest tinge of red, and contained

only the faintest trace of albumen. This improvement continued for several days, only an occasional small coagulum being passed with the urine.

On June 12th the hæmorrhage returned, and in the following night fresh symptoms set in. The patient was sick and vomited several times, and complained of severe pain in the region of the right kidney, shooting downwards to the pubes. With these symptoms there was great prostration, loss of appetite, and thirst, and the urine was of a much darker red colour, the upper stratum, after depositing a stratum of blood, being very smoky. On the 15th the patient became drowsy, and passed the urine and fæces in bed. On the 17th he was still drowsy and almost unconscious, with occasional low muttering delirium; tongue dry; frequent hiccup; occasional vomiting, and very offensive breath, but no anasarca. On the night of the 18th the breathing became stertorous for a short time; on the evening of the 19th the patient had an attack of convulsive movements of the arms, and on the following morning these movements became more frequent. At 2 p.m. he was quite unconscious and could scarcely swallow, and was rapidly sinking; at 8.30 p.m. he died.

At the *autopsy* the coats of the bladder were found to be thickened, and its cavity filled with clots of blood. Its mucous membrane was moderately injected, but not ulcerated, and at the base and surrounding the opening of both ureters, especially the right, it was studded with numerous long delicate villous processes, nowhere forming a distinct tumour. Both ureters were obstructed by coagula at their lower end, and the ureter and pelvis of both kidneys were considerably dilated, the pelvis of the right kidney being completely filled with coagulum of blood. There was no calculus, but the mucous lining of the pelvis and calices of both kidneys was much injected, and on immersing it in water numerous long villous processes from its surface were distinctly visible. They were well seen with a magnifying power of one inch. They were from one to several lines in length, covered externally with a thin layer of epithelium, and including a capillary vessel full of blood. The mucous lining of the ureters was free from the disease. The kidneys were congested, but were not contracted nor granular. The liver was coarsely nodulated and in an advanced stage of cirrhosis; the spleen was large, pale, tough, and fibrous; there was no ascites. The heart was healthy, but there was much hypostatic congestion and œdema of both lungs.

*Remarks.*—The diagnosis as to the cause of hæmaturia in this case was, from the first, villous disease of the bladder. The large quantity of blood, the freedom of the urine from pus or crystals, and the absence of any history of renal colic, were opposed to the view that it was due to calculus; while the absence of any sign of tumour in the bladder or kidney, and of lancinating pain, the freedom of the urine from pus, and the great improvement in the patient's general condition which had always taken place when the hæmorrhage ceased, seemed to exclude the possibility of there being an ulcerated cancer. The chief interest of the case, however, was in the mode of termination. When the uræmic symptoms set in, a week before death, it was supposed that the disease in the bladder had excited inflammation, which had spread up the ureters to the kidneys. The autopsy, however, showed that there was not only villous disease of the bladder, but that the same morbid process had commenced in the kidneys, and that the uræmia was due to obstruction of the ureters by clots of blood derived from the villous processes above. Moreover, it is important to note that the passage of clots of blood along the ureters produced symptoms indistinguishable from those due to the passage of a calculus. This is a matter of some moment in diagnosis, for had these symptoms occurred earlier in the disease the case would, no doubt, have been mistaken for one of renal calculus. At the time when this case occurred I was not aware of any recorded case of villous disease of the kidneys.

*October 19th, 1869.*

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### 3. *Cystic disease of the kidney.*

By T. WHIPHAM, M.B.

CASE 1.—The specimen exhibited was removed from the body of William A—, æt. 48, who was admitted into St. George's Hospital on December 23rd, 1868, with bronchitis. He had suffered from cough one month previously, but gave no history of any other disease.

On admission he was suffering severely from bronchitis, his

breathing was much oppressed, and his cough extremely troublesome. He had no dropsy, though the urine was of a pale colour, and contained a very considerable amount of albumen. Two days after admission blood appeared in the water in large quantity, and he was ordered to take gallic acid in ℞ doses every six hours. On the morning of the 28th he was suddenly seized with urgent dyspnœa, and died quietly in an hour. "He was sensible to the last."

At the *post-mortem* examination both kidneys were found to be in an advanced stage of cystic disease. They were of enormous size, and weighed together 81 oz., and the cysts so numerous and so close to one another that to the naked eye it appeared as if all true renal structure must have been destroyed. The cysts were, on an average, of about the size of grapes, some smaller and some few rather larger, and the majority of them contained thin, clear fluid but others were filled with inspissated urinary salts.

The lungs were œdematous, and the bronchial tubes full of tenacious mucus, with congestion of the lining membrane. The heart was large, and weighed 19 oz.; the muscular walls of the left ventricle much hypertrophied, while there was great dilatation of the right side of the organ; as many as five fingers passed through the auriculo-ventricular orifice. The liver and spleen were normal.

CASE 2.—Edward S—, æt. 49, a police constable, was admitted into the surgical wards at St. George's Hospital on December 11th, 1869, in order that some necrosed bone might be removed from the shaft of the right tibia. On the evening of the same day he was transferred to the care of Dr. Wadham on account of dyspnœa and general bronchitic symptoms. He stated that he had continued to do his duty until December 10th, although suffering from difficulty of breathing, and that the next day he applied to the chief surgeon of the police force, not, however, on account of the dyspnœa, but in order that the disease of the tibia might be attended to. When received into the medical wards the dyspnœa was urgent, and accompanied by cough and copious expectoration of frothy mucus, tinged with dark coloured blood.

The chest was resonant, but râles both coarse and fine were audible throughout. His temperature was slightly raised; his pulse 120, and very hard. The urine was of a pale colour, and contained about one fifth of its bulk of albumen. He was cupped to twelve ounces, and put on salines with small doses of antimony, from

which treatment he experienced great relief. Towards the evening of December 12th his respiration became more oppressed, the pulse began to fail, and in spite of repeated stimulants he died early on the 13th, partly of asthenia, partly of asphyxia. He had no dropsy during the time he was under observation, nor could any evidence be obtained that he had ever suffered from it.

At the *post-mortem* examination the kidneys were found to be excessively enlarged, their joint weight amounting to  $81\frac{3}{4}$  oz. The left was 10 inches in length, 6 inches in width, and  $14\frac{1}{2}$  inches in circumference. The right was  $8\frac{3}{4}$  inches in length,  $5\frac{1}{2}$  inches in width, and  $12\frac{1}{2}$  inches in circumference. The organs were in a very advanced stage of cystic disease.

The cysts were very large, with thin transparent walls, and their contents clear thin fluid, which when microscopically examined was found to contain aggregated masses of cells, evidently from the tubes of the kidney, and crystals of triple phosphate, with some few of uric acid.

The lungs were in a state of intense congestion, but were throughout crepitant; the bronchial lining membrane was highly vascular, and the tubes themselves were full of mucus. The heart weighed  $22\frac{1}{4}$  oz.; the muscular walls of the left ventricle were hypertrophied, and the right side so much dilated that seven fingers passed easily through the auriculo-ventricular opening.

The microscopic appearances were so nearly identical that the description of one will apply equally well to the other. Those parts in each case were selected for examination where the cysts, although not absent, were least numerous and smallest in size. The tubes in such places were very greatly dilated, many of them entirely devoid of epithelium, while in others the channel was blocked by epithelial cells; in some few, however, the epithelial cells remained *in situ* and healthy. The Malpighian tufts were few in number, and when seen were frequently of an oval shape, from the contraction and pressure of the fibrous tissue. They were also in close proximity to one another, as in the small granular kidney. The excess of fibrous tissue in all parts examined was great; in fact, true renal structure, and that for the most part in an unhealthy condition, could only be found in small isolated patches.

These two specimens were exhibited to the Society chiefly because they were most remarkable examples of cystic disease of the kidney,



and also on account of the similarity in the history, symptoms, and *post-mortem* appearances in the two cases.

In neither patient was there any history of renal disease, nor had there been, so far as could be ascertained, any dropsy. When admitted into St. George's Hospital, the one in December, 1868, the other in December, 1869, both men were suffering from a severe attack of bronchitis, and in both the urine contained a large proportion of albumen, though in the case of William A— the additional complication of hæmaturia was present. One patient was 48 years of age, the other 49; in the first the kidneys weighed 81 oz., and in the second 81 $\frac{3}{4}$  oz.

It is worthy of notice in these two cases that, in the presence of such extensive and long-standing disease of these important organs, so few symptoms of renal disease should have existed. At the same time, in cystic disease, where the secreting structure is gradually compressed and altered in proportion as the cysts dilate, and where, moreover, the kidney increases so enormously in size, it is easy to understand why the symptoms of disease should be less acute than in cases of true granular kidney, where the tubes are compressed by a general increase of fibrous tissue without any such compensatory enlargement of the organ. In the granular disease the kidney is greatly diminished in size, while in the cystic affection it is enormously enlarged, the secreting structure spread over a large surface, and, at all events in the earlier stages, there is less real disease of the organs. In most of the cases on record hæmaturia, dyspepsia, or some other characteristic symptom of kidney affection, has been noted, and in cases mentioned by Dr. Bright, Dr. Roberts, and others, uræmic convulsions and coma have, as a rule, preceded death. No such complications attended the death of either of these two men; indeed, a special note was made in the case of Edward S— that "he was sensible to the last," while William A— is stated to have "died quietly." The two cases are, in short, instances of old-standing and very extensive renal disease, with an almost entire absence of symptoms.

4. *Thrombosis of renal veins in albuminuria through the occurrence of high fever.*

By W. MOXON, M.D.

THE kidneys exhibited are those of a man, æt. 33, who died in Guy's Hospital twelve days after an operation for the removal of dead bone.

He had been suffering from disease of the lower end of the femur for twenty years. There were several discharging sinuses about the knee, and some of these had existed for a very long period. His urine was highly albuminous, but there was no dropsy about him.

Twelve days after the operation he sank under the symptoms of pyæmic fever. At the time of the operation he very nearly died of chloroform asphyxia, and was saved only by the prompt use of artificial respiration.

The *post-mortem* examination showed the great viscera of the thorax and abdomen to be free from purulent deposits, but they were turgid and softened, as is usual in fatal febrile conditions. The knee-joint was opened into continuity with the wound made in the operation above noted, and it was in a state of acute suppuration. The liver was not lardaceous, neither was the spleen, at least they did not react to iodine, although to the naked eye and by the microscope the appearance was much like that of lardaceous disease. The kidneys were very large, weighing together twenty-seven ounces; they were pale and mottled, the cortex thick and of semipellucid whitish appearance; the pyramids were of much darker colour, and a very strong amyloid reaction came out on addition of iodine to them, also in a less degree in the cortex. The emulgent veins, even to the smallest venules that could be traced with the scissors, were full of a pale curdy clot which distended the vessels without adhering to their walls. The vena cava was quite free from thrombus. Last year I showed a specimen here which was very like the present (vol. xx, p. 227). In that case a man who was the subject of old-standing renal disease of the kind called "large white kidney" was attacked with typhus fever, and died of urinæmic symptoms during convalescence. All the veins of his kidneys were full of a pale curdy ante-mortem clot, exactly similar to that in the present case. Also in the 'Guy's Hospital Reports' for 1868 I described two

cases of similar universal thrombosis of the renal veins occurring in cases of severe injury to the lumbar spine. These cases have a certain general resemblance to each other, inasmuch as in all there is one common element, namely, a damaged state of the kidneys themselves, in two cases due to local violence, in the other two to Bright's disease. Four cases are thus brought together evincing the occurrence of a general thrombosis of the renal veins through depraved states of the kidneys themselves, and these make a series which I hope will raise an interest in the study of such a connection of the state of the kidney with its circulation. I believe I am right in saying that no such connection has been before observed.

But two of the cases, those that I have exhibited at this Society, have a point in common which I wish to indicate, namely, in both the thrombosis of the veins comes on in an old Bright's kidney during high fever, typhus in the first case, and pyæmic in the second, so that it would appear that the thrombosis is a result that represents the sum of ill effects of Bright's disease and fever upon the renal circulation.

The occurrence of the coagulation in the veins, and not in the arteries, would show that feebleness of blood-current is one element of its causation. The enfeebled circulation due to the chronic Bright's disease may be viewed as placing the renal veins in the same relation to fevers as the lower extremities, ears, &c., which sometimes perish in severe fevers, but I do not know whether in these cases thrombosis is an antecedent to the death of the part.

##### 5. *Cancer of the kidney in a child 4½ years of age.*

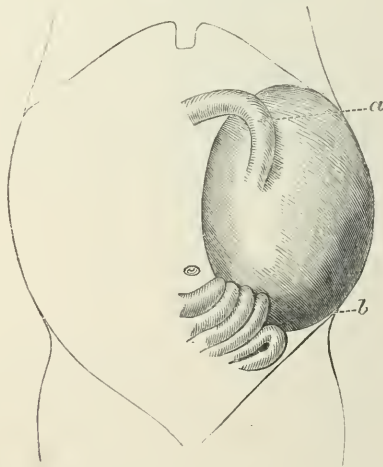
By C. HILTON FAGGE, M.D.

ALFRED A. PAYNE, *æt.* 4½, was brought to me by Dr. Sharpe, of Bermondsey, and was subsequently, on March 8th, 1870, admitted into Guy's Hospital under my care. His mother stated that for the last four or five months he had been falling away in flesh. About six weeks ago he passed some blood in his urine. His belly had always been rather large, and the veins unusually distinct ;

latterly it was growing still larger. About three weeks ago the child became much worse, and the mother noticed for the first time a hard swelling in the left side of the abdomen. A week later he had an attack of severe pain in this region, causing him to grind his teeth and scream. He had pertussis last year, and scarlatina about two years ago.

On admission the left side of the abdomen was found to contain a tense elastic tumour, of which the size and general outline are best indicated by the accompanying figure. It commenced in the left hypochondrium above; its inner edge passed near to the umbilicus, and its lower extremity rested on the iliac fossa. It bulged outwards both the left lower ribs and the margin of the abdomen. Its upper edge was rounded, and presented no trace of any notch such as is felt in a splenic tumour. The most prominent part of the tumour was that above the umbilicus; the lower end of it, indeed, seemed to be separated from this by a sort of constriction, and when pressure was made over this less raised portion of the tumour some

WOODCUT 11.



of the coils of small intestine (indicated at *b* in the diagram) could be distinctly felt to glide off its surface. On one occasion it was observed that a round cord-like body could be traced upon the upper part of the tumour, forming an angle precisely similar to that which would be caused by the splenic flexure of the colon. (The position

of this is shown at *a* in the figure.) Over the whole of the tumour, however, the percussion note was perfectly dull.

The child appeared to be in no pain. The urine contained neither albumen nor sugar.

Some blood from the finger was examined microscopically, and was found to contain no excess of white corpuscles.

On March 10th, at my request, my colleague, Mr. Durham, introduced a fine trocar and canula into the tumour in the left loin. The child, although perfectly conscious, did not wince nor start, nor appear to take any notice of the operation. Nothing beyond a little blood escaped, in which no cancer-cells could be discovered.

The temperature of the skin in the axilla, taken on two occasions by the ward clerk, was stated to be  $100^{\circ}$  and  $99.4^{\circ}$  respectively. At other times it was not above the normal.

But little alteration took place in the child's condition while in the hospital. The tumour did not appear to me to be increasing rapidly in size. On March 27th he had several convulsive fits, and in one of these he died.

On *post-mortem* examination it was found that the tumour was seated in the left kidney, and after removal it weighed four and a half pounds. It was a smooth rounded mass, enclosed in a tolerably firm capsule. Crossing its upper part lay the splenic flexure of the colon, as had been felt during life; and the coils of small intestine were found to lie over the lower end of it, as had also been determined.

The ureter, when traced upwards, was found to enter the inner and back part of the tumour, where the margin of the hilus was distinctly visible as a smooth edge, running along the surface of the mass. In this position a considerable portion of the kidney was found unaltered, except in being paler than natural. How large a part of the organ remained could not be determined without destroying the specimen, and this point, therefore, was left undecided. The pelvis of the kidney appeared unnaturally vascular, and the calyces had evidently been subject to some pressure, for the pyramids were much flattened. The two sides of the pelvis were, indeed, in contact, apparently in consequence of compression by the cancerous mass around.

On cutting into the tumour it was found to consist of a soft brain-like substance. Hæmorrhage had taken place into it in places.

Microscopically it consisted of minute oval or rounded cells, with nuclei nearly filling their cavities.

Several masses of secondary cancerous deposit existed in the liver. No similar disease was traceable in the lumbar glands. The lungs and brain were healthy.

*Remarks.*—From the clinical history and the physical characters of the tumour in this case, the nature of the disease was correctly diagnosed as soon as the child was admitted into the hospital, but I must admit that my confidence in the certainty of the diagnosis would have been increased had I known how comparatively frequent cancer of the kidney is in children. Several specimens of the kind have been brought before the notice of this Society, and Dr. West has published others in his work on the ‘Diseases of Children.’

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### 6. *Cancer of the kidney and of the liver.*

By A. LEARED, M.D.

THE body from which this kidney was removed was that of a well-known member of the profession. He was sixty-four years of age at his death, and had suffered from diffused abdominal pain for six years previously. About two years from the commencement of the pain he first passed blood with the urine. From that time he became subject to severe attacks of abdominal pain, much gastrointestinal disturbance, together with bloody urine. The symptoms so closely resembled those of renal calculus that they were attributed to this cause by other physicians whom the patient consulted as well as by myself. Some months before death, however, I discovered in the situation of the left kidney a large smooth tumour, which was tender on pressure. Soon afterwards the liver was found to be enlarged, and tender on pressure. It was now evident that the patient was suffering from malignant disease. The accompanying pain became intense, and it was singular that, towards the last, pain in the calf of the left leg was especially urgent.

It was found, on *post-mortem* examination, that the liver was much enlarged, and on section was seen to be studded with encephaloid

masses. These masses were nearly white in colour, and varied in size from that of a walnut to a pea. The intervening liver structure seemed healthy.

The left kidney was four times its natural size. Its capsule was much thickened, and its ureter blocked up by cancerous deposit. A large cyst, having very thin walls, but at the top of which was a mass of cancerous matter, was formed by dilatation of a calyx; two secondary cysts, formed in the same manner, communicated with the larger cyst, and they were all distended with about a pint of grumous fluid. The smaller cysts also contained a number of curious bodies, free or slightly attached to the cancerous deposits. These bodies were white, like portions of coagulated fibrin, and consisted of fibrillæ in bundles from an eighth to a quarter of an inch in length. Under the microscope the cancerous deposits in the kidney, as well as the fibrillæ, were seen to consist of closely aggregated epithelial-like cells.

The right kidney and other abdominal organs and the lungs and heart were healthy.

The cancer in this instance would seem to have commenced in the kidney, and its progress was very slow. But the chief interest of the case consists in the manner in which the symptoms of calculus of the kidney were simulated.

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7. *Kidneys, bladder, and urethra, illustrating some effects of the impaction of renal calculi.*

By J. W. HULKE.

THE scrotal part of the urethra is contracted, the mucous membrane and submucous tissue are thickened, and there is a false passage beginning in front of the contracted part and ending again in the urethra behind.

The bladder is small; its walls are extremely thick. The mucous membrane was of a deep purple colour, and encrusted with earthy patches. An opening, which just admits the tip of the little finger,

leads from the base of the bladder into a sac of the capacity of about one fluid drachm, which rises on the left side of the bladder. In the inner side of this sac is the lower orifice of the left ureter. The upper part of this ureter is greatly dilated and inflamed; the kidney is greatly enlarged and sacculated, and gangrenous. A small calculus was found in the ureter, just below this dilatation. There were abscesses in both lungs.

The patient from whom these organs were taken was a young man, *æt.* 25. From childhood he had voided his urine less easily than other persons; on several occasions he had had symptoms of stone, and twice he had expelled a small calculus after long and painful straining. He was admitted into the Middlesex Hospital in September, 1867, under my care, with frequent and painful micturition, and high-coloured and sometimes bloody, muco-purulent urine. A stone was felt at the left side of the bladder, near the neck; but this peculiarity was noticed, its position could not be shifted with the sound.

After a few days' rest the contracted urethra, which would admit only a No. 2 sound, was split with Holt's dilator preparatory to the removal of the stone, but on sounding carefully a few days later none could be detected. He left the hospital at the end of two months somewhat relieved, but was readmitted in the following December with, as was supposed, typhoid fever, into one of the medical wards, where he shortly died.

From this history we infer that the urethral stricture resulted from an injury caused by an impacted calculus in childhood (he denied that he had ever had a gonorrhœa); further, that this led to the hypertrophy of the muscular coat of the bladder, and that it conduced to inflammation of the vesical mucous membrane.

Next, that impaction of a renal calculus over the vesical end of the left ureter induced sacciform dilatation of this canal immediately above the obstruction, and that, after the escape of this calculus into the bladder, this sacculus and its vesical orifice underwent a further enlargement by the backward pressure of the contents of the bladder during micturition, a pressure which was intensified by the hindrance to the escape of the urine through the urethra. Lastly, an impacted calculus was manifestly the cause of the excessive dilatation of the renal end of this ureter and of the kidney, and also of their gangrenous inflammation.

As he certainly did not void a calculus between the first and second



soundings, it is most likely that on the first occasion, when a stone was thought to be felt, the staff really touched one of the earthy incrustations on the mucous membrane.

### 8. *Calculous pyelitis.*

By W. HOWSHIP DICKINSON, M.D.

THE preparation brought before the Society was obtained from the body of a tavern keeper, aged 49 years, whom I saw several times towards the close of his illness.

He was said to have been of temperate habits, and in his youth was somewhat celebrated as an oar. He was apparently well until two years before death, when the urine began to deposit a white sediment, described as resembling pus. This was not attended with any pain, inconvenience, or obvious disturbance of health, and after about three months the urine resumed its natural appearance, which it continued to present until six months before death, when the pus reappeared and continued to pass in increasing quantities. He never had any frequency or pain in micturition, nor any symptoms referred to the bladder. No stones or gravel were ever consciously passed, nor had there ever been any pain referred to the course of either ureter. The urine was never known to be smoky or to present any appearance such as could be ascribed to the presence of blood. For six months he had had dull pain across the lumbar region, which affected both sides alike. For the same length of time he had lost flesh and failed in health, and latterly the complexion was observed as yellowish.

When I first saw him, about ten days before death, he was febrile and prostrate. The complexion was yellowish and the features sharp. There were frequent night sweats. He was excitable in manner, and at night had been occasionally delirious. The pulse was quick and feeble (96—100), there was much thirst, the tongue and lips were dry. He vomited frequently, and there was total loss of appetite.

Latterly he had had diarrhoea. The urine was mixed with "laud-

able" pus, which after subsidence occupied about a quarter of its bulk. Under the microscope the sediment appeared to consist entirely of well-formed pus-corpuscles. The supernatant fluid was acid, and had a specific gravity of 1012. After the subsidence of the pus-globules it contained albumen, which coagulated to one fourth.

Under the circumstances it was sufficiently clear that the kidney was the source of the suppuration, and the only doubt to be solved was whether the kidney was the subject of tubercular disease or was the seat of suppuration connected with stone. The lungs were carefully examined for evidence of tubercle with a negative result, but at the same time there was a total absence of any symptoms connected with the passage or lodgment of calculi.

Morphia, strychnia, and ice were successfully applied to relieve the sickness, which was for a time the most pressing trouble; subsequently cinchona with small quantities of bicarbonate of potash and frequent fluid nourishment, with eight ounces of brandy daily, were given to counteract the rapidly increasing prostration. The pulse, however, increased in rate, the expression became haggard and worn, he was frequently delirious, and in this condition gradually sank.

In the doubt which existed as to the precise nature of the renal abscess, I was very desirous to make a *post-mortem* examination, but I was only permitted to take out the kidney, and that under peculiar and somewhat embarrassing circumstances.

The peritoneal cavity was natural. The left kidney was converted into a large cyst with very thin walls, which contained about a pint of purulent fluid. The cyst was lobulated externally, and internally divided into compartments; it still retained a kidney-like outline. The walls were almost simply membranous, small remains of renal structure being detected in them. The lining was smooth, very vascular, and had a creamy pus-producing surface. The upper two inches of the ureter were dilated to the thickness of the finger; beyond this was a tight constriction through which a probe would not pass, though the fluid contents of the cyst escaped scantily under pressure. The empty cyst weighed three and a quarter ounces. In the cavity were found about forty very minute black calculi, like poppy seeds, which together did not weigh half a grain; these consisted of oxalate of lime.

The right kidney could not be abstracted; it was of natural bulk,

and examined with the naked eye as far as the light of a candle would allow, it seemed healthy.

It was clear, from the post-mortem examination, that the oxalate of lime calculi had been at the root of the mischief. The small stones which were found in the cyst, though insufficient of themselves to produce the result, were enough to show the nature of the disease, and render it likely that a larger mass of the same kind had at some former period been impacted in the ureter, and on its escape had left behind it ulceration, which ultimately gave rise to the stricture to which the dilatation and destruction of the kidney were due. The total absence of any fact in the history pointing to the passage of calculi is not what would have been expected, but negative evidence of this nature is not always reliable. It has happened to me in other cases to fail to obtain any account of the passage of calculi, notwithstanding a strong probability that some had at some earlier date been passed.

It would seem that, as was observed at the meeting at which the specimen was shown, it often happens in cases where the kidney has, as in the present instance, been converted into a cyst by calculous obstruction, that the discharge of the contained fluid is apt to intermit, instead of being, as is generally the case with tubercular disease, constant. In this case there was an intermission of more than a year; and it sometimes happens that the cyst many times alternately fills and relieves itself by the ureter.

Death appeared to have resulted in this case from the suppuration, either directly or what appeared likely from the symptoms—diarrhœa, thirst, and vomiting—with the intervention of lardaceous disease. The inevitable incompleteness of the *post-mortem* examination, however, did not allow the organs to be searched for the confirmation of this view.

January 4th, 1870.

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### 9. Abscess of the kidney.

By EDWARDS CRISP, M.D.

THE subjunct case was under the care of Mr. J. F. Clarke, of Gerrard Street, Soho (April, 1870), with whom I saw the patient. I examined the body after death, Mr. Clarke unfortunately being unable to attend; he has furnished the following particulars:

“The patient was sixty-one years of age, very stout, and until six months ago, when I first saw her, had enjoyed good health. She first complained of pain over the right kidney, but no external swelling was present. She had intervals of ease, but the attacks of pain became more intense and prolonged, so that it was necessary to give large doses of opium to alleviate the pain. She also suffered from obstinate constipation, which it was difficult to remove by medicines and mechanical appliances. Signs of swelling over the affected part were visible about three months before she died. The pulse was often quick and irritable, the skin hot, and she had occasional vomiting. Latterly she could only lie upon her back. The urine was often tested for albumen, but none was present. She gradually sunk about six months from the commencement of the attack.”

Mr. Clarke thought that there was a tumour in the neighbourhood of the kidney; but I was quite in the dark as to the nature of the morbid lesion, the obesity of the patient and the great distension of the abdomen adding greatly to the difficulty of the diagnosis.

I examined the body twenty-four hours after death. A large amount of fat on the abdominal parietes. The liver was large and mottled (nutmeg-like). Over the left kidney was a large elastic tumour, which ruptured when the intestines were removed; it contained about a quart of very fœtid pus, which had burrowed behind the peritoneum and had escaped from the kidney. The left kidney contained several sacculi, varying in size from that of a nut to a walnut; some of these were lined with a thin cheesy layer, which under the microscope was seen to be composed of amorphous tubercle-like matter; the pelvis of the kidney much enlarged, and it contained about two ounces of pus. The glandular structure of the organ was much altered; it was dense and fibrous, leaving no distinction between the cortical and medullary portions; the weight of the gland was  $6\frac{1}{2}$  oz. The pus had escaped from the kidney through a small opening in one of the sacculi. The right kidney normal. The chest and brain not examined.

*Remarks.*—In this case the position of the patient was latterly always on her back, and although the condition of the pulse and skin, as well as the nature of the pain, indicated that some inflammatory action and that some disorganization of structure existed in the abdomen, the thighs were never drawn up to the belly. Another curious feature in the case was that the pain was generally referred to the right side, although the pus was in and around the left

kidney. Mr. Clarke informs me "that he never saw pus in the urine, which was several times tested for albumen."

May 17th, 1870.

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10. *Acute renal dropsy without albuminuria; interstitial nephritis.*

By WILLIAM CAYLEY, M.D.

JOHN DRAPER, æt. 9 years, was a patient in the Middlesex Hospital, under the care of Dr. Henry Thompson.

His previous health had been good, and he had never had scarlatina. About fourteen days before his admission, according to his mother's statement, he caught cold; there was but little cough, but he was chilly, lost his appetite, and seemed generally unwell. A few days afterwards his throat became sore, and this was shortly followed by a purulent discharge from both ears. No rash was observed, and, as far as could be ascertained, he had not been exposed to scarlatinal infection; his brothers and sisters also remained well. About a week after the accession of his symptoms general dropsy supervened, beginning in the eyelids and face; this continued to increase, and during the two nights preceding his admission he was delirious. The condition of his urine was not noticed. He does not appear to have suffered from pain in the loins.

On admission he was well nourished, but had a pasty anæmic complexion. There was considerable general anasarca and some degree of ascites. Pulse 120. Respiration 24. Thoracic percussion and respiratory sounds normal. A soft double murmur was audible over the præcordia, most distinct at the base of the heart. There was a purulent discharge from the ears, but the sore throat had almost subsided; no desquamation was present. Urine not high coloured, sp. gr. 1018; it contained a deposit of lithates, dissolved by heat. On continuing to apply heat a white cloud formed, redissolved by nitric acid. Nitric acid added to the cold urine threw down a deposit redissolved by heat. On microscopical examination lithates and numerous large crystals of lithic acid were found, but no blood or casts.

It is unnecessary to give the details of the subsequent progress of the case. The urine was passed in rather large quantities, the sp. gr. varying from 1012 to 1018. Though examined daily it was never found to contain either albumen, blood, or casts, but continued to show a considerable deposit of lithic acid. The dropsy much diminished without completely disappearing. The patient was delirious at night. The heart's action became very irregular and tumultuous, and the double basic bellows-murmur, though altering much in character, was persistent. Ultimately lobular pneumonia and œdema of the lungs supervened, and he died, after being in the hospital eleven days, between three and four weeks from the commencement of his illness. He did not become comatose and had no convulsions.

On *post-mortem* examination the lungs were found highly œdematous, with patches of lobular pneumonia dispersed through them. The heart showed recent myo- and endocarditis, the muscular walls of the left ventricle being studded with buff-coloured patches intermixed with points of extravasation. On microscopical examination of these patches the muscular fibres were found thickly studded with oil-globules, and in some places appeared reduced to an oily and granular *débris*. The aortic valves were much swollen, softened, and studded with recent vegetations. The kidneys, especially the left one, were enlarged. The right weighed  $4\frac{1}{2}$  oz., the left  $5\frac{1}{4}$  oz. Their capsules stripped off with abnormal facility; surfaces were smooth, pale, but somewhat mottled. On section the cortices were found increased in thickness; they were pale, somewhat opaque, the pyramids were congested. The kidneys, therefore, to the naked eye presented much the characters of the large white kidney, or the second stage of acute tubal nephritis. On microscopical examination the condition was found to be very different. The morbid change consisted in the deposition of masses of nuclei, having the characters of lymph corpuscles between the uriniferous tubules and round the Malpighian bodies; they were especially abundant in the latter situation. The epithelium of the uriniferous tubules appeared normal, or at the most was only slightly swollen and granular. The morbid condition, therefore, was essentially one of acute interstitial nephritis, the inflammatory exudation being in every respect identical with that met with in other cases of interstitial inflammations, as, for example, cirrhosis of the liver.

Cases of acute renal dropsy without albuminuria, both as the

result of scarlatina and from exposure to cold, have been frequently recorded; but I am not aware of any satisfactory explanation of their pathology having been given. This case would tend to show that some of these perplexing cases may be due, even when the result of scarlatina (as in all probability the present one was), to interstitial nephritis. It is interesting also as being an example of the acute stage of the contracted granular kidney, which is probably of rare occurrence. Certainly in the majority of cases of this form of Bright's disease the nuclear deposit and its conversion into fibrous tissue go on with equal steps. The non-occurrence of albuminuria in the acute form of the disease, and its late appearance in the chronic, admit I think of a satisfactory explanation, on the supposition that the fluid exuded from the Malpighian tuft, as it is not covered by any secreting cells, but only by a layer of endo-epithelium, consists essentially of serum, and is, therefore, albuminous. In the healthy kidney the albumen and non-urinary elements are reabsorbed during the passage of the fluid down the convoluted tubes. When the tubal epithelium is diseased this reabsorption is interfered with, and albumen consequently appears in the urine. But in interstitial nephritis, which results in the contracted granular kidney, the renal epithelium does not become affected till the interstitial deposit, by its contraction, has begun to press upon and constrict the convoluted tubes, and so albumen does not show itself till the disease has made considerable progress. This deposit also leads to thickening of the small arteries and capillaries, and this, while not interfering with the free transudation of water through them, tends to check the passage of the dissolved solids, and hence the urine in these cases is usually abundant and of low specific gravity. A similar condition of urine occurs in cases where the vessels are thickened from other causes, as amyloid infiltration. I need hardly say that the discovery of the termination of the convoluted tubes in Henle's loops speaks strongly in favour of this view, as this arrangement must necessarily greatly retard the flow of fluid down the convoluted tubes and so favour reabsorption, while it would be unfavorable to secretion.

The accompanying drawing (Plate VI, fig. 3) was made for me by my friend Mr. Arnott.

*May 17th, 1870.*

11. *Tubal nephritis without albuminuria.*

By W. HOWSHIP DICKINSON, M.D.

ALFRED MONK, 10 months old, was brought to me October 20th, 1868, at St. George's Hospital, in a condition of general œdema, the legs especially swollen and pitting. The dropsy had come on a fortnight before without any ostensible cause. No scarlatinal or other febrile symptoms had been observed. The child was very anæmic; the fontanelle still open. It had been brought up at the breast. After admission the dropsy gradually increased, extending from the legs, where it had commenced, to all the limbs and the face. On the 27th the feet and hands were nearly globular with œdema, deep furrows passing round the wrists. The eyes were nearly closed by the surrounding swelling, the skin about them looking transparent from the fluid beneath. Some urine (only about two drachms) was now with difficulty procured. It was ammoniacal and turbid. There was no obvious alteration on the application of heat and acid, though, from the turbid state of the fluid and the small quantity obtained, it was not possible to be sure that there was not a minute trace of albumen. If present, it must have been in excessively minute quantity. No casts were found on microscopic examination. It was stated that urine was passed in exceedingly small quantity only once in twenty-four hours; it caused an erysipelatous condition of the scrotum and other parts with which it came in contact.

The child had at this date (27th) a convulsive fit, after which it resumed its former state.

Acetate of potass and digitalis were used separately and together, for the sake of their diuretic action; but they failed in reducing the swelling. By the 31st this was still on the increase; the hands were nearly globular; the limbs, stretched to shiny distension, were too tense to pit, though some parts of the trunk still retained the impression of the finger.

On the night of the 31st two convulsive attacks occurred, after which the child remained drowsy, in which condition it died on the following day.

The kidneys together weighed one ounce and half a drachm. Their surfaces were smooth, the capsules not adherent; on section they



were very hard, the cones and cortex nearly alike, of a nearly uniform buff colour. There was no appearance of injection about the organs.

Under the microscope, examined in a fresh state, many tubes were seen distended with nearly uniform translucent oil-dotted fibrine. Others were seen in a natural state. The epithelium was natural.

Translucent sections showed a general opacity. From packing with epithelial cells and fibrinous matter, some tubes in the cortex were considerably dilated. There was no alteration excepting in the tubes; no increase of or change in the intertubular tissues.

I have elsewhere published a case somewhat resembling that just related.<sup>1</sup> A child, aged 18 months, had general œdema, which, as there were traces of desquamation upon the body, was thought to be the sequel of scarlatina. The urine was repeatedly examined, and found to be free from albumen. Death appeared to be immediately due to peritonitis. After death the kidneys were enlarged, hard, and very anæmic. The tubes were obstructed by epithelium in a manner very characteristic of tubal nephritis. There was no change in the intertubular structures.

Although albumen is generally to be found in the urine in the course of tubal nephritis, that morbid admixture is not necessarily the first symptom of the disturbance. Cases even occur, though according to English experience they are so rare as to be clinical curiosities, where, though the disease may have reached its fatal termination, albumen is absent from first to last. I say according to English experience, because M. Philippe, of Berlin, states that in sixty cases of scarlatinal dropsy he did not once find the urine to be albuminous.<sup>2</sup> If in all these cases the secretion was examined, we must conclude that scarlatinal dropsy in Berlin is different in this respect from scarlatinal dropsy in London. Nevertheless, it appears that even in London albuminuria is not an invariable accompaniment of tubal nephritis resulting from this cause. It often happens that after scarlet fever the face may be puffy, and traces of œdema may be noticeable in the limbs, while yet the urine, though perhaps concentrated and scanty, is free from albuminous change. After the first few days albumen generally appears, and

<sup>1</sup> 'Pathology and Treatment of Albuminuria,' p. 73.

<sup>2</sup> Jaccoud, 'New Dictionary of Medicine and Surgery.'

gradually increases until it has reached a considerable amount. It is certainly very uncommon in this country for the urine under such circumstances to remain free from albumen throughout the course of the disease. The only examples of this exemption which have come under my notice are those which have been related.

When the kidney becomes the subject of inflammation, either in consequence of the development within the body of a renal irritant, as occurs in scarlatina, diphtheria, measles, or erysipelas, or becomes similarly disturbed by poisons from without, such as cantharides or turpentine, it seems that two processes occur simultaneously, but not always in the same proportion. There is vascular injection, and, at the same time, there is a morbid growth of epithelium, with more or less fibrinous exudation in the tubes. But these two changes do not always occur in the same proportion. The vascular injection may be great, while the tubal obstruction is comparatively small; and, on the other hand, the disturbance of tubal growth may be excessive, while as yet the congestion is comparatively inconspicuous. Which of these two morbid processes shall be the more prominent appears to depend much upon the nature of the cause to which the disturbance is due. In scarlatina the tubal obstruction takes the lead; when the renal disturbance is due to the introduction of cantharides the vascular congestion is the more striking. When the kidneys owe their disturbance to cold, or to the results of diphtheria, they manifest less immediate tubal obstruction than with scarlatina, less rapid congestion than when under the influence of cantharides.

The presence of albumen in the urine under circumstances of tubal inflammation depends upon congestion of the kidney. The albumen in the urine is the measure of the renal congestion; the increased pressure of the blood in the Malpighian vessels occasions transudation of serum and its admixture with the urine.

When the structure of the kidney has been altered by chronic disease, it appears that other changes may contribute to a similar result; but when acute inflammatory disease befalls a hitherto healthy kidney, the source of the albumen seems to be chiefly due to leakage of the exposed Malpighian vessels. Hence, if congestion or vascular pressure be great, the albumen will be plentiful; if small, it will be scanty or absent. When, therefore, as sometimes occurs from scarlatina, the congestion of the gland remains for a time slight, albumen may be nearly or quite absent from the urine, though this

secretion is greatly reduced in quantity from the occlusion of its channels of exit.

When hyperæmia takes the lead of epithelial growth, as seems to happen when the kidneys have been disturbed by external cold, albumen is largely and immediately found in the urine. In scarlatina epithelial growth takes the lead of congestion, and albumen may be delayed in its appearance, or even, as in the cases reported, may be altogether absent.

May 17th, 1870.

12. *Case of vascular tumour of the bladder, possessing unusual characters.*

By Sir HENRY THOMPSON.

**R** S—, æt. 54, a farmer, recommended to me by Dr. Richardson, of Dursley, Gloucestershire, came under my care in October, 1869, suffering from pain in micturition and great frequency of passing water, which had existed about two years. Soon after, he was the subject of bleeding, which came on suddenly without known cause, and recurred at irregular intervals, sometimes of two months' time. He was very weak and emaciated, having lost much flesh.

At the present time he cannot retain his urine, and it flows off constantly by night and by day, and he suffers almost constant pain. On introducing a No. 8 gum catheter into the bladder, eight ounces of clear urine passed and immediately afterwards a quantity of florid blood, with much pain. He had two or three hours' relief from involuntary micturition and less pain after this. By examination per rectum no change was appreciable, except undue tenderness in pressure upon the bladder. There was no suprapubic tenderness. The act of defæcation produced uneasiness. On sounding the bladder, nothing was felt except some rigidity of the walls. I diagnosed villous tumour and sent him to the hospital, where bleeding recurred after the use of the catheter. Hence I taught him to pass his catheter himself, and to avoid always emptying the bladder with it, leaving about an ounce behind; in this way the hæmorrhage occurred

much less frequently, and much relief from pain, &c., was experienced. He gradually grew weaker and sank in a few days.

The autopsy revealed the presence of two vascular tumours of the bladder, not strictly villous, but of a remarkable and exceptional character. On opening the bladder the walls were thicker than natural, while the mucous membrane was of a dark grey reddish hue. Two red and very flaccid bodies, each about the size and form of a small fig, lay in the cavity, each attached by a slender pedicle at least an inch and a half long, the two then joining in one, to be connected with the coat of the bladder towards the back of the trigone. These bodies were of a deeper crimson hue than the surrounding mucous membrane. The pedicles, which are very slender, seemed to be made up entirely of blood-vessels and a little connective tissue. Each tumour was itself formed of a congeries of fine vessels, and very little stroma, other than loose connective tissue. The ureters were thickened and dilated, each being about the size of the little finger. The kidneys were both largely congested. The right kidney showed a much dilated pelvis, which contained pus, while there were also deposits of pus within the structure of that organ.

No signs of glandular enlargement were found in the pelvis, and no trace of similar disease was found in any other part of the urinary organs or elsewhere.

May 17th, 1870.

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### 13. *Thirty-one calculi removed by lithotomy.*

By THOMAS SMITH.

THESE stones were removed by Dr. James Wise (civil surgeon, Dacca, Bengal) from a Hindoo peasant, aged 35. The patient was admitted into hospital in November, 1868, suffering from symptoms of stone, which had existed several years. His general health was good.

Lateral lithotomy was performed, and the patient did well after the operation. He absconded from the hospital on the 10th day, and a month afterwards was found reaping his rice crop, having

since the operation travelled 100 miles (part of the way on foot) without injurious effect.

The stones removed are 31 in number, and most of them pretty regularly tetrahedral in shape. They weigh together four ounces and three quarters. Dr. Matthieson, who has been kind enough to analyse one of the stones, informs me that it is composed of phosphate of lime.

*January 18th, 1870.*

14. *Cast of a calculus which weighed twenty-five ounces, and which was removed from the bladder after death.*

By T. HOLMES, for MR. WILLIAMS.

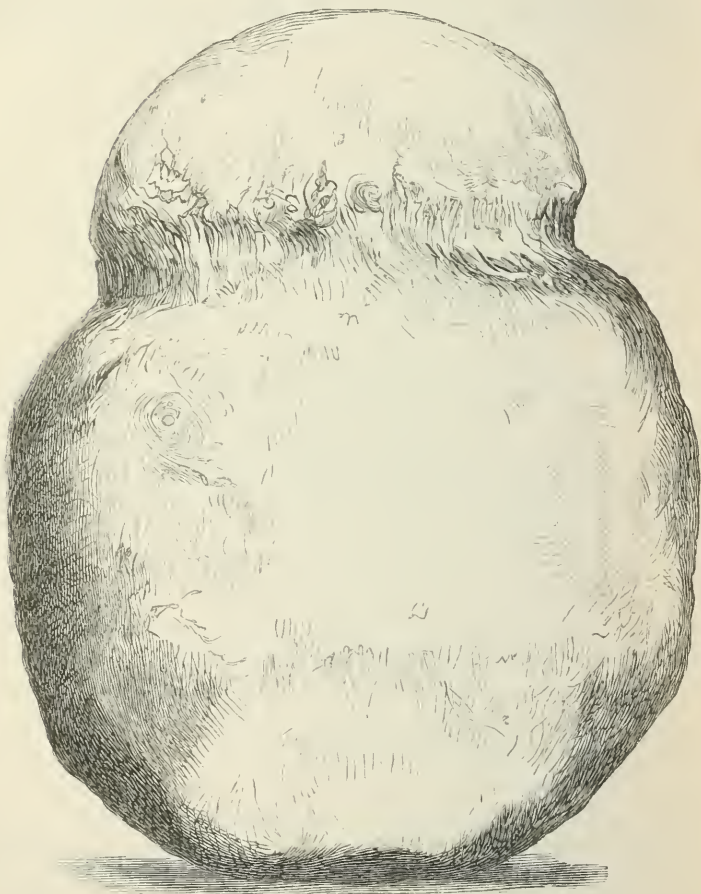
THE cast exhibited to you, is that of a calculus removed from the body of Sir Thomas Adams, a baronet, who died at Sprowston Hall, near the City (Norwich), during the reign of Charles 2nd.

The way in which I became possessed of the cast is somewhat singular. Some months ago I received a letter from Mr. R. G. Whitfield, the resident medical officer of St. Thomas's Hospital, in which he says: "I have had a very valuable and interesting calculus given to me to present to the Hospital Museum; it was removed after death from the body of Sir Thomas Adams, baronet and alderman; its weight was twenty-five ounces. I understand from a descendant of Sir Thomas (Mr. Edward Hill, who presents the calculus to the Hospital, and whose family has possessed it for years), that there exists in Sprowston church a monument to the memory of his ancestor with an inscription on it. The object of my writing to you is to ask you to be good enough to examine that inscription, and ascertain whether any allusion is made to the stone, for I need only say that any fact which can be brought to identify the calculus will make it the more valuable, as it is not only interesting to us on account of its large size and peculiar shape, but because Sir Thomas Adams was, 108 years ago, connected with this hospital, for many years, as its President."

Shortly after receiving this letter, I visited Sprowston church, situated about four miles from Norwich, and was much surprised to

find in the chancel a large and costly marble monument to the memory of Sir Thomas. It was about fifteen feet in height, and adorned with life-size recumbent figures of himself and his wife ; it

WOODCUT 12.



Actual size of the stone.

contained a long Latin inscription, the latter part of which corroborates the remarkable circumstance alluded to respecting the presence of a calculus in the bladder of Sir Thomas Adams :  
“Postquam Octogesimum primū Annum compleverat et cruciatus

gravissimos calculi (qui pondus unciarum vijinti quonique superaverat) invictâ patientiâ pertulisset, Feb. 24, MDCLXXII, vitæ tædus solutus."

In Chalmer's 'Biographical Dictionary' he is described as a man "highly esteemed for his acts of munificence; born in 1586, at Wem, in Shropshire; educated at the University of Cambridge, and as Fuller says, bred a draper in London. He rose to be Lord Mayor, was often returned Member of Parliament, and was chosen President of St. Thomas's Hospital, which institution he saved from ruin, by discovering the frauds of a dishonest steward. He was subsequently dignified with the title of 'Father of the City,' and became an intimate friend of Charles 2nd, to whom he remitted large sums of money when that prince was an exile.

"When the restoration of the king was agreed on, Mr. Adams, then 74 years of age, was deputed by the City of London to accompany General Monk to Breda, in Holland, to congratulate and accompany the king home; for this service the king knighted him, and after the restoration advanced him to the dignity of a baronet.

"His merit as a benefactor to the public is highly conspicuous; he gave the house of his nativity at Wem as a free-school to the town, and endowed it liberally; he likewise founded a professorship of Arabic at Cambridge, both of which took place before his death, and was also at the expense of printing the Gospels in Persian and sending them to the East, that he might, as he quaintly expressed it, 'throw a stone at the forehead of Mahomet.'

"In his latter years he was much afflicted with the stone; this, by a fall as he was stepping out of a coach, hastened his death, which happened on the 24th of February, 1667, when he was 81 years of age. The stone was taken from the body, and was of such extraordinary magnitude as to weigh twenty-five ounces, and is preserved in the laboratory at Cambridge."

On reading this, the authenticity of the calculus at St. Thomas's Hospital Museum seemed doubtful, but this doubt was soon set at rest by a letter which Professor Humphrey, of Cambridge, favoured me with, and in which he observes: "Unfortunately we have only the cast, though that is a good one, and is treasured as the fac-simile of so great a calculus; I wish we had the original, it would be a good addition to our valuable collection, and a good accompaniment to our thirty-two ounce calculus, taken from a woman who died about the same time, as well as a relic of one who was much attached to

our University; the short account we have of the cast corresponds with what you state in your letter to me."

In consequence of the trouble I had taken in procuring photographs of the monument, the Treasurer of St. Thomas's Hospital was pleased, very graciously, at my request, to present a cast of this large calculus to the Museum of the Norfolk and Norwich Hospital, and also offered me one for my own acceptance.

This large calculus measures  $4\frac{1}{2}$  inches in its long axis, and  $3\frac{1}{2}$  in its short;  $12\frac{1}{2}$  inches in its long circumference, and  $10\frac{1}{2}$  in its short, and is a remarkable fine specimen of a uric acid stone, to which the bladder was, most likely, closely connected, and its shape is thus moulded to the form of that viscus. It presents features of much interest, and not the least, that of its composition, which proves that there was no disease of the bladder or mucous membrane, otherwise the earthy phosphates would probably to some extent have formed a portion of its covering. From the circumstance that Sir Thomas Adams was able to get about up to the day he fell out of his coach, we are led to believe that no disease of the kidneys, at least of any consequence, existed. A pathological fact of much interest is therefore established, that a large stone may form and lie in the bladder without occasioning any serious disease. In the case of Sir Thomas, it is not unlikely that he may have continued well still longer, had it not been for the accident he met with, and which "hastened his death."

Through the kindness of Mr. Stewart, the Curator of the Museum at St. Thomas's Hospital, I am enabled to give an analysis of "the calculus which originally weighed 12,000 grains, consists of uric acid with a small trace of urate of lime, the nucleus is composed of adhering granules of the same nature as the rest of the calculus, which is regularly laminated."

*March 15th, 1870.*

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15. *Two large vesical calculi removed after death.*

By C. DE MORGAN.

A VERY large calculus, which had been removed from the bladder after death, having been shown at a former meeting, the present specimens were exhibited. They are from the museum in the Canterbury Hospital, and Dr. Lochée gives the following account of them:—About twenty years ago on going round the hospital he saw a man, evidently in the last stage of suffering, straining to pass water. The house-surgeon told him that the man had just been admitted for retention of urine. The house-surgeon went to get a catheter, but soon rejoined Dr. Lochée in another ward, and told him that the man had passed water naturally, and was relieved; he died of exhaustion, however, that same afternoon. Dr. Lochée found on making inquiries, that for years the man had been supposed to be shamming in order to obtain poor-law relief; and that he had been in the habit of walking about the street with his hands folded over his lower belly and evidently supporting it. The real cause of his sufferings had never been suspected.

After death two large calculi were found filling up the bladder. The larger one is ovoid in shape; one of its surfaces is smoothly worn by friction. Its long diameter is  $3\frac{1}{2}$  inches, its short diameter  $2\frac{7}{10}$  inches. The long circumference is 10 inches, and the short  $8\frac{7}{10}$ . The weight is  $13\frac{3}{4}$  ounces. The smaller calculus is somewhat semilunar in shape, the concave surface being worn down and fitting upon the flattened surface in the larger calculus. A section shows that the rings of deposit are regularly circular, except at the concave part, where they are interrupted, showing that at one time the calculus was uniformly globular, but had been brought to its present shape by attrition; hence, probably, there had been no new deposit for a considerable time. The longest diameter of this calculus is  $2\frac{8}{10}$  inches, the shortest  $2\frac{2}{10}$ , and the weight  $8\frac{1}{2}$  ounces. Together they present the remarkable weight of  $22\frac{1}{4}$  ounces. When placed *in situ* their united long circumference is  $12\frac{2}{10}$  inches.

*April 19th, 1870.*

16. *Large cystic oxide calculus successfully removed by lithotrity, in a patient aged 81 years.*

By Sir HENRY THOMPSON.

A GENTLEMAN, æt. 81 years, came under the care of Sir Henry Thompson in July, 1867, who stated that thirty-nine years before he had passed a calculus, when at Rome, which was said there to be cystic oxide.

He has had irritability of the bladder for some years, and now has the usual symptoms of stone in the bladder.

The urine is cloudy, and the microscope reveals crystals of cystic oxide, in addition to little pus, blood, and triple phosphate, but is not otherwise unhealthy.

On the 6th of July I sounded him and detected a stone of rather large size. On the 8th I crushed the stone for the first time, after which he passed chiefly fragments of cystic oxide with a few triple phosphates. Between this date and August the 4th he had eight sittings more, and on the 10th, having carefully sounded him and washed out the bladder with Clover's instrument, I was satisfied that the whole had been removed. During the operation he had scarcely any fever, and was speedily freed from all his troublesome symptoms. There has been no return of the malady, and he has enjoyed excellent health and led an active life ever since, being now (1870) eighty-four years of age.

The calculus broke without much force, and into granular *débris* of small size, not into angular portions like those of uric acid.

May 3rd, 1870.

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17. *Calculus of pure phosphate of lime successfully removed by lithotrity.*

By Sir HENRY THOMPSON.

A GENTLEMAN, æt. 35 years, came under Sir Henry Thompson's care in November, 1869, suffering from symptoms of stone in the bladder. In 1861 to 1865 he had been under the care of Mr.

Brodhurst with angular curvature of the spine, during which period he passed two small calculi, said to be phosphate. The back is now ankylosed, and gives him no uneasiness.

During the last two and three-quarter years has had irritability of bladder, with pain at end of penis after micturition and exercise, with sometimes bloody urine. On the 9th of November I sounded him, and found a largish stone. His urine was healthy, with exception of some pus, blood, and phosphates.

On the 7th of December I crushed for the first time. The stone was hard. After this he passed very large pieces of partially translucent stone, which on examination proved to be pure phosphate of lime; one of the most rare forms of urinary calculus in man.

From this date to the 18th of December he had three more sittings; and on the 27th I sounded him, and was able to tell him that his bladder was free from stone.

The calculus corresponded in physical characters with the description given by Dr. Wollaston in the 'Philosophical Transactions' of 1797:—"The laminæ being striated in a direction perpendicular to the surface, as if from an assemblage of crystalline fibres."

*May 3rd, 1870.*

### 18. *Hair and cheesy matter passed by the urethra.*

By HENRY WILLIAM FULLER, M D.

THIS specimen was passed with the urine by a lady, æt. 50 years. She is married, and has had two children, both of whom are officers in the army. She always enjoyed excellent health, and never miscarried. The catamenia were always regular, and still continue so. Seventeen years ago she had a severe fall while hunting. This resulted in profuse hæmorrhage from the uterus. She fainted, and lay insensible for some days; and when eventually she regained consciousness, she perceived a large black tumour just above the brim of the pelvis, lying over but a little to the left of the pubis. By degrees the tumour disappeared, but from that time a hardness has always

been perceptible to the touch, extending from the inner half of the left iliac region across the pubic region, and the inner third of the right iliac region, forming a ridge about an inch and a half in width. On her recovery from this fall she considered herself perfectly well; but shortly afterwards she perceived that her urine was constantly turbid, and her medical attendant informed her that the urine contained pus. From time to time, through a series of years, the urine has been examined at intervals, and always with the same result; but it has never occasioned much irritation of the bladder or other inconvenience, and, with the exception that she was aware of something being amiss with the urinary organs, she has considered herself in good health. Two years and a half ago, after a fatiguing journey from Ireland, she began to experience great pain in the bladder and in the lower part of the vagina. The urine became much more turbid than usual; she had shivering, followed by profuse dripping perspiration; and was altogether so ill that she was obliged to seek medical advice. On examination a soft tumour, about the size of a large walnut, was found just within the vagina, immediately beyond the clitoris; and in the urine was found not only pus, but masses of what appeared to be sebaceous matter. The gentleman who saw the patient at this time regarded the case as one of a sebaceous cyst developed in the upper wall of the vagina, emptying itself into the bladder. After the lapse of three months the more urgent symptoms subsided, and she gradually, though only partially, regained her health and strength. The urine still continued charged with pus, and occasionally she had pain on micturition, which disturbed her twice or three times at night; but with this exception she felt fairly well, and was again enabled to enter into society. So matters went on until the 22nd of last April, when, after a long journey in a Great Northern express, she experienced excessive pain in the vaginal tumour, and also in the bladder. There was a constant desire to micturate, and the urine was loaded to such an extent with pus and cheesy matter that when an eight-ounce bottle was filled with it, the pus, after the urine had been allowed to stand for half an hour, filled one third of the bottle. Pressure above the brim of the pelvis in the position of the original hardness occasioned pain not only at the spot, but also in the vaginal tumour, and thus seemed to indicate a connection between them. On examining the vaginal tumour with the finger, I found it somewhat tense, but soft and inelastic; it was movable to a certain degree, but beyond that point resisted, and for a time the

firmest pressure did not diminish its size. The conclusion I arrived at, therefore, from this resistance and from the presence of so much pus in the urine was that the tumour could not be a simple sebaceous cyst in the walls of the vagina. At my second examination I again endeavoured, by means of pressure, to empty the tumour or supposed cyst, but for some time without effect. At length, after pressing it in all directions, I felt its contents suddenly escape, and in a moment the tumour was empty. The next morning I was summoned to my patient, who had passed the night in severe pain consequent on her inability to void her urine. She had suffered with constant desire to micturate, and a forcing attempt to do so had proved ineffectual in consequence of some stoppage in the passage. Just before I arrived the "stoppage" had given way; and on examining the chamber utensil I found the urine acid, loaded with pus, and containing numerous fragments of yellowish-white cheesy matter, varying in size from that of a millet seed to that of a small pea. Besides these, it also contained the masses of hair embedded in cheesy matter now presented to the Society, each about the size of a full-grown kidney bean, together with many isolated hairs, varying from about an inch to two inches in length, which were not attached to any cheesy matter. The hairs were perfect hairs, with their bulbs attached; and that which resembled cheesy matter did not present any definite structure under the microscope, but appeared to be the *débris* of some fibroid substance. It was not influenced by acetic acid or ether, and no oil-globules were visible under the microscope. On the day after the patient passed these masses of hair, the urine contained pus and small fragments of the cheesy matter as usual, but no hair; and so again on the following day. I then examined her per vagina again, and found the tumour as large and full as it had been previously to my having forced its contents into the bladder. After considerable trouble I emptied it again, and on the next day, as before, hair and cheesy matter in large quantities was passed with the urine. This was repeated on five occasions during the first three weeks, since which, although the tumour has repeatedly filled, it has never conveyed to the finger the impression of containing solid matter. The slightest pressure has served to evacuate its obviously fluid or semifluid contents. The hardness formerly felt above the pubis has greatly diminished, and scarcely a trace of cheesy matter is now passed with the urine, though pus in large quantities is voided as before.

My interpretation of the case is that at the date of her fall while hunting she ruptured a dermoid cyst, the contents of which became commingled with the blood extravasated at the time; that a limited amount of suppuration occurred, and that the pus forced its way between the vagina and urethra, and ultimately opened into the bladder; that the tumour felt in the vagina is the terminal portion of the abscess, which opens into the bladder about an inch higher up; that two and a half years ago, after her journey from Ireland, active inflammation was for the first time set up in the entire cyst, and its contents began to break up; that under the influence of rest, fomentations, &c., the more active symptoms were subdued, and the process of disintegration was somewhat stayed; and that the complete breaking up of the contents of the cyst did not take place until after the violent inflammation set up by the jolting she underwent during her journey in the express train last April.

I would add that the hair voided with the urine has varied in length from about an inch or an inch and a half to about nine inches. The longer hair has been forcibly pulled through the urethra.

May 3rd, 1870.

*Report on Dr. Fuller's specimen of hair and cheesy matter passed by the urethra.*—The specimen consisted of about three drachms of opaque fluid, smelling strongly of urine, containing a small mass about the size of a hazel nut, composed of a coil of short hairs, varying in length from half an inch to an inch, of light brown colour; entangling in their meshes some yellowish matter resembling in appearance cheesy tubercle.

This solid matter was found to possess the following characters:

*Chemically.*—It was insoluble in ether, and also in boiling alcohol. It was soluble in liquor potassæ, the solution being slightly opalescent. It was also soluble in boiling acetic acid.

*Microscopically.*—It was seen to consist of granular amorphous material, with here and there apparently disintegrated cells. Very perfect specimens of hæmatine crystals were found embedded in the amorphous granular matter. Crystals of triple phosphate were numerous; these were probably derived from the urine. Some small acicular crystals were also present.

One well-marked renal cast was discovered, and there were several short, apparently tubular, granular-looking bodies. There was an

entire absence of fat. The hairs generally were perfect in structure, with the exception of the bulbous ends, which were wanting.

Through the kindness of Dr. Fuller we are enabled to give a further account of this interesting case. Dr. Fuller has kindly informed us that since the date of the last meeting his patient has passed several masses of hair, varying in length from four to five inches, together with portions of the material already described, which we regard as fibrinous, originating from effused blood.

The passage of these hairs, &c., followed the emptying of the pouch, which was effected by repeated manipulations. Subsequently to this the supra-pubic tumour has disappeared.

We would venture to regard the foregoing most interesting case as one of dermoid cyst of the ovary, which was injured at the time of the accident, and which doubtless at that time was surrounded by effused blood.

Owing, probably, to recent mechanical disturbance, disintegration of the above abnormal elements has occurred, and these burrowing down by the side of the vagina formed the pouch which was regarded as a sebaceous tumour.

ALFRED WILTSHIRE,  
ARTHUR W. EDIS.

May 14th, 1870.

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(B.) MALE GENITAL ORGANS.

19. *An encysted hydrocele.*

By J. W. HULKE.

THIS preparation was taken from the post-mortem theatre. The patient's history is unknown to me: he had double cystic hydrocele. The cysts, apparently multiple, were compartments of a single cavity having small and inconspicuous intercommunications. The capacities of these loculi varied greatly, the largest contained several ounces. They intruded between the epididymis and testes, separating them and unravelling the former. The vasa efferentia

and coni vasculosi were drawn out and spread out over those compartments of the cyst which were in direct relation with this part of the testis. The fluid contained in this multilocular cyst had a low specific gravity. It contained myriads of spermatozoa, and only a trace of albumen. A small distinct cyst, of the size of a nut, contained a very albuminous serum, but not any spermatozoa.

The various theories which have been propounded to explain the presence of spermatozoa in encysted hydroceles since Liston's discovery of them in 1813 are reducible to four. The first of these, according to which encysted hydroceles originate out of dilatations of superficially-seated tubuli seminiferi, the natural product of which are spermatozoa, we may at once dismiss, because it is inconsistent with the fact that in all recorded dissections of these hydroceles in which the presence of spermatozoa was verified, the tunica albuginea was entire. 2. The next, which says that they are autogenous cysts arising in the interstitial connective tissue of the epididymis, and which makes them produce spermatozoa by virtue of their association with the testis, rests upon a supposed analogy between these and certain mammary cysts producing glandular tissue, and some tumours near the prostate which present a structure agreeing with that of this organ. But this analogy is not exact, because, in the first instance, the products, *i. e.* the spermatozoa, are not distinguishable from those evolved in the tubuli seminiferi, while in the other two instances the structure of the new tissue is very like but not identical with that of the breast or prostate. Besides this, it has not been proved that spermatozoa are evolved out of any other elements than the epithelium of the seminiferous tubules, and a new growth of this, I believe, has never been demonstrated in the walls of these cysts. 3. They are dilatations of the ducts of the epididymis or of vasa aberrantia. 4. They originate in the persistent embryonic tissue, forming the corpus innominatum of Giraldes, which lies on the back of the testis, between it and the epididymis. Its structure is tubular, and it is connected with the ducts of the epididymis.

In the third and fourth cases, the cysts being directly continuous with the efferent apparatus of the testis, there is not any difficulty in supposing a direct passage of its secretion into them; and the second case the ducts being overstretched by the enlarging cysts are finally torn, and allow their contents to escape into them. So far as I have been able to form an opinion, I am disposed to think that



the second and fourth views are most in accordance with observed facts.

*December 21st, 1869.*

20. *The urethra after rupture of stricture.*

By TIMOTHY HOLMES.

MR. HOLMES exhibited the parts removed from a man in whom he had ruptured the urethra for stricture on the plan introduced into English practice by Mr. Holt. This man, L. A., æt. 57, was an old soldier who had had stricture more than twenty years ago, and in the year 1861 had had retention of urine, and had had an incision made in front of the scrotum, which was still visible, but had not been operated on in the perinæum. Instruments were then passed, and for the time he was cured. He neglected this stricture, however, and in 1862 became a patient of Mr. Holt at the Westminster Hospital, who ruptured the stricture, and he again recovered. As, however, he again neglected to pass instruments, the stricture recurred, and when admitted (June 5th, 1870) he was in very great distress. He had had frequent attacks of retention, which had been relieved by catheterisation, and for the last two days the urine had been dribbling away. With some little difficulty a small catheter was introduced and tied in. There was a tight stricture about three inches from the meatus, another some two inches behind that, and an obstruction near the triangular ligament which seemed to depend on false passage, as it was rapidly overcome on the instrument being withdrawn and its direction changed. The catheter being left in occasioned severe and repeated rigors, and the constant passage of the catheter gave great pain, produced an attack of orchitis, with diarrhœa and frequent rigors, so as to be quite intolerable. On the other hand, the last intermission of the instrument was followed by retention. Under these circumstances, either puncture per rectum or the rupture of the stricture appeared to be indicated, and the latter was determined on. He was put under the influence of chloroform on January 21st, the dilator was passed after a little trouble, and No. 10 silver catheter easily entered the bladder.

There were not more than two or three drops of blood lost. He had a bad night, with sickness and severe rigors, but except for occasional rigors he went on pretty well for a few days; but then the symptoms of pyæmia developed themselves, and he died on February 5th. It should be noticed that ten days after the operation a small soft swelling formed in the lower wall of the corpus spongiosum in front of the scrotum. A lancet was passed into this, but no pus was found, and it subsided without any suppuration, the puncture healing.

On *post-mortem* examination secondary abscesses were found in both lungs and in the liver. The kidneys were large and flabby, but not granular. The valves of the heart were atheromatous and its tissue fatty.

The traces of the two strictures were quite perceptible in the urethra, but they were both fairly dilated, so that an instrument of ordinary size could easily be passed into the bladder. In the floor of the urethra, commencing just anterior to each of them, was a small longitudinal rent, larger in the anterior stricture, but no other morbid appearance—no ecchymosis or inflammation. It was no doubt through this rent that a drop of urine had become extravasated, and produced the swelling which was seen during life, which, however, subsided without suppuration. There were no inflamed veins, as far as could be detected, around the ruptured portions of the urethra, or around the prostate. A large old false passage existed just in front of the membranous portion of the urethra, and another close to the bladder; but both were in a perfectly quiescent condition.

*Remarks.*—This man, though not presenting much obvious disease of the viscera, visible after death, was in a very feeble condition and exhausted by a life of various hardships; and the operation was undertaken with a full knowledge that it was a dangerous proceeding, but as being apparently the best course to pursue in very difficult circumstances. Any other treatment would probably have led to the same termination.

*February 15th, 1870.*

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## (C.) FEMALE GENITAL ORGANS.

21. *Cases illustrating certain points in the pathology of cancer of the uterus.*

By HENRY ARNOTT.

MY object in bringing under the notice of the Pathological Society the following statistical notes of cases of uterine cancer, is to endeavour to supply some few more facts to the very meagre amount of knowledge at present in the possession of the profession respecting the morbid anatomy of this very common and fatal disease. It is so seldom that post-mortem examinations are obtained in these cases—few hospitals keeping the sufferers until the close of so lingering a malady—and so difficult, even where this is done, to make out distinctly the microscopic appearances in the foul sloughing remains of the destroyed organs, that it is not surprising that we have so few reliable observations to refer to on the subject. At the Middlesex Hospital, however, the special cancer wards furnish abundant material for such work, as the majority of the patients remain until death, and post-mortem examinations are generally secured. During the past three years in which it was my duty, as Surgical Registrar, both to take notes of the cases in the wards and to examine the bodies after death, I enjoyed the opportunity of noting, more or less fully, 136 cases of uterine cancer, of which number seventy-five died in the hospital, and fifty-seven autopsies were held. The results of these examinations I have appended to this paper in a tabular form, for convenience of reference; but before considering the information furnished by these tables, I would refer briefly to the conflicting views hitherto put forward, and to the amount of work on the subject already published in former volumes of this Society's 'Transactions.'

Amongst English writers, Paget<sup>1</sup> gives no very special description of the varieties of uterine cancer. Epithelioma is mentioned as a common form of the disease, but so too are scirrhus and encephaloid. No proportion between the two forms is given. Walshe<sup>2</sup> does not recognise epithelioma as a distinct form of cancer, and hence divides all uterine cancers into scirrhus and encephaloid. Tanner,<sup>3</sup> in a

<sup>1</sup> 'Lectures on Surgical Pathology,' 1863.

<sup>2</sup> Walshe 'On Cancer,' 1846.

<sup>3</sup> 'A Clinical Report on Cancer of the Female Sexual Organs,' by Thomas Hawkes Tanner, M.D., 1863.

paper containing notes of ninety-two cases of this disease, rarely mentions the existence of secondary growths. As to the form of cancer present, the microscopic appearances are not given in detail, but in thirty it is said to be impossible to determine the point, in forty-seven it is styled medullary, in seven scirrhus, and in eight epithelioma. This writer says, "Medullary cancer is very much more frequent than any other variety of malignant disease of the uterus. \* \* \* Cauliflower excrescence, or epithelioma, is also a rare affection. Just as seldom, I believe, an inveterate form of ulcerated epithelial cancer of the lips or interior of the cervix falls under observation."

In like manner Lebert, writing on the same subject, says: "Le véritable cancer est bien plus fréquent dans l'utérus que le cancroïde, que nous n'avons rencontré que 6 fois sur 45."<sup>1</sup> Of these forty-five carefully examined cases, thirty-nine were said to be true cancer—either scirrhus, or medullary, or something between the two.

Cornil and Ranvier,<sup>2</sup> writing last year, mention the fact of epithelioma being not uncommonly met with in the uterine neck, but give no statistics as to the comparative frequency of the different forms of cancer occurring in this region.

Klob<sup>3</sup> states that "epithelioma of the uterus is a comparatively frequent new growth, and it is met with in two forms," &c., &c.; that the "cancroid disease appears first in the vaginal portion of the uterus as a papillary hyperplasia," and that "the early stage of simple papilloma can hardly be distinguished from cancroïd."

And finally, Foerster<sup>4</sup> says, "The epithelial cancer is, as above mentioned, the usual form of uterine cancer; in fifty-two cases of uterine cancer examined by me, forty-two were of this nature." A comparison of the contradictory statements of two such distinguished observers as Lebert and Foerster (both of whom seem to attach the same meaning to the terms employed), is sufficient to show the great need of further careful observations on the subject. None of the writers quoted give the proportion in which secondary cancerous growths occur in their cases.

Turning to the work already published in this Society's 'Trans-

<sup>1</sup> 'Traité Pratique des Maladies cancéreuses et des affections curables confondues avec le Cancer,' 1851, p. 213.

<sup>2</sup> 'Manuel d'Histologie Pathologique,' 1869.

<sup>3</sup> 'Pathologische Anatomie der Weiblichen Sexual-organe,' 1861.

<sup>4</sup> 'Handbuch der speciellen Pathologischen Anatomie,' 1863.

actions,' one finds nineteen cases recorded, of which only fifteen were examples of primary uterine cancer. The microscopic structure is mentioned in only eight of these cases, four being apparently true cancer, three epithelioma, and one a form of sarcoma in which spindle cells predominated. As to secondary growths: in eight the fact is not alluded to, in two it is said that there were none, in five the lymphatic glands were implicated, and in five growths in remote viscera were found, viz. (1) in the peritoneum and mesentery; (2) in the ovary, liver, lungs, pleura, and bladder; (3) in both ovaries; (4) in the lungs, and (5) in the liver.

In the appended table of cases, observed by myself, it will be seen that of the whole number of autopsies held (57) there were no secondary growths in 34, the lymphatic glands were involved in 20, and in 11 the viscera contained secondary growths. Of these last, the disease was met with in the ovaries 5 times, in the liver 3, in the lungs 2, in the heart 1, in both breasts 1, and in the peritoneum 1. Further, a careful microscopic examination of the parts was generally conducted, but in only 22 was the structure sufficiently clearly made out to be safely recorded. Of these, true cancer was present 12 times, epithelioma 8 times, and spindle-cell sarcoma twice. A point of much interest to determine is the relation which exists between the microscopic structure of the malignant uterine growth and the implication of remote viscera or lymphatic glands. The number in the present table are of course of little use in helping towards a solution of this question. The results, as far as they go, are as follows:—In both cases of spindle-cell sarcoma, the disease appeared elsewhere also, in one case in the pelvic glands, and in the other in these glands and in the lungs. Of the eight epitheliomata, the taint extended in three instances, viz. (1) one ovary, and pelvic and lumbar glands; (2) the peritoneum (broad ligament); and (3) the lumbar glands. While of the twelve cases of true cancer, in nine instances the disease spread to other parts, pelvic or lumbar glands being affected in seven, one or both ovaries in four, liver in one, and heart and lungs in one. It is proper to mention here what special structure is indicated when the terms sarcoma, epithelioma, and true cancer are employed. The distinctions were usually sufficiently well marked in the cases noted, although it is often confessedly difficult to draw the line between these varieties of malignant disease. By the term spindle-cell sarcoma, as here employed, I mean a structure made up of densely packed cells having a spindle shape, being usually arranged in a

tolerably regular manner, and containing generally single (rarely two) comparatively large oval nuclei. Owing to the manner of grouping of the cells, the spindle outline was usually difficult to make out save at the edges of a thin section where the fine-pointed extremities bristled out, or in detached cells floating about the field. In neither case was anything like encapsulation observed, either in the uterine affection or in the nodules in the lungs or glands. The sarcoma growth in this respect followed what I believe to be the general rule, although I am aware that sarcomatous tumours are thought by many to be usually invested by a capsule of some kind instead of freely infiltrating surrounding tissues.

By epithelioma, I imply an accumulation of ordinary or hypertrophied epithelial scales in an unnatural position, sometimes accompanied by "nests," or "globes épidermiques," although not necessarily so distinguished, and with usually a very disorderly clustering of the scales, which are otherwise disposed with cohering edges. In some cases a section carried through the mucous membrane of the cervix close to the ulceration showed hyperplasia of the epithelial elements upon and between the papillæ with infiltration of the same elements amongst the deeper structures, other sections, from a more diseased portion of the same uterus, exhibiting only the confused heaps of epithelial cells just described, with much broken-down oily or granular débris.

Under the head of true cancers are included those cases in which a structure more or less closely resembling that of a scirrhus breast is met with, viz., an alveolar fibrous stroma, in the interstices of which float, in a clear fluid and with no visible intercellular material, cells of varying shape, but all approximating somewhat to the squamous epithelial type, and containing usually only one large oval nucleus with bright nucleolus. In many cases the fibrous stroma, instead of forming a dense network, was visible only as a thin streak here and there, and in these cases the varied shapes of the cells and the absence of the intercellular substance stamped the cancerous nature of the growth. The cells occasionally contained multiple nuclei. In some places I thought that I could trace a development of this cancer structure from surrounding "adenoid" or lymphatic-gland-like material, the cells of the new growth taking the place of the small nuclei in the fibrous stroma of this structure; but more generally the cancer seemed to be splashed in—so to say—amongst healthy uterine tissue.

A point of much moment to the practical surgeon is suggested by a careful comparison of the various columns in the table. Whatever may be the degree of malignancy attached to the several varieties of histological formation, these cannot apparently be surmised from the mode of invasion and progress of the disease as revealed by digital examination and with the aid of the speculum, at all events in the later stages of the disease. It will be noted that in nearly every case the seat of the disease is the same. The os and cervix are more or less completely destroyed, and the foul ulcer resulting includes the upper part of the vagina. In more severe cases the floor of the bladder is invaded and perhaps freely perforated, whilst even the rectum may be opened into the vagina, the uterus being itself sometimes almost wholly consumed in the general havoc. In one remarkable case the os and cervix remained free, whilst the whole body of the uterus was destroyed by cancer. Separate nodules of the new formation were rarely met with imbedded in parts of the uterus at a distance from the ulcerated portion.

Whilst this is true, however, of the stage of the disease met with in the dead-house, it is a question of far greater importance how far it is true of the early and possibly remediable stages. From our experience of the comparative malignancy of the same morbid processes in other parts of the body, we might expect to be able to deal far more satisfactorily with epithelial disease attacking the uterus than with true cancer in the same position. It would be extending the present subject beyond the scope of the object of this Society to enter upon this question here. It would be necessary in its consideration to take into account the duration of the several diseases, the precursory symptoms, the presence and amount of sanguineous discharge, the extent of fixation of the uterus, and all the other signs which guide us towards the early diagnosis of uterine cancer. In this inquiry these tables would be of but little use. So far as they show the average duration of the several forms of disease, it may be remarked that in true cancer this was found to be 53·8 weeks, and in epithelioma 82·7 weeks.<sup>1</sup> One cannot, of course, draw any conclusion from only two cases of sarcoma, although it is worth

<sup>1</sup> It is to be noted that these numbers point to a much shorter duration than is usually allotted to cancer elsewhere. The duration in each case is dated from the time when the patient complained of the symptoms first attracting her serious attention—generally by a flooding. The average duration of the whole 57 cases is 77·1 weeks.

noting that both of these patients lived for a very considerable period after complaining of the first symptoms of the disease.

It seems, no doubt, at first sight, singular that, with such varied anatomical processes, the naked-eye appearances should be so similar. I believe that this is to be accounted for by the fact that the neck and mouth of the uterus, besides being extremely vascular, are subject to constant motion, and are very largely supplied with lymphatics. It is not surprising that any morbid infiltration tending to rapid cell growth and early decay should lead to extensive ulceration on a free mucous surface in constant friction against an opposed similar surface. Such irritation would be certain in all cases to set up inflammatory processes in their immediate neighbourhood, and the naturally irritating secretions of both uterus and vagina, tainted by the new addition, would speedily cause the spread of such malignant destruction in the manner witnessed in almost all of these cases.

The practical conclusions which these tables suggest are—

1. That in order to advance our knowledge of the pathology (and therefore of the rational treatment) of malignant disease of the uterus, a careful microscopic examination should be made of the morbid structures in every such autopsy, where this is possible, and special care taken to note the existence of any secondary focus of the disease, either in lymphatic glands or in remote viscera.

2. That as regards the form of disease usually present, these and former observations recorded in the 'Transactions' of our Society tend to show that whilst true cancer is the most common disease—the structure ranging from one almost purely cellular to a tissue exactly resembling the firmest portions of a scirrhus breast—that epithelioma is also very frequently met with (in the proportion of nearly three to four), and that well-marked sarcoma is to be found affecting the uterus as well as other parts of the body, although it does not seem to have been hitherto looked for in this locality.

3. That outbreaks of the disease in neighbouring lymphatic glands or in remote viscera are comparatively frequently met with, and furnish a strong argument against rash operative interference with a view to extirpating the disease.

4. That these secondary foci of disease being greatly more common with true cancer and sarcoma than with epithelioma, the microscopic examination of the morbid structure becomes of much importance in determining upon a line of treatment.



*Table of Fifty-seven Post-mortem Examinations of Cases of Uterine Cancer, to accompany Mr. Arnott's communication.*

No.	No. of case in Hospi- tal Register	Age.	Civil state.	Condition of pelvic organs.	Secondary growths.	Duration of symptoms.	Microscopic structure of morbid growth.	Remarks.
1	66	55	M.	Os and cervix uteri and adjacent portion of vagina largely ulcerated	None	23 wks.	Undetermined.	—
2	94	49	?	Os and cervix destroyed, cavity of uterus dilated, and its lining membrane ulcerated freely, also upper part of vagina	None	37 wks.	Undetermined.	—
3	5	54	?	Os and cervix destroyed, separate nodules studding right wall of uterus, and involving right ovary, and upper part of vagina	Lumbar and pelvic glands	90 wks.	Undetermined.	—
4	123	49	?	Lower portion of uterus destroyed, bladder and rectum both involved in the ulceration	None	106 wks.	Undetermined.	—
5	60	51	M.	Os and cervix destroyed, and vagina much ulcerated	...	118 wks.	Undetermined.	Fibroid tumour in remains of uterus.
6	17	33	?	Most of uterus destroyed, a little of fundus alone remaining, both ovaries involved, the whole of vagina ulcerated, and also the floor of the bladder	Lumbar and pelvic glands	51 wks.	Undetermined.	—
7	312	35	W.	Lower third of uterus destroyed, adjacent part of vagina ulcerated, and also rectum and right ovary	Two nodules (firm, white) in liver	53 wks.	Undetermined.	—

*Fifty-seven Post-mortem Examinations of Cases of Uterine Cancer, tabulated—continued.*

No.	No. of case in Hospital Register	Age.	Civil state.	Condition of pelvic organs.	Secondary growths.	Duration of symptoms.	Microscopic structure of morbid growth.	Remarks.
8	444	60	M.	Lower two thirds of uterus destroyed, much ulceration of vagina	Many pink-white masses in liver, one the size of small orange, also two or three lumbar glands involved	19 wks.	Undetermined.	Fibroid tumour in remains of uterus. Dermoid cyst in left ovary, containing bones, teeth, and hairs. Fibroid tumour in fundus of uterus.
9	12	46	M.	Os and cervix destroyed, and vagina ulcerated throughout; bladder and rectum involved	Lumbar glands and left ovary	101 wks.	Undetermined.	
10	614	50	W.	Os and cervix destroyed, vagina ulcerated; deposit in floor of bladder, but not ulcerated	None	29 wks.	Scrapings from the growth in the floor of the bladder (the only part not sloughing) show well-marked elements of epithelioma, various large epithelial cells, and one "nest" seen.	—
11	201	49	M.	Os and cervix destroyed, with adjacent portion of vagina	None	51 wks.	Undetermined.	—
12	720	41	W.	Os and cervix destroyed, ulceration of vagina opening into peritoneal cavity	Pelvic and lumbar glands	77 wks.	Undetermined.	—
13	498	50	M.	Os and cervix destroyed, ulceration of vagina into rectum	Right ovary, and pelvic and lumbar glands	39 wks.	Only scrapings obtained from glands; these showed a variety of cells resembling those commonly met with in cancer rather than in epithelioma, many in an advanced state of fatty degeneration.	Albuminoid changes in liver, spleen, and kidneys.

14	435	57	W.	Lower two thirds of uterus destroyed, vagina ulcerated into bladder	Lumbar glands	101 wks.	Undetermined.	—
15	70	41	M.	Os and cervix destroyed, vagina ulcerated into bladder, right ovary included in the cancerous destruction	None	144 wks.	Undetermined.	—
16	865	29	S.	Os destroyed, and cervix with lower part of fundus thickened by infiltration of firm, white material, vagina ulcerated, and an ulcerating deposit in floor of bladder	None	56 wks.	Typical cancer structure as seen in softer parts of a scirrhus breast. Some portions almost wholly cellular, at others the cells contained in the meshes of a fibrous stroma. Cells of very varied size and shape, containing large, oval nuclei (sometimes multiple), and floating in clear fluid with no visible intercellular substance.	Sub-arachnoid hæmorrhage, and clot in substance of cerebral hemisphere.
17	798	48	M.	Os destroyed, and cervix much thickened by morbid deposit, vagina ulcerated, and an ulcerating deposit in floor of bladder	None	105 wks.	Section carried through thickened cervix shows mucous surface fairly healthy, but below this in the wavy fibres of the sub-mucous tissue are elongated clusters of varied cells, as in Case No. 16.	—
18	917	55	W.	Os destroyed, and cervix thickened by morbid deposit, vagina ulcerated into bladder	Pelvic and lumbar glands	103 wks.	Undetermined.	—
19	1020	65	W.	Os and part of cervix destroyed, limited vaginal ulceration, deposit in floor of bladder	Both ovaries (some raised, firm, white lines on surface of body of uterus passed towards right ovary. Oxy. Cancerous lymphatics ?)	31 wks.	Oval or large and irregular clusters of cells of varied size and shape densely packed in disorderly manner amidst the fibres of the uterine wall; no intercellular substance; here and there a fibrous alveolar stroma with oval meshes distinguished.	—

*Fifty-seven Post-mortem Examinations of Cases of Uterine Cancer, tabulated—continued.*

No.	No. of case in Hospital Register	Age.	Civil state.	Condition of pelvic organs.	Secondary growths.	Duration of symptoms.	Microscopic structure of morbid growth.	Remarks.
20	840	38	S.	Os and lower half of uterus destroyed, ulceration of vagina, and deposit in floor of bladder	None	72 wks.	Undetermined.	General albuminoid changes in organs.
21	116	28	M.	Os and part of cervix destroyed, vagina freely ulcerated into bladder	None	58 wks.	Interspersed amongst the healthy— or, in some parts, granular and breaking up—uterine tissue, are tracts of densely massed cells of varied size and shape, mostly caudate, but also round and oval, and some spindle. In some parts an arrangement in wide meshes of a scant stroma is visible.	—
22	1062	47	W.	Os and cervix destroyed (uterus twice its normal size, but with no morbid tissue in its walls), vagina freely ulcerated into bladder	None	138 wks.	Nothing but decaying uterine tissue visible.	—
23	886	44	M.	Os and cervix destroyed, and vagina much ulcerated; white deposit extending some four or five lines from the surface of ulcer, but no detached nodules	Pelvic glands	54 wks.	Spindle-cell sarcoma. Largish cells infiltrating uterine substance, generally with tolerably regular arrangement, and with a few cells of other sizes and shapes.	—

24	322	44	M.	Os and cervix destroyed, vagina ulcerated, floor of bladder sent of extensive nodular deposit	Both ovaries. Right converted into a mass of cancer the size of a tennis-ball; nodular deposit in both Fallopian tubes; lumbar and pelvic glands; liver containing many nodules of firm, pink-white cancer, both on surface and in its substance None	45 wks.	Cells of squamous epithelial type, but exceedingly various in shape; mostly one-tailed; all with large oval nuclei, much of one size, generally single, sometimes multiple; these cells packed closely in clear fluid in long, oval, or irregularly-shaped masses amongst healthy uterine tissue. At some parts where there is little else but morbid growth, there are glimpses here and there of a large meshed fibrous network amongst the cells. The liver nodules presented similar structure.
25	122	37	W.	Lower two thirds of uterus destroyed	None	84 wks.	Undetermined.
26	596	42	W.	Lower half of uterus destroyed, vagina freely ulcerated into both rectum and bladder	Pelvic and lumbar glands; nodules studding under surface of diaphragm, and capsule of right kidney	203 wks.	Undetermined.
27	629	50	W	Upper portion of cervix and part of body largely infiltrated with firm, white deposit, leaving os and fundus free; floor of bladder and part of vagina similarly infiltrated	None	33 wks.	The infiltrated substance, wholly made up of squamous epithelial cells heaped together disorderly.
28	382	50	W.	Os and cervix destroyed, and vagina freely ulcerated	None	55 wks.	Exceedingly disorderly clustering of large squamous epithelial cells, with a few coarse "nests" seen infiltrating healthy-looking uterine tissue.

*Fifty-seven Post-mortem Examinations of Cases of Uterine Cancer, tabulated—continued.*

No.	No. of case in Hospital Register	Age.	Civil stand.	Condition of pelvic organs.	Secondary growths.	Duration of symptoms.	Microscopic structure of morbid growth.	Remarks.
29	458	43	M.	Os and cervix destroyed, vagina freely ulcerated into both rectum and bladder	Pelvic, lumbar, and inguinal glands, heart, and lungs. Firm white nodules, some the size of walnuts, scattered through both lungs. In heart, white masses springing from muscular wall, and projecting chiefly into right auricle, also several small imbedded nodules	60 wks.	Masses of cells of very varied shape and size, but with tolerably uniform, large, oval, single nuclei imbedded in the midst of healthy (or, in some parts, granular) uterine tissue.	—
30	208	47	M.	Lower half of uterus destroyed, vagina freely ulcerated into bladder; left ovary adherent to uterus, and involved in the cancerous mass	Pelvic glands and lungs: numerous firm, whitish nodules scattered through both lungs, varying in size from pin's head to filbert	127 wks.	No distinguishable morbid structure left in the uterine remains; but the growth in the lungs was made up of dense clusters of large oval nuclei, contained in very delicate spindle cells, so that the cell-wall was not easily made out. This spindle-cell growth filled the loculi, and invaded the lung-tissue unsparingly, and showed no signs anywhere of encapsulation.	—

31	680	46	M.	Os and cervix destroyed, vagina ulcerated, and floor of bladder nodulated	One pelvic gland	10½ wks.	Undetermined.	—
32	565	35	W.	Os uteri partly destroyed, vagina largely ulcerated	Pelvic glands	66 wks.	Undetermined.	—
33	338	31	M.	Os and cervix destroyed, vagina much ulcerated, and independent nodules of white substance imbedded in fundus of uterus	Pelvic glands	80 wks.	Densely and irregularly clustered cells of squamous epithelial type, but very various shapes and sizes, usually with but one large oval nucleus. The cells rather small, and hardly any alveolar stroma visible, beyond an occasional thin streak.	—
34	457	71	W.	Os and cervix destroyed, vagina ulcerated, and floor of bladder infiltrated	None	52 wks.	Clusters of variously shaped cells, having large oval (usually single) nuclei, contained in largemeshes (or delicate oval or almost linear ones) of a faintly marked fibrous stroma. No visible inter-cellular substance. Undetermined.	Two fibroid tumours in fundus of uterus.
35	109	6½	M.	Almost whole uterus destroyed, only a small bit of fundus remaining; vagina freely ulcerated into bladder	None	98 wks.	Undetermined.	—
36	566	41	W.	Os and cervix destroyed, vagina freely ulcerated into bladder	None	77 wks.	Undetermined.	—
37	849	63	W.	Os and cervix destroyed, vagina freely ulcerated into bladder	Pelvic glands	58 wks.	Undetermined.	—
38	619	60	M.	Os and lower half of uterus destroyed	None	8½ wks.	Undetermined.	—
39	155	38	M.	Os and lower third of uterus destroyed with free vaginal ulceration	None	46 wks.	Undetermined.	—
40	47	29	S.	Os and cervix destroyed, vagina freely ulcerated into bladder	Left ovary, pelvic, and lumbar glands	72 wks.	The glands were converted into masses of white friable tissue, made up of small squamous epithelial cells massed together and breaking up.	—

*Fifty-seven Post-mortem Examinations of Cases of Uterine Cancer, tabulated—continued.*

No.	No. of case in Hospital Register	Age.	Civil state.	Condition of pelvic organs.	Secondary growths.	Duration of symptoms.	Microscopic structure of morbid growth.	Remarks.
41	263	56	M	Os and cervix destroyed	None	51 wks.	Undetermined.	—
42	93	44	W.	Almost whole of uterus destroyed and vagina freely ulcerated into bladder	None	204 wks.	Undetermined.	—
43	168	57	W.	Lower half of uterus destroyed, vagina freely ulcerated into both bladder and rectum	None	245 wks.	Hyperplasia of epithelial elements upon and between papillae, with infiltration of the same elements amongst the deeper structures. Cells of small squamous type, but with large oval nuclei, always arranged densely, with cohering edges, and not a few of the cells showing endogenous cell-formation forming small "nests," no large "nests," however. In the deeper layer of the mucous membrane, and in other parts, was much inflammatory nuclear growth, with its peculiar stromal fibres.	Progressive pulmonary phthisis.
44	91	42	M.	Lower half of uterus destroyed	None	35 wks.	Undetermined.	—
45	196	43	M.	Os and cervix destroyed, vagina extensively ulcerated into both bladder and rectum	A large soft cancerous mass in left broad ligament	82 wks.	Soft cheesy collections of large squamous epithelial cells.	—
46	992	59	W.	Nearly whole of uterus destroyed, and vagina much ulcerated	None	157 wks.	Undetermined.	—



47	444	35	M.	Whole uterus infiltrated with firm white tissue extending through left Fallopian tube and ovary, os and cervix destroyed	None	33 wks.	Undetermined.	—
48	318	35	W.	Nearly whole of uterus destroyed, and vagina freely ulcerated into bladder	One pelvic gland	44 wks.	Undetermined.	Recent progressive tubercle in lungs.
49	268	52	M.	Uterus enlarged and filled with stinking fluid, a large friable mass, size of a man's fist, projecting from posterior lip, and but slightly invading uterine tissue	Lumbar glands	65 wks.	Granular masses of squamous epithelial cells.	—
50	693	48	M.	Os and cervix destroyed, vagina freely ulcerated into bladder	Left ovary, lumbar, and pelvic glands	50 wks.	In the glands the morbid structure was made up of large cells with delicate walls, and many of them polynucleated. No "nests" or other epithelioma-like structure.	—
51	265	55	W.	Os and cervix destroyed, vagina ulcerated into bladder	None	76 wks.	Undetermined.	—
52	834	33	—	Os and cervix destroyed, and vagina ulcerated	Lumbar and pelvic glands	— wks.	Well-marked fibrous alveoli densely packed with cells of varied size and shape, but with tolerably regular, large, oval nuclei.	—
53	858	60	M.	Os and cervix partly destroyed by ulceration also involving vagina, firm deposit in floor of bladder	None	50 wks.	Undetermined.	—
54	876	27	M.	Ulceration of os, with soft growths projecting from it	None	37 wks.	Undetermined.	Acute peritonitis from ulceration through vagina to ovary twisted out of place.

## Fifty-seven Post-mortem Examinations of Cases of Uterine Cancer, tabulated—continued.

No.	No. of case in Hospital Register	Age.	Civil state.	Condition of pelvic organs.	Secondary growths.	Duration of symptoms.	Microscopic structure of morbid growth.	Remarks.
55	614	64	S.	Whole of uterus save portion of fundus destroyed	None	117 wks.	Undetermined.	—
56	886	50	M.	Extensive ulceration of os, cervix, and adjacent portion of vagina	None	22 wks.	Much tissue of chronic inflammatory nature mingled with dense tracts of cells of epithelial type closely packed.	General peritonitis from rupture of ovarian abscess.
57	766	63	M.	Whole of uterus, save cervix and os, destroyed	Lumbar glands	48 wks.	Cells, like those of ordinary scirrhus, but smaller than usual, grouped in the customary manner in the long oval spaces of a well-developed fibrous stroma.	General peritonitis; pelvis filled with pus, and bowel perforated so that feces passed per vaginam. Cardiac aneurism.
58	888	45	S.	Whole of uterus, save portion of fundus, destroyed, vagina freely ulcerated into bladder	None	38 wks.	Undetermined.	

May 3rd, 1870.

22. *Fibrous tumour of the ovary associated with a large cyst.*

BY W. CAYLEY, M.D.

FOR the opportunity of showing this specimen I am indebted to Mr. Fred. Alderson, of Avenue Terrace, Hammersmith, in whose practice the case occurred, who sent me the preparation for examination.

The patient was a childless widow, aged 60. About three years ago she first noticed some enlargement of the belly, but for two years experienced no inconvenience from it. She then began to suffer from a sense of general uneasiness, shortness of breath and indigestion; at that time she applied to Mr. Alderson, who diagnosed the presence of an ovarian tumour. He did not see her again till October 12th of this year, when he was sent for and found her in a very prostrate condition, with great distension of the belly, anasarca of the lower extremities, and much dyspnœa, and suffering great distress from a prolapsed and ulcerated uterus and painful piles. There were all the physical signs of ascites, together with a long ovarian tumour on the left side. She refused to submit to the operation of paracentesis, the distension and dyspnœa increased, and she gradually sank. On October 19th the ovarian cyst appears to have opened into the intestine, she discharged a large quantity of water per anum and also by vomiting, the belly diminished greatly in size, and the prolapsed uterus returned within the vulva. She did not however rally, but died on the following day. On post-mortem examination there was great ascites, and a very large ovarian tumour on the left side. This is made up of two parts: first, a dense, hard, solid, lobulated mass of an irregular oval form; and second, of a large cyst, capable of holding a couple of gallons of fluid. Its walls were in part thick and fleshy, in part thin and fibrous; its lining membrane was smooth, and it was partially divided by septa into several cysts; smaller separate cysts filled with colloid-looking fluid were present in its walls, and were also attached to other parts of the solid tumour. This on section was found of very dense structure, and exuded no juice; the cut surface presented a reticulated fibrous appearance, and on microscopical examination it was found to consist of coarser and more delicate fibrous bands, thickly set with elongated nuclei, crossing each other in different directions, and also

numerous collections of round and oval nuclei arranged in long tracts. The right ovary was shrunken, but otherwise normal. The uterus was much enlarged, and converted into an irregularly shaped mass, from the presence in its walls of a number of fibroid tumours with the ordinary characters of uterine fibroid; these varied in size from a hen's egg to a small walnut. *November 16th, 1869.*

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### 23. *Cancer of the peritoneum and ovary.*

BY J. S. BRISTOWE, M.D.

**E** B—, a servant girl, aged 21, was admitted under my care on the 7th December, 1869. Her statement was that she had had very good health up to a month before admission, when an abscess formed in her right thumb, which got well a week ago, and that she had continued to do her work up to that latter time. She acknowledged, however, that her belly had been getting larger and larger for some years past, and that without any assignable cause she had been losing strength during the last two months. She was in very low spirits; and it turned out that the lady, in whose service she had been, suspecting from her gradual change of figure that she was pregnant, taxed her with it, offering at the same time to do everything for her that kindness could suggest: further inquiry, however, and the opinion of her medical man, soon satisfied the lady that her suspicions were groundless; and in the result she was sent to the hospital. But the accusation preyed upon the girl's mind, and this added to the symptoms of her illness the oppression of mental anguish.

A week before admission she was attacked suddenly with acute stabbing pain in the left side of the belly, just below the ribs; the pain soon subsided, but the abdomen from that time got rapidly larger. She says, however, that she has retained her appetite and slept well; but that her bowels have been confined, and that she has had some headache. The catamenia have been absent for two months.

She seemed much more seriously ill than the history she gave would have led one to suspect, and much more seriously ill than she

would acknowledge. She was emaciated and feeble, with a hectic flush in her cheeks, dry lips, and dry and glazed though clean tongue. She was very thirsty, but said that her appetite was good. Her breath was somewhat short, her pulse 120 and regular. There was no cough, and no sign of heart, lung, or kidney disease. The abdomen was large, measuring thirty-seven inches in its greatest circumference. In contained an irregular lobulated mass, rising from the pelvis and nearly filling the abdomen. This was examined by Dr. Barnes as well as by myself, and was in our opinion obviously a multilocular ovarian tumour. There was a little tenderness in the belly, but no distinct evidence of fluid beyond the limits of the tumour. The legs were not œdematous.

The above account was written after she had been in the hospital two or three days, during which time there had been no material change in her symptoms; and, for a few days subsequently, although there were no signs of improvement, there was no clear proof that she was getting worse. Then pain in the left side of the belly came on again, with other indications of sub-acute peritonitis, and she rapidly sunk.

On the 20th it was noted that she was more emaciated and shrunken and anxious-looking; that her respirations were rapid and shallow; her pulse 144; her tongue very dry, fissured, and studded with aphthous flakes; that she complained of severe pain, deep-seated in the left side of the belly; and that the belly itself was tender, had increased considerably in size and tension, and that its surface instead of presenting irregularities corresponding to those of the tumour, was uniform and smooth. Manual examination proved that an accumulation of ascitic fluid had taken place; a portion of which intervening between the front of the tumour and the abdominal walls had obliterated the outlines of the tumour.

She died on the afternoon of the 21st.

*Post-mortem examination.*—Body much emaciated; abdomen very large; legs œdematous. On cutting into the abdominal cavity, about half a pailful of thin brownish fluid escaped; and a large, somewhat irregular, and lobulated, tumour was found springing from the pelvis, and displacing the viscera. The surface of the serous membrane was generally somewhat congested, and there were some adhesions both between the tumour, and between the intestines and surrounding parts. Scattered over the free surface of the parietal peritoneum, was an innumerable number of small nodules,

varying in size from that of a pin's head to that of a hazel-nut; some pedunculated, some sessile; and in the latter case collected in many situations, and more or less blended, so as to form patches. The largest of these groups was in the neighbourhood of the left groin, and was slightly adherent to growths of the same kind connected with the large abdominal tumour. Similar growths, but in less abundance, were found connected with the great omentum, mesentery and intestines. All of these were remarkably pulpy; and many were white; but some, and especially the larger patches, were extremely vascular, and indeed almost black with congestion.

A few small cancerous nodules were attached to the surface of the liver, which organ was a little fatty, but otherwise healthy. Spleen, pancreas, kidneys, and supra-renal capsules healthy. The stomach and intestines, excepting their serous coat, were all in a sound condition. Urinary bladder and vagina healthy.

On removing the tumour, together with the pelvic viscera, the tumour was found to have originated in the left ovary. The right ovary and its appendages were all normal; the left Fallopian tube measured seven inches in length, was considerably hypertrophied, and was prolonged upon the surface of the tumour. The uterus was two or three times as large as natural; and its posterior surface presented several hemispherical outgrowths from three quarters of an inch in diameter downwards, which on section were found to be pulpy cancerous masses, which had originated apparently in the subserous tissue, and had invaded the subjacent uterine walls to a considerable depth. A large pulpy mass, altogether perhaps the size of a hen's egg, was situated at the bottom of the recto-vaginal pouch, and was adherent equally to all the organs bounding this space. It had not, however, penetrated either the rectum or the vagina. In the substance of the cervix uteri were some two or three cancerous lumps, between the size of a horse-bean and that of a hazel-nut.

The ovarian tumour was essentially uni-ocular, and its cavity contained about half a pailful of brownish, somewhat viscid, fluid. The parietes of the upper three fifths of the tumour were of moderate thickness—perhaps from half a line to a line thick; but the parietes of the lower two fifths became irregularly thicker and thicker, until in some parts they attained a thickness of three inches. The thinner portions of the tumour were pretty smooth and uniform in shape externally, but the thicker portions were

remarkably lobulated, the lobules presenting broad bases, varying in size from that of a penny bun to that of a pea, and having generally a more or less hemispherical surface, excepting in so far as they were modified in form laterally by mutual pressure. The inner aspect of the tumour was generally smooth and uniform, even those parts of it which corresponded to the external lobulations; here and there, however, a small flattish nodule about the size of a pea projected above the general level; and in one or two situations a projecting band indicated the original existence of more than one cyst. The thinner portions of the walls of the tumour appeared to consist solely of pretty dense fibroid tissue, like that constituting ordinary ovarian tumours: but the thicker portions were composed almost entirely of the same kind of growth as that above described as connected with the peritoneum. The lobules mapping out the surface consisted solely of cancerous material separated from the peritoneal cavity by a very thin fibroid layer, but separated from the cavity of the ovarian cyst by a layer of fibroid tissues, which was generally of considerable thickness—perhaps about half a line. The lobules were separated also to some extent from one another by party-walls of fibroid tissue, extending between the inner and outer laminae of the same material. In the portions of wall which were thick but not lobulated, the fibroid parietes of the tumour appeared to be separated into an inner and outer layer by the development in the interior of cancerous growth formed apparently of nodules which were more or less completely blended one with another. Here and there, but not generally, the cancerous growth had penetrated the inner fibrous laminae, so as to be visible through the thin serous covering, or even so as to form a minute rounded excrescence.

A very few minute cysts were discovered in the walls of the tumour near its origin. The lining membrane of the tumour presented in some places groups of small yellow flakes of earthy matter, exactly like those which are met with in the lining membrane of arteries.

Some of the glands at the back of the abdomen were cancerous.

There can be no doubt, I think, that the cancerous growth belonged essentially to the peritoneum, and that the ovarian tumour consisted of an originally cystic ovary, the parietes of which had become secondarily involved from its peritoneal connections.

Under the microscope the tumours were found to be formed mainly of large various-shaped cells, containing various-sized and

often large nuclei and nucleoli, the cells and nuclei having a great tendency to become fatty.

*February 15th, 1870.*

24. *Report by the Committee appointed to examine a specimen of ovarian disease exhibited by Mr. Maunder.*<sup>1</sup>

THE specimen submitted to the Committee for examination, consisted of a uterus with its appendages, of which the right ovary was of normal size and contained a recent corpus luteum; whilst the left ovary was the seat of extensive cystic disease. One originally large cyst which had during life been emptied of clear fluid by tapping, and subjected to daily injections, was about the size of a cricket ball with very tough thick white walls, but adjoining this were other smaller compound cysts, one of which, containing colloid matter, was specially referred for further examination. This cyst was about the size of an orange and contained smaller cystic formations within it; the bulk of the contents consisted of a semi-fluid clear yellow tremulous substance, but it presented every gradation of colour, from an opaque red brown to a translucent pale straw tint, and varied in consistence from a firm jelly capable of being cut with scissors to a scarcely tenacious fluid. Outside this softer material and lining loosely the proper wall of the cyst was a considerable quantity of curdy material which was readily detached in large flakes; one of the contained cysts was filled with honey-like fluid, and another with a soft pultaceous mass like thick pea-soup. In every case, however, the colloid or more opaque substance was wholly contained within the cyst and did not invade its wall in any way.

Examined microscopically the colloid material presented a clear homogeneous fluid floating about in which were columnar epithelium cells in varying quantity and mostly more or less changed and fatty. There was also much granular fat scattered over every field. Some of the cells were rather larger and roundish, apparently the

<sup>1</sup> The account of the case alluded to was not supplied by the exhibitor, but the report of the Committee is fortunately such as to be intelligible without it.—  
EDITOR.



columnar cells altered by imbibition. There were also compound oil cells present. In the more opaque portions, the fat and cell débris were more abundant, but no further change in structure was met with.

Your Committee are therefore of opinion that the colloid matter referred to was of the same nature as that commonly found in certain ovarian cysts, and quite distinct from and in no way to be confounded with, so called "colloid or alveolar cancer," none of whose histological elements were present. Inflammatory changes and blood extravasations had probably had a large share in producing the thicker portions of the cyst contents.

*January 4th, 1870.*

EDWARD BELLAMY.  
HENRY ARNOTT.

## VI. DISEASES, ETC., OF THE OSSEOUS SYSTEM.

1. *Caries and necrosis of the os calcis ; excision of the entire bone.*

By T. HOLMES.

MR. HOLMES exhibited the os calcis which he had removed shortly before from the left foot of a young woman, æt. 19, who had been for a long time under his care at St. George's Hospital. The disease was attributed to injury received eleven years previously by a fall out of a swing, ever since which time there had been pain and swelling about the ankle. She was first admitted in January, 1869, when there was found exposed bone on both sides of the os calcis. The chief disease, however, was on the inner side, in a very inaccessible position, being just below the vessels. The bone was gouged as freely as possible on both sides, in doing which the posterior tibial, or one of its branches of bifurcation, which ran right across the sinus exposing the os calcis, was broken with the finger in enlarging the wounds. It was secured with difficulty, in consequence of its rotten condition. The operation was followed by amelioration, and the wound temporarily healed. She was discharged on February 24th, being then able to bear a little weight on the foot. She returned, however, in March of the same year, the wound having immediately reopened. She suffered from constant pain in the foot, and tenderness on attempting to put it to the ground. The bone was still exposed on both sides, and under chloroform it was possible to pass a director almost from one side of the bone to the other. A fresh attempt was made to preserve the bone by gouging away the diseased part, but, as the wound would not heal, it was ultimately decided to excise the whole bone. This was done on May 27th. The joints, both with the cuboid and astragalus, were found quite unaffected, but almost the whole of the rest of the bone was superficially carious, and in one part of the external surface, where the gouge had been applied, was a deep pit containing a small nodule of loose bone, probably detached by the instrument.

The young woman made a rapid recovery, and when last seen, about four months after the operation, she was able to walk nicely.

A high-heeled shoe was ordered, as the heel was about half an inch above the level of the other.

The preparation showed well the kind of case in which this operation is advisable, viz. in cases of disease (especially when that disease is the direct result of accident) limited to the os calcis, and which is either too extensive to admit of removal with the gouge or where gouging has been tried and failed.

October, 1869.

2. *Unreduced dislocation of the head of the left femur directly backwards on to the base of the spinous process of the ischium.*

By WM. ADAMS.

ON the morning of Thursday, July 29th, 1869, J. D—, æt. 29, was brought into the Great Northern Hospital, having been run over by a railway train, with right hand and foot completely crushed, both the wrist and ankle-joints being implicated; a large flesh wound, extending round the right knee-joint, reflected a flap of skin as large as the hand, and exposed the inner muscles of the thigh running to their insertion.

A dislocation of left hip towards the notch was diagnosed by Mr. Adams. The man was put under chloroform, and the right hand and foot were immediately amputated by Mr. Adams, the flaps, as well as the wound at the knee-joint, being secured by silver sutures and dressed.

The position of the left leg at the time of admission was as follows. The left thigh and leg were inverted, the knee being directed inwards and the thigh slightly flexed. The left foot was also inverted. This inversion was well marked, though in degree much less than would be found in a dislocation on the dorsum. The *shortening*, according to Mr. Adams' measurement, amounted to half an inch, though others failed to convince themselves that even this amount of shortening existed, so that the idea of the case being one of fractured pelvis, and not of dislocation, was entertained by some present.

The top of the great trochanter was, according to Mr. Adams' measurement, half an inch higher than natural, *i. e.* nearer to a horizontal line drawn directly backwards from the anterior superior spinous process; and from this process it was an inch more distant in a direction backwards, *i. e.* taking a line from the anterior superior spinous process obliquely backwards to the top of the great trochanter. Several attempts were made to reduce the dislocation of left hip, but without success, both by the manipulation method, and also by the use of the pulleys in the ordinary way, the thigh being drawn in an oblique direction across the opposite knee, and efforts at the same time made to raise the head of the bone over the lip of the acetabulum.

The thigh could not be abducted when the attempt was made with the knee in a flexed position, and when the knee was extended it was impossible to rotate the limb outwards.

The patient having been under the influence of chloroform for a considerable length of time, it was deemed unsafe, in consequence of his failing pulse, to continue it or the attempts at reduction any longer. He was, therefore, put to bed. Towards night he complained of much pain in his hip. Liq. Morph. ℥xxx administered, after which he rested quietly till morning; passed a little blood with his urine.

Seen on the Saturday, July 31st, by Mr. Skey, consulting-surgeon to the hospital, who confirmed the diagnosis, and was also of opinion that the condition of the man, who seemed suffering considerably from shock, would not admit of any further attempts at reduction for the present.

The dressings were removed on the fourth day, when the stumps appeared healthy, but the flap at the injured knee had lost sensation, and seemed as if it would slough, which, indeed, happened a few days later.

The pulse had been rapid since the operation, and the patient suffered much from thirst. On the 7th August, the ninth day after the accident, the face became flushed, tongue dry, pulse 120; complained of great exhaustion. On the ninth day reparative power was arrested in the wounds, and sloughing had commenced in the leg stump; unconsciousness and much sweating came on, lasting through the day. The next morning consciousness returned, and the sweating became less, but the pulse continued rapid—130 per minute—and sloughing took place in the arm stump. These condi-

tions continued through the following day. Towards evening the patient's breathing became short and somewhat laboured, and at 10 p.m. he died, very quietly, on Thursday, the 12th August, the fourteenth day after the accident.

*Post-mortem* on Friday, the 13th August, 1869, by Mr. B. Stewart Ringer, who, in the absence of the house-surgeon, had had charge of the case.

Heart, lungs, and liver apparently healthy; considerable effusion of blood in neighbourhood of left kidney, the gland itself a little congested, otherwise natural; in the left hip-joint half a pint of bloody purulent liquid was found. Dissection demonstrated the following points in the dislocation.

Laceration of the capsular ligament; the head of the femur, with ligamentum teres ruptured, resting on the spine of the ischium, and coming into view between the obturator internus and gemelli muscles above, and the quadratus femoris and obturator externus below; the muscular fibres of the two last named were torn across. The top of the great trochanter was half an inch below the level of the anterior superior spine of the ilium, and measured, from its centre to that point, five inches; upon reducing the dislocation, *post-mortem*, this distance was reduced to four inches.

Mr. Adams observed that the head of the bone had passed out of the acetabulum between the obturator internus and the obturator externus muscles, and then glided directly backwards towards the spinous process of the ischium, on the base or root of which it may be said to have rested, though it did not reach the spinous process itself. The dislocation might, therefore, well be described as being *directly backwards*, to distinguish it from the ordinary and well-recognised dislocations on the dorsum and in the sciatic notch; still, a slight inclination upwards undoubtedly existed. The head of the bone had passed over the posterior lip of the acetabulum, and rested between it, and the base of the spinous process. The chief obstacle to the further progress of the head of the bone in a direction upwards and backwards, evidently, was the tendon of the obturator internus muscle, which was tightly stretched across the upper part of the head of the bone, and such was the tension of this pressure during the fourteen days the patient lived, that a deep groove was formed in the articular cartilage of the head of the femur, exactly corresponding in size, and direction, to the tendon of the obturator internus muscle.

The capsular ligament was torn through in its posterior half, being irregularly detached from its connection with the thigh-bone, and the mass of the detached ligament remaining connected with the margin of the acetabulum formed, as it became inverted, some obstruction to the return of the head of the bone into the acetabulum.

October 19th, 1869.

WOODCUT 13.

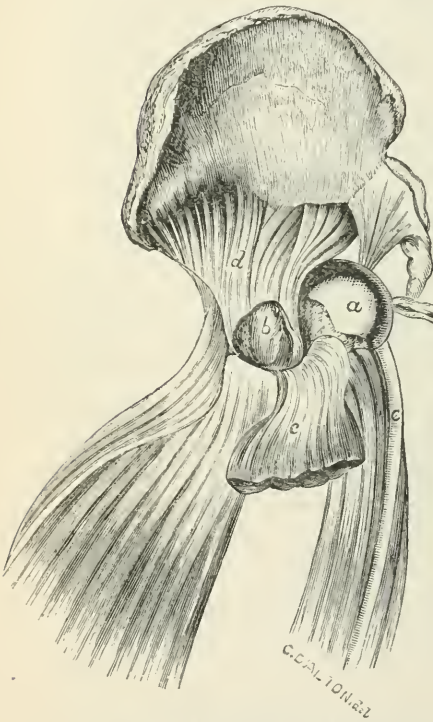


FIG. 1.—Dislocation of head of femur directly backwards on the spine of the ischium.

*a*, head of femur; *b*, trochanter major; *c*, gluteus maximus reflected; *d*, gluteus minimus, pyriformis, and obturator internus, under the border of which the head of the femur is lodged; *e*, sciatic nerve.

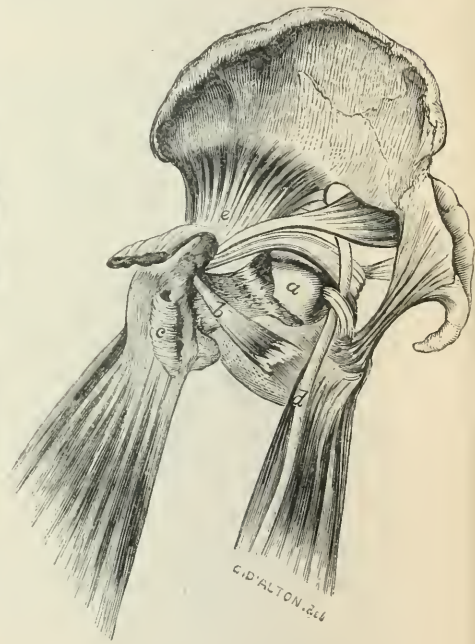


FIG. 2.—Direct lateral view, with further dissection of muscles.

*a*, head of femur; *b*, obturator externus, torn across; *c*, quadratus femoris, torn across; *d*, sciatic nerve; *e*, gluteus minimus; *f*, gluteus medius reflected; *g*, pyriformis, together with *h*, obturator internus and gemelli passing over the head of the femur.

3. *Gunshot wound of the forefinger, followed by osteo-myelitis of the carpal and metacarpal bones; amputation.*

By J. GAY.

A GENTLEMAN, æt. 76, shot off the forefinger of his right hand. The parts were brought together, and the wound appeared disposed to heal favorably. At the end of a week symptoms of phlegmonous erysipelas presented themselves, which extended from the hand far up the forearm. Deep-seated and extensive suppuration followed, and with it considerable fever of a low type. At the expiration of three months from the time of the accident—when I first saw him—the integuments of the hand and arm, almost to the elbow, were greatly thickened, and of the characteristic dull purplish character which follows protracted deep-seated mischief. There were many sinuses, all of which led to bare bone, mainly in the direction of the carpal and metacarpal bones, and these discharged abundantly.

The patient's state was extremely critical. The tongue was dry and almost black, the pulse very feeble and quick, there was night wandering and diarrhœa, and naturally extreme prostration.

The only remedy was amputation, but the state of the patient's general health contra-indicated its being done at once. He was carefully dieted for a few days, being put upon a very moderate supply of fluid nutriment and wine, and ordered Hyd. c. Cretâ, with Dover's powder and chloric ether three times a day.

His symptoms mended considerably, and at the end of a week his tongue was moist, excepting in the centre, and the diarrhœa had ceased.

With the able assistance of Mr. John Adams, Mr. Savory, and Mr. Snell, I amputated the arm above the elbow-joint, adopting the mode which I have seen pursued most successfully by my friend Mr. Carr Jackson, viz. cutting the muscles directly through even with the bone, and leaving skin only wherewith to cover the parts in.

The recovery was in *every respect* satisfactory.

All the bones of the carpus and those of the metacarpus and phalanges, with the exception of the trapezoid and the metacarpal bone of the thumb, which were simply necrosed, had been disintegrated into small fragments by a process of osteo-myelitis. The

medullary membrane was, in each bone, reddened; and the cancelli, enlarged by the removal of portions of its tissue, filled with pus. The thin compact structure of each was necrosed, *i. e.* it was simply dead, and remained unchanged. In most of the metacarpal and phalangeal bones the cancellous structure was in great part removed and the epiphyses had been detached; whilst the compact structure remained as a simple dead shell.

I think this an interesting specimen of a disease, for the most part most frequently met with in younger subjects and in long bones of the larger class.

October 19th, 1869.

#### 4. *Recovery after compound fracture of the skull, with loss of brain substance.*

By W. FAIRLIE CLARKE.

**M**R. FAIRLIE CLARKE brought forward a boy, J. H—, æt. 12 years, who had made a perfect recovery after a very severe fracture of the skull, with loss of brain substance.

On August 19th, 1869, the patient was employed at an iron foundry, and as he was watching a crane, which was lifting a heavy weight, the chain snapped, swung, and struck him on the right side of the head. He was immediately brought to the West London Hospital. It was found that there was an extensive fracture through the right parietal and down the frontal bone into the right orbit. In the parietal bone the fracture was compound and comminuted for a space of about two square inches, and from thence fissures extended both backwards and forwards. At the supra-orbital ridge the two portions of bone were separated to the extent of fully a quarter of an inch. The dura mater was torn and the brain substance was lacerated. There was bleeding from the nose, but none from the ear. These injuries were accompanied by profound stupor, stertorous breathing, and an almost imperceptible pulse.

Two fragments of bone, each about an inch square, were removed, and, when the wound was examined, it was found that the finger passed at least half an inch into the substance of the right hemisphere. At each beat of the heart the lacerated tissue of the brain could be seen welling up from the wound, and a considerable quantity must have been lost.



At the end of twenty-four hours the boy began to recover consciousness, and from that time forward he improved. At first the brain substance protruded from the wound, forming a large "hernia cerebri," but by careful bandaging this was reduced, and the mass restored to its place within the cranium. The wound gradually healed over, and on the 2nd of November the patient was well enough to be brought before the Society. The wound was then almost entirely healed, but there was a large scar, and at each beat of the heart the skin rose and fell. The fracture into the orbit could still be distinctly felt. The boy had no pain; no giddiness or other uncomfortable symptom was produced by pressure upon the cicatrix. His sight and hearing were perfect, and his speech was unaffected.

This patient was seen so lately as April 1st, 1870. The wound was then quite healed, and he was in regular work at the foundry where he met with the accident, earning the same wages as other boys of his age.

November 2nd, 1869.

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5. *Sudden appearance of a large elastic pulsating tumour immediately over an opening in the frontal bone, which was made eighteen months previously by the trephine for the removal of depressed fragments of bone pressing into the substance of the brain; rapid subsidence of the swelling immediately on the outbreak of a copious herpetic eruption.*

By G. LAWSON.

THE following is a brief history of this very curious case. Edwin B—, æt. 13½ years, was brought into the Middlesex Hospital on April 17th, 1866, having just met with a severe accident. Whilst standing on the window-ledge cleaning some second-floor windows, he let go his hold, and fell head first a height of thirty feet on to the stone pavement. He sustained a compound stellated fracture of the frontal bone close to the hairy scalp, and immediately above the left eyebrow. He was brought into the hospital at a time when I happened to be there, so without any delay the lad was carried into the theatre, where I removed a portion of the frontal bone with the trephine, and cut away with the bone forceps pieces of bone which

were sticking into the brain substance, and raised with an elevator other portions of bone that were depressed.

From this operation the boy made a rapid recovery, and in six weeks' time he left the hospital apparently quite well. After a month's rest in the country he returned to his work about the stable, and shortly afterwards he became a waiter in a coffee shop, at which duty he continued up to the time of the illness for which he was readmitted into the hospital on October 26th, 1867.

The lad states that after he left the hospital he never suffered from headache, nor from any other cerebral symptom, until October 21st, five days previous to his readmission. He had then a bad headache, which, however, soon passed off, but returned with great severity three days later, when it was accompanied by giddiness and some projection of the thin cicatrix over the opening in the frontal bone.

On the next morning (October 26th) he was brought to the hospital, and came under the care of Mr. Shaw. His state was then as follows:—The scar on the left side of the forehead over the aperture in the frontal bone was raised by a smooth, soft, pulsating swelling the size of a large walnut. The lad complained of constant severe pain in the head; his skin was hot, and his appetite very bad. Thinking that these symptoms might possibly be due to pressure from pent-up pus, Mr. Shaw pricked the protruding scar with the point of a lancet, when a clear limpid fluid escaped. This colourless transparent liquid continued to trickle from the puncture made with the lancet; it was evidently secreted rapidly, as the size of the tumour for the first twenty-four hours after he came into the hospital remained undiminished.

The lad was kept in bed, purged, and cold applied to the swelling. On the morning of October 28th a thick rash of herpes appeared around one side of the mouth, and all the febrile symptoms at once began to subside, and the exudation of fluid from the tumour to diminish. From this date until October 31st (three days later) the tumour continued to discharge the same clear fluid, gradually, however, lessening in size until the discharge ceased and the swelling wholly subsided.

At the time of the appearance of the herpes the fluid ran so freely that one ounce was collected in an hour. It also seemed to run more freely during sleep than in the daytime. It was alkaline, and contained a trace of albumen, but no sugar. The boy left the hos-

pital in a few days quite well, and up to the present time, July 5th, 1870, has continued in good health, and has been able to pursue his duties in the stable without any interruption from illness.

*January 18th, 1870.*

6. *Regeneration of bone after resection of nearly half of humerus and elbow-joint.*

By G. D. POLLOCK for Mr. WILKES.

ON February 3rd, 1869, a boy, 12 years old, named Henry Yates, was admitted into the Salisbury Infirmary with a compound fracture of the left arm. The wound was on the outer side; the fracture was oblique and about  $1\frac{1}{2}$  inch above the lower end of the humerus. I removed a detached piece of bone.

An abscess formed, and I enlarged the wound on February 11th, and removed another piece of bone which had become loose.

Afterwards the arm did badly, there was no attempt at union of bone nor healing of wound, the elbow-joint had become diseased, and it was a question of resection of joint and removal of all diseased bone with section of humerus above the fracture, or amputation of the arm.

After a consultation I performed the former operation on March 25th, and the accompanying preparation shows the extent of bone removed with the elbow-joint.

WOODCUT 14.



Patient, after recovery, holding the pieces of bone.

The case was afterwards one of uninterrupted recovery. Although no attempt was made to save periosteum, if such were possible (for none was visible), yet in time, from being a baggy and helpless arm, it became hardened and stronger, from fresh formation of bone in the place of that which was removed. He began to acquire the power of using it, and was made an out-patient on August 21st, when the wound had nearly healed, having been previously fitted with a light metal splint with movable elbow to prevent the tendency there was to pronate the forearm.

In September I made the following measurements:

*Right arm*, from head of humerus to below external condyle,  $9\frac{1}{2}$  inches.

*Left arm*, 9 inches; length of restored bone, 4 inches.

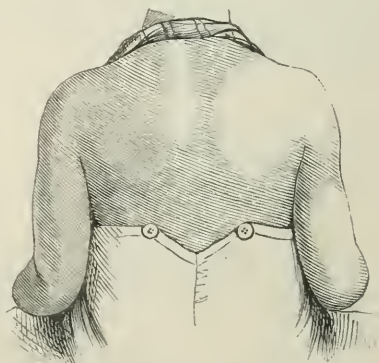
*Forearm, at right angles*, from elbow to end of middle finger,  $14\frac{1}{2}$  inches.

*Forearm*, length of restored bone, 14 inches.

He can raise the arm to his head unassisted, and can carry things underhand, but cannot quite close his hand.

November 16th, 1869.—I examined the limb to-day; its power is much increased; he can, unassisted, straighten the arm, flex it, touch the shoulder of the same side, his head and mouth, and can carry a can with a gallon of water in it.

WOODCUT 15.



Back view, after recovery.

The accompanying photographs were taken on August 18th, just before he left the infirmary.

December 7th, 1869.

7. *Oblique fracture through the external condyle of the humerus; union in an abnormal position.*

By THOS. P. PICK.

THE portion of bone exhibited is the lower end of the humerus, which has been fractured. The case is not brought forward on account of any rare form of fracture, but rather to show the manner in which union has taken place. It will be seen, upon examining the bone, that there has been an oblique fracture between the condyles, separating the external one from the rest of the bone; there has also been dislocation, and in consequence of this the fragment has been carried upwards, and rests against the outer side of the shaft of the humerus, to which it has become firmly united by bony union. On the under surface of this fractured portion is an articular facet for the head of the radius.

The bone was removed from a little girl, who came to me as an out-patient at St. George's Hospital, with the history that, four months previously, she had fallen out of a carriage, sustaining a severe injury to her right elbow-joint. Upon examination it was found that there was considerable shortening of the forearm, due to dislocation of the elbow backwards. In front of the joint was a prominent process of bone—the internal condyle—which lay immediately beneath the skin, which had evidently been lacerated, as there was here a cicatrix adherent to the bone. The movements of the radio-humeral joint were present, there being very considerable pronation and supination; the head of the radius could be felt rotating against the external condyle some distance up the shaft of the bone. The arm was completely extended and could not be flexed, and was, therefore, perfectly useless.

Under chloroform, after a few adhesions had been broken down, it was found that the obstacle to flexion was the prominent internal condyle, against which the ulna struck every time flexion was attempted. It was therefore determined to remove the lower end of the humerus, and I accordingly performed this operation by the usual longitudinal incision, removing also the olecranon.

*December 7th, 1869.*

*8. Diseased knee-joint of eighteen years' duration.*

By T. CARR JACKSON.

ESTHER MCKEEN, æt. 20, of strumous aspect, was admitted into the National Orthopædic Hospital from the Cripples' Home, December 9th, 1869, for the relief of a deformity of the left knee-joint. It being evident, however, that disease yet existed, I transferred her to the Great Northern Hospital, in the hope that I might save the limb by excision of the joint.

Her history was that of chronic joint disease, extending over eighteen years. She had been under treatment in various hospitals, provincial and metropolitan, during that period, obtaining relief sufficient to enable her to go to service from time to time, but always relapsing, so that during the last three years she had been compelled to lay up at shorter intervals, and latterly pain of a very aggravated character, much resembling that characteristic of circumscribed abscess of bone, had deprived her of rest, and seriously undermined her general health. The condition of the joint at this time was as follows:—The head of the tibia was displaced backwards and to the outer side of the condyles of the femur, with some amount of rotation outwards; the patella prominent and firmly fixed to the outer condyle, with some bulging of the soft parts on each side. Limb generally atrophied, one inch shorter than its fellow. No mark of any suppuration externally. Excision of the joint was contemplated and commenced, but the condition of the cut end of the femur appearing inimical to success, I removed the limb by amputation January 26th, 1870, from which operation she speedily recovered.

Examination of the joint removed showed in the outer half of the joint a natural reparative process, constituting fibrous ankylosis, broad thin membranous bands of adhesion between the articular surfaces, especially between the outer condyle of the femur and corresponding articular surface of the tibia, the patella being firmly united with the outer condyle by bands of the same character. The outer condyle was much altered in shape and reduced in bulk by irregular absorption. On its outer surface and corresponding articular surface of the tibia was a thin and very irregular layer of fibro-cartilage, either of new formation or altered articular cartilage.

In the inner half of the joint an opposite condition existed, the inner condyle of the femur exhibiting undoubted evidence of caries

and necrosis still in progress, small portions of bone recently separated, and new bone thrown out from the articular surface of the condyle. Three or four small cloacal openings existed in this new bone, analogous to those seen in periosteal bone at the seat of necrosis. The vascularity of the bone was much diminished, and no pus was found in the joint, but immediately external to it, and probably connected with the disease still existing, a small abscess was opened during the operation.

The articular surfaces of the femur and tibia were much altered in their relative position, the head of the latter being displaced backwards and rotated outwards. The bones—*i. e.* the femur and tibia—were in an extreme condition of atrophy and degeneration, the cancelli thin-walled and filled with oily fat, the outer compact shell of both being extremely thin, and readily yielding under slight pressure. The vessels were observed to be unusually small.

The condition of atrophy and degeneration of the bones seemed to be extremely unfavorable to a healthy reparative process, and therefore led to the adoption of amputation instead of excision.

*March 3rd, 1870.*

*Report on Mr. Carr Jackson's specimen of diseased knee-joint.*—We find that the joint shows evidence of repair in most parts. The surfaces of bone and cartilage upon the outer half of the joint (including patella, outer condyle, and outer head of tibia) had become united by fibrous tissue; cartilage in an altered state was still traceable. A small collection of pus is said to have escaped from the neighbourhood of the *internal* condyle during the first incision in the contemplated operation for resection; elsewhere the opposed surfaces on this side of the joint were united by fibrous tissue. The inner condyle presented a circumscribed projection of bone about which there were three or four cloaca-looking apertures, varying from two lines to a quarter of an inch in depth. A section made through this nodule showed indurated but vascular cancellous tissue beneath the surface, and the surface itself showed a layer made up of cartilage-cells with excess of fibroid tissue. The cancellous tissue of the internal condyle was generally atrophied, but more especially above the front of the patellar articulating surface. In this situation there was a cavity capable of holding a horse-bean, the result rather of softened and disintegrated bone-tissue than of the formation of pus. Microscopical examination of the softened tissue showed fat-, but no pus-cells.

CAMPBELL DE MORGAN.

*March 15th, 1870.*

W. ADAMS.

9. *Caries of the articular ends of the bones of the ankle; treated by means of caustic potash; pyæmia; death.*

By T. HOLMES.

MR. HOLMES exhibited the bones of the ankle from a case in which he had attempted the cure of caries of this joint by the treatment with the paste of Potassa cum Calce, as recommended by Dr. Fitzpatrick.<sup>1</sup> The patient, a healthy boy, æt. 16, was admitted on January 5th, 1870, into St. George's Hospital.

In August, 1868, he first noticed that the right ankle was swollen, and it became very painful and an abscess burst. He could not walk for about a year, after which the ankle became stiff, and he recovered the power of walking. Several small pieces of bone had come away. On admission there was swelling over the back and sides of the ankle, but none in front. The joint was as nearly as possible completely ankylosed, but a good deal of bone was exposed from two fissures, one at the back and one at the inner side. It was impossible in the state of parts to be sure whether this bone was in the tibia, astragalus, or both. It seemed as if something ought to be done—for the natural cure, though possible, was indefinitely remote, and the boy was prevented from earning his living. Yet the symptoms were certainly not sufficient to warrant either amputation or excision, and gouging the diseased bone would very probably destroy the adhesion which had commenced in the joint, and might light up again the former acute mischief. It was accordingly decided to try the method of treatment which Dr. Fitzpatrick recommends for this class of cases, those, namely, in which caries is established. On January 14th the two sinuses were laid into one, the bone cut down upon a small cavity scooped in it, and a piece of the Potassa cum Calce introduced into it. This was repeated on the 23rd and 31st, by which time a deep hole had been made in the bone, and the direction seemed to pass into a cavity, probably that of the partly ankylosed ankle-joint. No symptoms of an alarming nature followed any of these applications. On February 17th the Potassa cum Calce was again applied, a small piece about the size of a pea being forced into the cavity. On the 19th he had had a distinct rigor in the night and was found feverish the next morning; and on February 21st the first

<sup>1</sup> New. Syd. Soc., 'Biennial Retrospect,' 1867-8, p. 259.



distinct sign of pyæmia was discovered in a collection of fluid over the left elbow. It is unnecessary to follow the case more in detail. The symptoms of pyæmia became soon unmistakable, and he died on the eighth day.

On *post-mortem* examination secondary deposit was found in both lungs; the left pleura was full of foul pus; there was an extensive pyæmic abscess in the left elbow-joint and a smaller one in the wall of the thorax.

The astragalus had been extensively eroded by the action of the caustic, leaving a mere shell of bone, and the lower end of the tibia was also somewhat excavated; the upper part of the os calcis was also implicated to a slight extent. On making a longitudinal section of the tibia the medullary tissue was found to be more vascular than natural for about three quarters of an inch, but there was no other proof of osteo-myelitis.

*Remarks.*—This case appeared peculiarly fitted for the treatment which has been recommended as so free from danger in chronic caries of bone when fully developed, and the instructions of Dr. Fitzpatrick were carried out as punctually as possible. The result shows, however, that the inflammation excited by caustic potash is as capable of setting up secondary inflammation as any other form of irritation applied to the cancellous interior of a bone. *March 15th, 1870.*

#### 10. *Acute periostitis of the tibia.*

By T. HOLMES.

MR. HOLMES exhibited the tibia from the body of a child 8 years of age, who had died of pyæmia after acute periosteal abscess of the tibia.

The child was admitted on February 8th, 1870. It seemed doubtful whether or no there had been a slight injury in which the right leg and left shoulder had been struck. At any rate, no traces of injury were apparent. On admission there was a large abscess causing swelling of the right leg from the knee to the ankle, and redness extending even above the knee, but no perceptible effusion

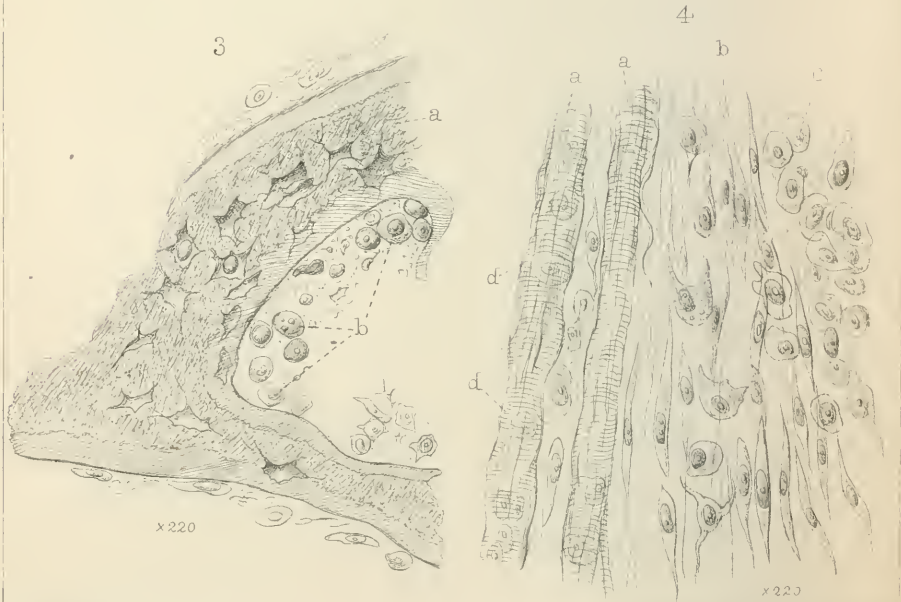
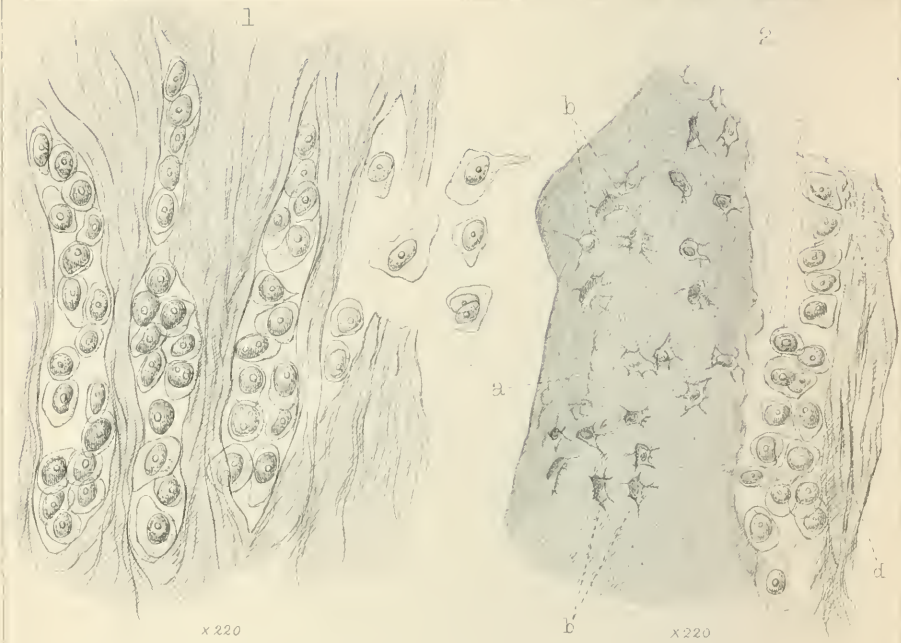
in the joint. Fluid was distinctly perceived. A free incision was made over the crest of the tibia, and a large quantity of very foul pus evacuated; the crest of the tibia was felt bare for about two inches. The child was very pale, thin, and feverish. His pulse was very weak, 140; tongue white and dry; respiration harsh and rapid, but no actual morbid sounds either in the lungs or heart. On the 11th another incision was made at the lower end of the tibia. The whole length of the shaft was exposed, but there was no grating in the ankle-joint. There was a good deal of redness and swelling below the ankle, but a puncture which was made in this situation did not give exit to any pus. For a few days he seemed to improve, but then began to sink, being troubled with constant pain, perspiring profusely, and refusing food. Amputation was proposed, but refused by the parents, and he died on March 3rd. Beyond the constant sweatings, and the great frequency of respiration, no distinct symptoms of pyæmia were noted; but his restlessness prevented a satisfactory examination of the chest.

On *post-mortem* examination secondary deposit was found in the right lung, and extensive suppuration in the left pleura.

The tibia was denuded of periosteum along the whole of its anterior surface, which was perfectly white, and in almost all parts quite bloodless; here and there a few vascular parts were found, but there could be no doubt that the whole shaft of the bone was, if not actually necrosed, at least in a condition which would have terminated in necrosis in a very short time. The periosteum was destroyed in many places to a considerable extent, and everywhere was most easily separable from the bone. The ankle-joint was full of foul pus. The lower epiphysis was completely separated from the shaft, and was perfectly rough and dead. The upper epiphysial line was intact, and the knee-joint healthy. On section the medullary tissue of the bone was healthy throughout, and contained no trace of pus. In some parts it was perfectly white and bloodless, in others was stained with blood as if the circulation had been suspended in its vessels.

This case appeared to afford a refutation (if any were needed) of an opinion entertained by some French pathologists, that acute necrosis does not occur in acute periostitis unless it is also accompanied by osteo-myelitis. In a case in which the present writer removed the whole diaphysis of the tibia on account of acute periostitis, one month after the operation the bone was so entirely dead as





## DESCRIPTION OF PLATE VII.

Figs. 1 and 2 represent the microscopic appearances of a specimen of Secondary Cancer of the Femur, exhibited by Mr. Wilberforce Smith. (Page 321.) From drawings by Mr. H. Arnott. Magnified 220 diameters.

Fig. 1. The cancer-structure met with in the main bulk of the tumour of the femur (similar to that in the rib-tumour). The brain tumour was almost entirely cellular.

Fig. 2. *a.* Spicule of bone from centre of growth, the margin being more deeply stained with carmine than the central portion.

*b.* Lacunal cells.

*c.* Cells of the cancer.

*d.* Fibrous structure of the cancer.

Figs. 3 and 4 illustrate a Report of the Committee on Morbid Growths upon Mr. De Morgan's case of Sarcoma of the Femur. (Page 341.) From drawings by Mr. Henry Arnott.

Fig. 3. Spicule of newly-forming bone (*a*), with the sarcoma-cells giving place to an embryonic small-celled tissue (*b*), from which the lacunal cells of the new bone are derived.

Fig. 4 shows the prevailing structure of the tumour, spindle-cells (*b*) and irregular cells (*c*) infiltrating muscle, of which two shreds (*a a*) are seen below. The round sarcoma-cells seem to be contained within the sarcolemma, from the manner in which this is bulged out in some places (*d, d*).

Figs. 3 and 4 are both from the outer margin of the growth

(See also Plate VIII.)



to separate from its epiphyses, which were unaffected, with hardly any force, yet no symptom of osteo-myelitis had ever occurred. It is true that no section was made of the bone, yet it seems certain that in that case, as in this, there was no inflammation of the medullary membrane, and that acute periostitis may be, and is frequently, an efficient cause of the death of the entire bone without any affection of its interior.

*April 5th, 1870.*

11. *Cancer of rib, of bones at hip joint, and of right crus cerebri.*

By W. WILBERFORCE SMITH.

Mrs. M—, aged 65, was ill more than three and a half years. About April, 1866, she began to suffer pain about the fifth right rib in front. Then enlargement of the rib showed itself. Nearly two years later, painful enlargement at the right great trochanter began, and gradually increased during about two years until death. The thigh became rotated inwards and adducted, so as to lie obliquely across the opposite limb. Early in her illness there was a slight painful enlargement at the sacrum, then another at one of the left false ribs, but these did not increase.

Symptoms of a brain affection commenced about two and a half years from the beginning of her illness; there was gradual loss of power in the left limbs, which slowly increased till she got total hemiplegia. The face and tongue were drawn to one side. This was accompanied by œdema of the limbs of the paralysed side, and at one time œdema of the same side of the chest. The œdema was a phenomenon which I tried in vain to account for satisfactorily; it could not have been produced by position—the patient lay habitually on her back. The urine was non-albuminous, and the opposite side was free from œdema, except that of late there had been some swelling of the opposite leg, no doubt due to pressure by the bony tumour.

The pain was so great that of late she had no less than eight to nine grains of morphia daily by hypodermic injection. The general

health slowly gave way; bed-sores formed, but were for a long time relieved by the expedient of cutting a large hole through all the bedding. Of late she had cough and expectoration, then imperfect articulation; also two or three weeks before death daily chilliness and shivering occurred; she died last December.

Her father had the thigh amputated for disease of the knee-joint, said to have been malignant, and died of pyæmia.

On *post-mortem* examination the diseased rib was found altered and enlarged for about five inches of its length adjoining the costal cartilage. The enlarged portion was somewhat of a spindle shape, and at its thickest part the antero-postero measurement was about one and a half inches; it was smooth, and covered apparently with thickened periosteum. It tapered towards the costal cartilage, and fractured by manipulation near its junction with the cartilage. On section it exhibited a very compact, whitish, bony tissue, except at the end next the cartilage, where the dense structure changed for a soft, red, friable material.

At the hip, occupying the site of the right great trochanter, was a globular mass as large as the head of a new-born infant; the surrounding tissues were easily dissected away from it; it was covered with a smooth glistening membrane, apparently consisting of thickened periosteum; at some parts of its surface the mass felt hard—at others, soft and yielding. On its posterior internal aspect was a cyst, the size of a small orange, which ruptured by manipulation, giving exit to fluid of a reddish-brown grumous appearance, and containing a small fibrinous clot. In attempting to dissect out the head of the femur the scalpel slipped through the joint, removing part of the innominate bone as seen in the specimen; and during gentle manipulation fractures occurred through the neck of the femur, and through the shaft, an inch below the root of the great trochanter; there was softening of all the bones about the hip-joint, viz., the head, neck, and the beginning of the shaft of the femur, and part of the innominate bone. Section of the mass revealed a softish yielding osseous tissue, chiefly of a red colour, but yellowish at the softest and most superficial parts, the structure, particularly near the surface, was infiltrated with a fleshy-looking material. All trace of the original outline of the trochanter was lost in the tumour; the neck of the femur was partly involved in the mass, the head of the bone and the acetabulum retained their form, although altered and softened. The articular cartilage appeared



natural. The marrow at the diseased end of the shaft was of a reddish colour; the shaft of the bone appeared normal on section a few inches down.

Microscopic examination of the juice revealed multitudes of cells, most of which had a rounded outline and a single nucleus. From the rib—both from the compact and from the softened portion—could be scraped a material containing similar cells. But Mr. Henry Arnott has kindly made a thorough microscopic examination, which I shall have the privilege of reading directly.

On cutting up the brain, the greater part of the right crus cerebri was found altered; its upper surface was greyish red, and somewhat granular looking, not unlike as if a decaying strawberry were imbedded in the brain tissue; the change penetrated nearly through the thickness of the crus, but left its under surface natural in appearance; by immersion in spirit the diseased portion contracted, leaving a sulcus round it. All the rest of the brain looked quite natural. The dura mater underlying the crura cerebri appeared healthy.

The right lung in its lowest lobe contained three small cavities filled with bright yellow pus, and the lung was closely bound to the chest wall by very firm adhesions. The left pleura contained about two pints of serous fluid. There was considerable bronchitis and emphysema. In the pericardium were about two ounces of serum. The liver and kidneys were free from disease; and the spleen merely contained a calcareous concretion about the size of a filbert.

The following is Mr. Henry Arnott's microscopic report. He writes:

“I have prepared and examined many thin sections from different parts of the thigh tumour, as well as the growth on the rib and in the brain, and I find the prevailing characters to be these. There is first a dense stroma of broad, flat homogeneous-looking fibres, which in some places lie in wide bands, but at others, by their close interlacement, form a mesh-work, with alveoli of varying size, but generally of a long oval shape, closely resembling the structure met with in an indurated lueg, or in the floor of a hard chancre. But instead of the loculi being filled with the small round nuclear bodies met with in the chronic inflammatory products mentioned, cells very much larger and of exceedingly various shapes are present. These cells are mostly roundly oval, with a single large nucleus; but the cell-forms vary

very much, and a few have multiple nuclei. All are contained in the alveoli of the fibrous mesh-work, and there is no visible intercellular substance. In many parts of the tumour irregular spicules of bone branch about amidst the structure already described, forming a loose cancellous tissue, in the meshes of which the tumour-cells are generally crowded. The bone has well-marked lacunal cells, with more or less perfect canaliculi, but no Haversian canals are present, nor is the arrangement of the lacunæ of the regular kind characterising normal bone. The fibrous mesh-work and bony cancellous tissue in some places are closely intermingled. In a few places clusters of small nuclei are seen, resembling the indifferent granulation-tissue met with in developing tumours and in inflammation. These nuclei are mostly gathered about the margin of the growth, spreading out into the surrounding adipose tissue. The nuclear tissue and the tumour-structure can be in many parts seen in close apposition, but no obvious transition from the one to the other can be made out. From the form which the bone takes, from the irregular arrangement of its lacunæ and the rudimentary canaliculi, and from the disposition of the cells (apparently identical generally with those of the tumour) in layers about the margins of the bone, and from the comparatively deep staining with carmine of the portions nearest the edges, I have no doubt [says Mr. Arnott] that some at least of the bone is of new formation, whilst the arrangement of the elements in the bulk of the growth distinctly points it out to be true cancer anatomically defined (Plate VII, figs. 1 and 2). The tumour in the brain presented similar characters, but without any bone."

*April 5th, 1870.*

## 12. *Tumour of the upper jaw.*

By Mr. HOLMES.

MR. HOLMES exhibited some fragments of a tumour of the upper jaw. The patient from whom the tumour was removed was a female servant, æt. 35, in good general health, though rather weak and nervous. Eleven weeks before she was seen, swelling was noticed on the right side of the face, and she consulted a dentist by

the advice of her master, who was a medical man. The swelling was at first attributed to abscess of the antrum. A tooth was drawn, and the antrum punctured, but without any matter being evacuated. When she was seen, there was a soft, solid tumour extending from the alveolar process, which it occupied in its whole extent from the outer incisor tooth, backwards along the hard palate to the hamular process, and a short distance upwards along the anterior surface of the superior maxilla. The nostril was much obstructed, but pervious to the probe. There was a good deal of mucous discharge from the lachrymal duct, and the whole of the upper jaw seemed much enlarged. Removal was recommended, and performed on March 2nd, at her master's residence in the country, the patient being under the full influence of chloroform. A single incision from a short distance below the internal canthus of the eye, coasting the nostril and dividing the upper lip in the middle line, was sufficient to allow of the removal of the whole of the upper jaw, except its orbital plate, which was unaffected, and was, therefore, left behind in order to avoid deformity.

The growth filled the whole antrum, but appeared attached only to the palatine and alveolar portions of the jaw. On section it was firm, whitish, lobulated, totally destitute of juice, and fibrous in apparent structure. Microscopic sections, prepared by Mr. Peck, showed a great number of oval or round homogeneous cells, containing many of them a single large nucleus almost filling the cell, and intermixed with a varying amount of fibrous tissue, which in some sections was very abundant. The appearance in some places was strikingly like that of "Myxoma," as figured by Mr. Arnott, in vol. i of Holmes's 'System of Surgery,' though the consistence and appearance to the naked eye were so unlike what is attributed to that form of tumour.

The patient recovered rapidly from the operation, the only drawback being an attack of erysipelas of the face.

As the patient will be certain to be under observation, it was thought that it would be of peculiar interest to obtain the opinion of the Committee on Morbid Growths as to its nature, and the prospects of a return of the disease.

April 5th. 1870.

*Report of the Committee of Morbid Growths on Mr. Holmes's specimen of tumour of the upper jaw.*—The specimen referred to us for examination consists of some portions of morbid growth

connected with a part of the upper jaw. To the naked eye the growth had somewhat the appearance of encephaloid cancer, though of somewhat firmer consistence, and not yielding on pressure any juice. On section it was opaque and of varying texture, the portion nearest the bone being firmer, and composed of more closely formed material than the parts more remote from this structure. It was very vascular, and marked by a number of little openings, corresponding to dilated blood-vessels, which were plainly to be seen by the naked eye.

*Microscopic Examination.*—Upon examining sections under the microscope, the growth was found to consist of cells imbedded in the meshes of a fibrous network. The fibrous tissue varied in different parts of the tumour. In sections made from portions removed from near the bone, it was very abundant, forming dense bands, running, for the most part, in the same direction as the vessels, and enclosing spaces in which the cells were collected. In other portions of the tumour more distant from the bone, and where the consistence was softer, the cells were contained in the meshes of a very delicate fibrillated network. Here the vessels were more numerous, and it appeared as though the reticulated network had started from them as a centre; and the cells were closely packed together, so thickly in places as entirely to obscure the fibrous stroma, and were without definite arrangement. The cells were round or oval in shape, regular in size, and very small (a little larger, perhaps, than a blood corpuscle), for the most part containing a single nucleus which nearly filled the cell. In places, however, the parts external to the nucleus were replaced by an aggregation of exceedingly minute clear bodies, which became deeply tinged with carmine. In concluding this report, the Committee would draw attention to the very close anatomical resemblance between this case and Dr. Tuckwell's case of morbid deposit in the spleen and lymphatic glands, brought forward at the commencement of the session, and reported upon by them; and they would refer the members to the drawings illustrative of that case (especially fig. 4, Plate IX) for an exact representation of what they observed in the specimen under examination.

May 17th, 1870.

J. S. BRISTOWE,  
THOMAS P. PICK.

13. *Complete dislocation, with fracture of spine, from the body of a man, who survived the injury three and a half months.*

By W. W. WAGSTAFFE.

THE case occurred in the practice of Dr. Saunders, of Cuckfield, who has presented the specimen to the museum of St. Thomas's Hospital. He writes the following account of the case:

"J. M—, æt. 34, was unloading a waggon on the 1st of October, 1869, when a large piece of timber fell across his loin. When seen two hours afterwards he was collapsed, and was totally paralysed as to motion and sensation below the level of the second lumbar vertebra. Over this vertebra there was a swelling about the size of the palm of one's hand. He complained of no pain, but there was some tenderness when the projecting spine was handled.

"In the course of three or four days he complained of 'pins-and-needles' in his legs, but this feeling soon subsided; and except that, when the soles of his feet were jarred, he felt a 'shoot go up his leg,' he entirely lost all power of motion and sensation in his lower extremities. His health remained particularly good, his bladder and bowels requiring, however, frequent attention. Bed-sores formed on the sacrum and right hip, and healed by treatment. Others then formed on the opposite side and on both heels, and, shortly before death, over the projecting spinous process.

"He sank quietly, without any special symptoms, on January 12th, 1870, three and a half months after the accident."

A *post-mortem* examination was made by Dr. Saunders, and the accompanying specimen was removed. The cords of the cauda equina, at the situation in which they were exposed to pressure, are stated to have been shrivelled, and the dura mater much congested.

The specimen is one of dislocated spine and fracture of the second lumbar vertebra. The spinal column above the second lumbar has been dislocated forwards, so that the posterior margin of the body of the first lies directly over the anterior margin of the body of the second. It is also tilted downwards at an angle of forty-five degrees from the horizontal, so that there must have been considerable projection of the spine at the seat of injury during life. The dislocation has been accompanied by a starred fracture of the body of the second

lumbar, into which the lower articular processes of the first are firmly imbedded. The transverse processes of the second have been split off and shifted forwards about one inch, held in this position at the time, probably by ligamentous tissue, and now firmly incorporated with the callus which binds the vertebræ together at the seat of injury. The callus commences above at the middle of the body of the first and extends to the lower margin of the body of the third lumbar vertebra. The existence of so large a quantity of callus may possibly be accounted for in part by the mobility of the separated bones. This mobility was more noticeable before the parts had been dried.

## WOODCUT 16.



1. *Side View*—Showing impaction of lower articular processes of 1st with body of 2nd lumbar. Fracture of 1st and 2nd transverse processes.

2. Second lumbar vertebra seen from above.

The body fractured, and the transverse processes broken off and shifted forwards.



3. *Side View*, showing the area covered by the callus.

The specimen appears of considerable importance, inasmuch as it shows—(1) a complete dislocation of first lumbar vertebra forwards ;

(2) a starred fracture of second, with forcing of articular processes of first into body of second; (3) union between these parts in their new position, by means of a quantity of new bone or callus; (4) detachment of the transverse processes of second forwards, and union of these with the callus; (5) almost complete obliteration of the spinal canal, with consequent pressure on the cauda equina, but without any material inflammatory changes in the cauda; and (6) life lasting for three and a half months after so great an injury, death occurring at the end of that time from asthenia. *March 12th, 1870.*

#### 14. *Brittle bones from a case of general paralysis.*

By J. THOMPSON DICKSON, M.B.

HENRY H—, æt. 40, was admitted into St. Luke's Hospital on the 21st January, 1870, the subject of general paralysis. He was a stoutly-built and thickly-set man, about the average height, with all the ordinary symptoms of paralysis.

He was very tottery in his gait, but he never fell. He was attacked with an epileptiform seizure on 20th March, 1870, from which he did not rally.

The *post-mortem* examination presented a considerable layer of solid and very firm fat all over the body, and considerable depositions of fat in various parts. The cardiac region, however, was free.

The intercostal spaces contained much fat, which was intimately adherent to the parietal layer of the pleura, with which it could be stripped off, when it presented the appearance of bands of fat attached to that membrane. The rib bones were almost surrounded with fat, and were nearly as brittle as captain's biscuit.

Fatty and brittle bones are very common in general paralysis, and I have been induced to bring the subject forward in consequence of the interest the subject has lately gained from the several unfortunate cases of accident to rib bones that have lately occurred in some of our asylums. It is noteworthy that all the cases of broken ribs referred to occurred in general paralytics. I have very little doubt that had the patient fallen on the ground off a chair or out of bed, he would, by his own weight, have broken some of his ribs.

The case derives special interest and importance from the fact of its illustrating the imperative necessity of bestowing greater and more constant care and vigilance upon the subjects of general paralysis, if superintendents of asylums would avoid the opprobrium of disgraceful negligence, and a repetition of reprehensible carelessness such as that which recent disclosures have shown to be the too common element of some lunatic asylums. *April 25th, 1870.*

*Report upon Dr. Dickson's specimen of brittle bones from a patient affected with general paralysis.*—The parts referred for examination consisted of the sternum and rib cartilages, with a very small portion of the ribs attached. None of the central parts of the ribs were present.

The central and lower portions of the sternum were somewhat softer than natural, and were more easily cut with the knife. The whole of the parts were greasy to the feel, and the sections in a somewhat fatty condition. The cartilages were ossified in irregular patches throughout, and could be pretty easily fractured on that account. The small portions of the ribs which were attached to the cartilages were healthy, but a little greasy to the feel.

We do not consider that this bone shows any evidence of the diseased conditions which go by the name of fragilitas or mollities ossium, but presents simply evidences of a slight fatty degeneration with ossification of the cartilage at an earlier age than usual.

*May 3rd, 1870.*

WM. ADAMS,  
JOHN WOOD,

### 15. *Malignant disease of the femur.*

By LAWSON TAIT.

MR. LAWSON TAIT exhibited a recent specimen of malignant disease of the femur, remarkable only for being high up in the bone, and for two fractures of the bone close together, which Mr. Tait had recognised at the time of their occurrence. The case had been originally mistaken for hysteria, and during the course of it much pain was experienced. This pain was relieved by electrolysis, but there was no perceptible alteration in the substance of the tumour. *February 15th, 1870.*



## VII. DISEASES, ETC., OF THE ORGANS OF SPECIAL SENSE.

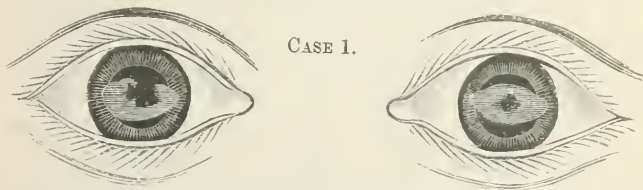
1. *Two cases of symmetrical opacity of both corneæ.*

By WM. FAIRLIE CLARKE.

**M**R. FAIRLIE CLARKE showed two patients affected with a peculiar form of symmetrical opacity of both corneæ.

CASE 1.—T. P—, æt. 50, employed in making wooden frames for barometers. The disease began in both eyes at the same time, about fifteen years ago, and gradually advanced for six years. In that

WOODCUT 17.



period it seemed to reach its full development. It then remained stationary for some three or four years; and during the last five years it has been getting rather better.

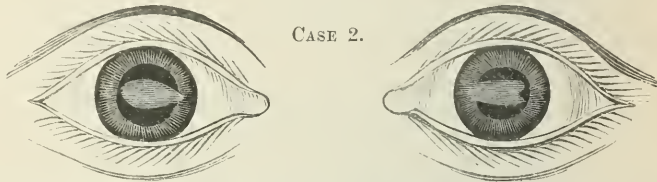
There is now in each cornea an opacity of an irregularly oval form, the long axis lying horizontally, and corresponding to the aperture between the lids. The opacities are about five lines long by three broad; of a greyish-brown colour, equally dense throughout, and sharply defined at the edges. Towards the centre there are irregular apertures in both, that in the right being larger than that in the left. These apertures enable the patient to see to do his work. With the right eye he can read No. 4 of Jaeger's test-types at six inches, and with the left eye No. 10 at the same distance. The deposit seems to be raised a little above the level of the rest of the cornea, but it is covered by epithelium, and the surface is smooth and regular, except in the central apertures, where it looks as if fragments had come away. When a little of the deposit was scraped off, and examined under the microscope, it was found to consist chiefly of an aggregation of pigment-cells. There is no history of syphilis or gout or rheumatism.

CASE 2.—G. H—, æt. 40, a water-gilder. For fifteen years "a

cloud" has been coming before his sight. For the last four or five years it has been so thick that he has been unable to work at his trade.

There is now a symmetrical opacity in each cornea. The opacity is of a rusty brown colour, not so opaque as in the last case, uniform

WOODCUT 18.



- throughout, and slightly softened off at the edges. It is oval in shape, about four lines long by two broad, the long axis lying horizontally and corresponding to the aperture between the lids. The surface of the cornea is perfectly smooth and regular. With the ophthalmoscope the media are seen to be clear, and the details of the fundus are normal. The opacities stand out sharp and black on the red reflex. The patient is a pale, thin, delicate-looking man, but there is no history of syphilis or gout or rheumatism.

In these cases there never have been any acute symptoms. There are no traces of inflammation or ulceration, and the appearance of the opacities is quite different from that of ordinary leucoma or the deposit which takes place in strumous or specific keratitis. In both instances the disease began as a slight haze, and very gradually increased until it reached the dimensions I have mentioned.

These cases seem to belong to a class which is recognised by writers upon the diseases of the eye, but which is rarely seen. I have only met with two recorded examples, and they are to be found in the Appendix to Mr. Bowman's work upon the parts concerned in operations on the eye. One occurred in his own practice, the other in that of Mr. Dixon. *April 5th, 1870.*

2. *An eyeball, supposed to be affected with glioma of the retina, removed from an infant et. 10 months.*

By W. SPENCER WATSON.

SOME peculiarity of the eyes had been noticed since the first month or two of its life, and lately a shining yellow colour of the pupil

of the right eye. Both eyes were examined ophthalmoscopically after the instillation of atropine. The right pupil remained unaffected by the atropine, and was fixed at a position midway between contraction and dilatation. The tumour as seen by the ophthalmoscope had no lateral limits, and presented a uniform yellow surface without any appearance of blood-vessels.

In the left eye the pupil was dilated widely by atropine, and it was then perfectly easy to see a white globular tumour springing from the lower and outer part of the fundus, and having vessels running over its surface, as if from the adjacent retina. The optic-nerve was very little altered in appearance from the normal condition; but at several points in the neighbourhood of the optic-disc, were white patches of deposit in the choroid, one of about the size of the optic-nerve and another of about double its size. The retinal vessels coursed over the area of these white patches.

In neither eye was the tension increased. On May 17th, Mr. Watson extirpated the right eye, while the child was under the influence of chloroform, and had great difficulty in dividing the optic-nerve in consequence of the small size of the orbit and the slightly increased bulk of the eyeball. The nerve was divided quite close up to the sclerotic, and a gruelly material was seen exuding from its cut surface. This gruelly semifluid mass has become coagulated by the solution of chromic acid (1 per cent.) in which the preparation has been placed. Rather free bleeding at the time of the operation prevented any search being made for the post-ocular portion of the optic nerve, which may possibly be diseased. *May 18th, 1870.*

*P.S.*—Sept. 30th. Up to a week ago there has been no return of the disease in the right orbit, and in the left eye the retinal tumour remains in about the same condition as seen by the ophthalmoscope, though the sight appears to have become more affected recently. The child's general health remains fairly good. W. SPENCER WATSON.

*Report by the Committee on Morbid Growths on Mr. Spencer Watson's specimen of glioma of the retina.*—The eyeball submitted to the Morbid Growth Committee furnishes an excellent example of glioma retinæ. It contains a retinal tumour of the size of a small bean bulging into the vitreous humour, and several small secondary tumours also in retina, some not larger than a pin's head. Their minute structure is eminently characteristic of the small round-cell variety of glioma.

J. W. HULKE.

*May 18th, 1870.*

## VIII. TUMOURS.

1. *Congenital Fatty Coccygeal Tumour, which simulated Spina Bifida.*

By T. SMITH.

THIS specimen was received from Dr. Wilson, of Clay Cross, with a photograph of its appearance before removal. It was situated over the spines of the vertebræ, in the sacral region, and had many of the local signs of spina bifida, the skin being ulcerated over the most prominent part of the growth, as is common in that malformation. At this spot there was a bulging, fluctuating, parchment-like membrane, with dried, semi-purulent discharge over it, looking like the dura mater of the cord covered by fascia. There were no symptoms of paralysis, nor was there any distension of the anterior fontanelle. In the course of four months the swelling had increased from the size of a small egg to that of a foetal head. On October 27th it was tapped, with the view of ascertaining the size of the opening in the arches of the vertebræ; it was then found to be a solid growth, and it was accordingly removed; but so marked were the signs of fluctuation, that it was not until Dr. Wilson had punctured the growth in four different spots that he became convinced it was solid. The disease proved to be a fatty tumour of very firm consistence, formed of whitish foetal fat, and differing considerably, both in colour and consistence, from the ordinary adipose tumour of adults. It was firmly attached to the back of the coccyx, which was turned backwards and upward into the tumour.

November 2nd, 1869.

2. *Congenital Cystic Tumour removed from the Substance of the Cheek of an Infant eleven days old.*

By HOWARD MARSH.

AN infant, seven days old, was brought to the Children's Hospital, in October, with a large swelling, that had been observed at the time of birth in the left side of the face.

On examination, a tumour of the size of a small hen's egg was found seated mainly in the substance of the cheek, but extending beyond this in several directions. Externally it produced a deformity similar to that seen in a case of "swelled face" from a carious tooth; a prolongation passed upwards beneath the zygomatic arch, and a lobe as big as a walnut extended inwards between the jaws, so that these could not be closed, and backwards into the substance of the soft palate. As the swelling in the cheek evidently contained fluid, it was punctured with a fine trochar, and a teaspoonful of amber-coloured serum was removed. Although the tumour was of such large size, and extended so widely, it was necessary to adopt some active treatment, for the nurse stated that it was growing quickly, and the portion which projected between the jaws not only prevented the child from taking the breast, but was, from the constant injury to which its situation exposed it, already beginning to slough. When the child was eleven days old, chloroform having been given, an incision was made, extending from the corner of the mouth to the centre of the zygomatic arch; the anterior surface of the tumour was exposed; the lobe which passed under the zygoma was turned out, chiefly with the handle of the scalpel; and then the portion projecting into the mouth was removed. In doing this it was found necessary to cut away almost the whole of the left side of the soft palate, and to dissect deeply behind the ascending ramus of the lower jaw.

Hæmorrhage was not so copious as the nature of the operation might seem to indicate. As much speed as possible was used, and all bleeding vessels were at once secured. At the close of the operation, however, the child was pale, and almost pulseless. By the application of warmth and by careful nursing, reaction was gradually induced, and six hours afterwards the patient was in a natural sleep. The subsequent course of the case need not be particularly described. The child's general condition continued satisfactory; but the wound failed to unite by adhesion. The sutures cut their way out, and at the end of ten days no union had taken place. The wound, however, subsequently healed by granulation. Three months later the child was seen again. There was then a deeply depressed scar in the line of the incision, but this was quite sound. There was no return of the disease, and the general health was perfectly good.

*February 1st, 1870.*

*Report by the Committee on Morbid Growths on Mr. Howard Marsh's case of congenital cystic tumour.*—The tumour is about two inches long, about an inch and three quarters in its transverse diameter, and one inch thick. It appears to consist of three distinct lobes; one of these lobes being as large as the other two together.

On making a section through the longitudinal diameter of the tumour, the largest lobe appears to consist of one large cyst, and a number of small cysts, the smallest of the size of a millet seed. The one of the two smaller lobes being partly cystic, partly solid; the third lobe, however, being perfectly solid, consisting of white masses, traversed by reticulated bands of fibrous tissue, thus having the naked-eye-appearance of glandular tissue.

The cysts are lined with a white membrane, which may easily be separated and removed by the forceps, forming then a sack filled with a white, opac, albuminous, mucous fluid, which, when microscopically examined, contains abundant quantities of fat-cells, fat-crystals and fat-needles, of cholestearin-plates and of free epithelial cells, differently altered in shape and in all stages of fatty degeneration.

The sacks, lining the cysts, consist of fibrous tissue, the internal surface being covered by a layer of epithelial cells.

The white reticulated substance, forming the contents of the third lobe, mainly consists of large rounded cells, containing numerous fatty granules, and resembling spheroidal epithelium, imbedded between bands of fibrous tissue.

The results of our examination show the growth to be a multilocular, atheromatous cystic tumour, the interest of which mainly lies in the fact of its being congenital, and occurring in an infant of only eleven days.

*March 3rd, 1870.*

H. BEIGEL.

W. S. CHURCH.

### 3. *Cases of malignant sarcomatous tumour of the femur.*

By C. DE MORGAN.

THE following cases are presented to the Society, not as possessing any points of unusual interest, but because it appears highly desirable that records of all the quasi-malignant growths should be preserved as one means of establishing the relations and the differences between them and the more decidedly cancerous diseases.

Richard Bush, æt. 23, warehouseman, living in London, was admitted into the Middlesex Hospital on Jan. 19th. He has a sallow complexion and worn look, and has of late lost flesh rapidly. Up to ten months ago he used to bring hay up from Herts, sleeping in his waggon, and only going to bed on Sundays; this went on for four years, and during that time he drank hard. His health has been generally good; but he has had an occasional cough, and spat blood a twelvemonth ago. For two or three months he has had a weakness and slight pains at times in the right knee.

At the end of last September he was carrying a sack of barley up a ladder, and was supporting it by resting his right hand on his right knee, when he felt something give way. He could walk immediately afterwards, but felt a dull, aching pain, which has increased from that time. Swelling began just above the knee a week afterwards. The swelling increased, but he continued to work until a month ago, when it extended about half-way up the thigh. The pain was always worse at night. For the last month he has rested up in bed for the greater part of his time, as the pain was always increased by exercise.

The right thigh, on his admission, was greatly enlarged from the knee to about an inch below the great trochanter. The knee-joint was distended with effusion, but otherwise healthy. The leg was enlarged from œdema. The skin over the tumour generally was of natural colour, but the veins were enlarged to a slight extent in front and inner side; towards the knee the skin was a little reddened. The greater mass of the tumour was hard, but elastic, especially just above the inner side of the knee; at the upper and inner part there was a feeling of fluctuation. The temperature of the two limbs was

the same, and the pulsation of the tibial vessels on the two sides was equal.

The measurement of the circumference of the right knee was  $17\frac{1}{4}$  inches ; of the left,  $12\frac{1}{2}$  inches ; of the thigh, 2 inches above patella, right,  $18\frac{1}{4}$  inches ; left,  $12\frac{1}{4}$  inches ; of upper third, right,  $19\frac{3}{8}$  inches ; left,  $15\frac{5}{8}$  inches.

Some small, hard glands were detected in both groins ; those on the right side being the larger. The chest and abdomen were carefully examined. There was a little want of resonance in both apices, especially on right side, with slight expectoration just tinged with blood. The heart's sounds were normal. The liver projected somewhat below the rib ; but there was no evidence of disease.

The operation of amputation at the hip-joint was performed on the 26th January. The aorta was compressed by a Lister's tourniquet, and but a very trifling amount of blood was lost, not more certainly than from six to eight ounces ; ligatures of silk soaked in carbolic acid oil were placed on the large veins as well as on the arteries.

On making a section of the tumour, a large quantity of bloody fluid escaped from cysts situated above the knee and at the upper part of the thigh. The fluid was contained in large alveolar spaces, the walls of which were soft, deep coloured, and in some parts extremely thin. The growth extended nearly up to the level of the trochanter minor. The centre of the tumour was occupied by a harder white structure surrounding a mass of firm, bony and cretaceous deposit, which was connected with the shaft of the femur, but so loosely that it broke away in the act of sawing it through. The femur itself did not appear to have been so much involved in the disease as is often found to be the case. At the lower part the periosteum was reflected from the bone and expanded over the tumour, being for some two inches separated from the bone by a soft, osseous deposit, especially at the anterior part. Throughout the greater part of the shaft a layer of the same deposit was seen radiating from the bone ; at the posterior and external part of the bone it was not more than one-eighth of an inch thick, and lay beneath the periosteum, which, at the upper third or more, was overlapped by the softer parts of the tumour.

The condyles were free from disease, which evidently had its origin beneath the periosteum more than two inches above them. The increase of size at the knee was due principally to the great effusion into the joint, which structurally was quite healthy.



The softer parts of the tumour are composed chiefly of uniform-sized round cells with little trace of connective elements amongst them. They do not present for the most part any regular arrangement, though a disposition to linear arrangement is here and there visible. Interspersed amongst these cells are some of larger size. Bands of finely fibrillated structure are seen in parts running through the mass, but not forming areolar spaces.

In some places the round cells give place to a definite spindle-cell formation.

Lying amongst the cells in many parts are minute cretaceous deposits of irregular forms. Where these are found in places in which the cells have a definite arrangement, they assume the same tendency, giving the impression that they are cells which have become infiltrated with bone salts. The parts of the central bony mass which I have examined presented the character rather of amorphous concretion than of true bone structure.

In the case which was under the care of Mr. Nunn in June, 1869, and which he requests me to mention in connection with my own, the patient's (Mary McC—) age was 34. She was unaware of any previous injury when, about three months before her admission into the Middlesex Hospital, she noticed a swelling about two inches above the right knee. It was of the size of a small walnut, and was not attended with much pain. It remained stationary for about a month, and then began to increase toward the inner side, at the same time becoming the seat of shooting pains, which ran down the leg. At the time of her admission she was thin and pale, and much worn by the severe pain. A tumour occupied the lower third of the thigh. The skin over it was smooth, and of natural colour, except above the patella, where it was somewhat discoloured. Enlarged veins ran over the surface. The swelling occupied chiefly the anterior part of the thigh, and faded gradually above into the femur. It was tense and firm, but with a feeling of fluctuation, especially over the patella. At its largest part it measured eighteen inches in circumference, the left thigh at a corresponding part measuring only twelve.

Amputation was performed on the 7th July. She died of pyæmia on the 13th.

The tumour was found to occupy the lower third of the femur, which was invaded by it, and had sustained a transverse fracture across the condyles; spicules of bone were found imbedded in the

diseased structure in the neighbourhood. The mass was somewhat lobulated; it had destroyed the muscles, and at the largest part nearly reached the skin. Its consistence varied from that of cream to that of soft cheese. It had a yellowish-white flickering surface, mottled with crimson. It was nowhere encapsuled. The tibia was healthy, and the knee-joint unaffected.

The structure of the tumour, as seen in sections made by Mr. Arnott, is that of a well-defined spindle-cell sarcoma; but it presents in unusual abundance, scattered through the spindle-cells, cells of various forms, some with very large nuclei and nucleoli, and some with well-marked brood spaces.

On *post-mortem* examination some enlarged soft and dark-coloured glands were found in the groin and in the pelvic and lumbar regions. There was no other appearance of extension of the disease, and the internal organs were generally healthy.

These cases are instances of what used to be called osteo-sarcoma, or medullary sarcoma, according to the relative amounts of the soft and the osseous structures contained in them. The growths were formerly, and by many surgeons still are, considered to be cancerous; but the true cancerous diseases originating in the long bones are, I should imagine, not so common as is generally supposed. In many cases these tumours seem to be traceable to injury, but the injury which appears to cause the disease often takes place months before the one to which the patient attributes its occurrence. Thus, in the case of the girl whose case I brought before the Society last session, there had been an injury to the knee three months before the fall which occasioned a fracture at the knee-joint for which she was brought to the hospital. The fracture was the consequence of an already established disease.

In the first case narrated the patient had had pain and weakness in the knee from time to time. The feeling of "giving way" under the weight was probably due to the parts being already the seat of disease. It is a question of great pathological interest whether the disease is really in any way caused by the injury; or whether there is any antecedent condition which is brought into a state of activity by the injury.

A question of greater importance is—Are there any means of diagnosing these sarcomatous tumours from true cancerous encephaloid growths, if such exist?

There can be no doubt that in the latter disease amputation should





## DESCRIPTION OF PLATE VIII.

Further illustrations of the Reports of the Committee on Morbid Growths upon cases of Sarcoma of the Femur, exhibited by Mr. De Morgan. (Pages 341 and 342.) From drawings by Mr. Henry Arnott. All the objects magnified 220 diameters.

- Fig. 1 shows the "indifferent granulation material," or "adenoid tissue" (*a a*), stretching out from the tumour structure (*b*) into the adipose tissue (*c*), separating its cells. From the margin of the tumour. (Page 341.)
- Fig. 2 shows the structure of a strip of new cartilage shooting in amongst the sarcoma tissue, in the neighbourhood of forming bone, and close to remains of striped muscle. (See in Fig. 4, Pl. VII.) From near the margin of the tumour. (Page 341.)
- Fig. 3. Edge of section, and two detached cells (*a, b*), from sarcomatous tumour of thigh, which occurred in the practice of Mr. Nunn. (See Report, page 342.)



be performed through the joint, not in the continuity of the bone. I do not think it is so necessary in a case of sarcoma. At any rate, I have amputated through the bone in some of these cases without return of the disease after many years. In the case I recorded last year, I performed a high amputation of the thigh; but though there were nodules of disease in the medullary cavity beyond the principal mass, and in the muscles also, the girl is at present in apparent perfect health, and is walking well on an artificial limb. I can hardly anticipate that this happy state of things will last. Generally, I believe, the veins are less defined, and the growth is much more rapid in a sarcoma than in an encephaloid cancer.

*February 1st, 1870.*

*Report of the Committee on Morbid Growths on Mr. De Morgan's case of sarcoma of the femur.*—On microscopical examination the chief mass of the tumour is found to be composed of cells of various sizes and shapes, intermingled with fibres, but without any alveolar arrangement. The prevailing type of the cell is the spindle-cell, but numerous round and oval ones with large circular nuclei are also met with, intermixed with a few of stellate form, and some with mycoid characters. Passing in different directions through the tumour are long, fibrous tracts which, here and there, by their interlacement, form large, open meshes in which are contained cells similar to those above described. Sections taken from the fresh tumour before hardening in chromic acid showed abundant calcareous deposit in almost all parts of the growth, but these appearances were no longer visible in the sections after soaking in the acid. Portions of the tumour are intersected by delicate spiculæ of new bone, forming an open, cancellous structure, the spaces of which are occupied by cells resembling those of the rest of the tumour; these in the layer in immediate contact with the bone become more numerous, are of smaller size, and gradually pass into the lacunal cells. In some places, in continuity with the newly-formed bone, are tracts of cartilage, very rich in cells, which at its junction with the bone appears to be ossifying. Transitional forms between the cartilage-cells and those of the mass of the tumour are distinctly visible. Extravasations of blood of different dates occur in various parts of the tumour.

At the junction of the tumour with the other tissues of the thigh, offsets are seen to pass from it into the normal tissues; this is espe-

cially the case with the adipose tissue, in which the lobules and even separate cells of the fat are separated by these tracts proceeding from the tumour. These offsets, though in direct continuity with the tumour, differ from it in structure, and consist of masses of round nuclei imbedded in a slightly granular (in parts somewhat fibrillated) matrix, forming the so-called adenoid or indifferent granulation-tissue. Small masses of similar tissue are seen here and there in the substance of the tumour itself. Imbedded in the tumour in some places remains of striped muscular fibre are visible, showing that the tumour has grown by infiltrating the surrounding tissues (Plates VII and VIII).

The general character of the growth would thus appear to be that of a sarcoma, presenting in different parts the forms of fibro-, spindle-celled, chondro-, and osteoid sarcoma; a combination not unfrequently met with in sarcomata, springing from the periosteum, as this appears originally to have done.

WM. CAYLEY.

HENRY ARNOTT.

March 3rd, 1870.

*Report of the Committee on Morbid Growths on Mr. Nunn's specimen of sarcoma of the thigh, exhibited by Mr. De Morgan.*—The microscopical examination of the tumour of the thigh exhibited by Mr. de Morgan for Mr. Nunn, showed the prevailing structure to be that of a spindle-cell sarcoma, the cells of which were large, and contained one oval nucleus with one or two bright nucleoli. These cells were arranged in broad bands and fasciculi, and between them was a scanty granular intercellular substance. Scattered amidst the spindle-cells were very many variously-shaped cells, some of huge size, generally round or oval, and containing a single large nucleus with nucleolus, but many were tailed, awl-shaped, or of irregular form. These larger cells were scattered among the spindle-cells quite disorderly, and showed no transitional forms from the one size and shape to the other. Although present in every field of the microscope, their number varied much in different parts of the growth; in no place, however, were the large cells anything like so numerous as the regularly grouped spindle-cells. In the sections we made we found no calcareous matter, bone, nor other structure than that described above.

WM. CAYLEY,

HENRY ARNOTT.

March 3rd, 1870.



4. *Fibrinous polypi from the nares.*

By W. SQUIRE.

THE two rounded, smooth, red bodies with branched appendages now exhibited were removed from the nostril of a woman who had suffered from several attacks of epistaxis about two months ago. She one day used successive plugs of cotton-wool to stop the bleeding, and then, as she thought, removed them all. No more bleeding occurred, the nostril remained uncomfortable but not quite obstructed. The masses were easily detached; they consist of an envelope of the fibrine of the blood arranged in layers around centres of white vegetable fibres which prove to be cotton-wool. *March 15th, 1870.*

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5. *Nasal polypus removed from a child nine years old.*

By HOWARD MARSH.

THE growth consists of an irregularly-shaped central portion an inch long and half an inch wide, by which it was attached to the pharynx, close to the base of the vomer, and of two broad, flattened processes, which projected into, and completely filled either nostril. The central portion has a firm, condensed structure, while the two limbs that were lodged in the nostrils are formed of the succulent, gelatinous material commonly met with in nasal polypi in the adult. When I first saw the child, the daughter of a farm labourer in Suffolk, in September last, both nostrils were filled with polypus-growth, and a mass about as big as the end of a man's middle finger was seen hanging down into the fauces behind the soft palate and uvula. It was said that the nostrils had been obstructed for two years, and that the portion of the growth seen in the fauces had been observed slowly growing for one year. On October 13th the child, who had been admitted into the Children's Hospital, was placed under chloroform, and an excellent view of the pharynx obtained by the use of Mr. Smith's gag. The polypus was caught by that part which was seen behind the palate, and dragged farther

and farther down with Vulsellum forceps, and when it was firmly secured it was easily torn from its attachment and extracted entire. Hæmorrhage was at first very free, but it ceased in a few minutes when the nostrils were syringed with cold water.

November 2nd, 1869.

6. *Congenital tumour or excrescence apparently springing from the base of the skull, passing through a cleft in the palate, and protruding from the mouth of a 7-months fetus—still-born.*

By JOHN D. HILL for Mr. HOWARD BARRETT.

THIS specimen was kindly brought under my observation by Mr. Howard Barrett, whose partner, Mr. Pearse, attended the woman in her confinement.

In answer to inquiries Mr. Barrett has favoured me with the following Report :

*Report on specimen of a large congenital tumour protruding from the mouth of an infant.*—The infant from which this preparation is taken was still-born, on May 3rd, 1870, and was probably not more than a seven-months child.

The father (Mr. Balcik) is a Swede, and a strong and active man of about 40 years of age. The mother is also strong and healthy, about 37. Both parents are free from any abnormality.

The mother has had six children, including this last one. None of the labours were instrumental. The date of the confinement previous to this one was July 6th, 1868. On this occasion a child was born at the full term, but with a hare-lip and cleft palate; this infant did not long survive its birth.

In the case of the infant from which this specimen is derived, the labour lasted four hours, and the umbilical cord was ligatured.

The mother has volunteered the following statement, *apropos* of the subject of maternal impressions :—

During a considerable part of her penultimate accouchement she was under the hands of the dentist, who was fitting a plate

to her upper jaw. She experienced very great uneasiness and pain under his manipulations and, as she says, had "very curious sensations!"

The child, as we have seen, was born with hare-lip and cleft palate. In her next and last pregnancy, fearful of the recurrence of a similar catastrophe, she never once took out her artificial teeth, by night or day; all the time allowing her mind to dwell considerably and perhaps morbidly on the subject.

All this may be taken for what it is worth.

HOWARD BARRETT.

The autopsy was made in my presence eight hours after death, when I noted the following particulars :

*Head.*—*Scalp*, covered with hair; *cranium*, large and well developed; *brain*, soft and diffuent convolutions ill developed. *Chest.*—Lungs, solid; heart, small; foramen ovale, patent. *Abdomen.*—Organs, normal. *Extremities*, normal. Nails, imperfect.

The tumour consists of a number of lobules, varying in size from a pea to a good-sized egg; of these some appear to contain fluid, others feel soft and gelatinous, and a third give one the impression of cartilage, and in some parts of bone. They seem to be attached to one common pedicle, which passes through a cleft in the palate towards the base of the skull.

On inverting the head there is certainly an appearance of an ill-developed nose, upper lips, and gum.

I have purposely avoided making further examination by dissection, in order that the members of the Society may observe the parts *in situ*.

On referring to the article Teratology, in 'Todd's Cyclopædia,' vol. iv, part II, page 968, I observe, as to the palate, "that the rudiments of a second fœtus are sometimes found in the form of a fungous excrescence."—*Vide* HOFMANN. May 17th, 1870.

*Report on Mr. Hill's specimen of congenital tumour.*—The specimen consisted of the head of a seven-months fœtus.

There is a large, lobulated, pedunculated tumour, about the size of a large orange, springing from the palatine process of the right superior maxilla and the body of the sphenoid, projecting from the mouth above the tongue. The growth is studded in parts with

pedunculated fleshy growths, varying in size from a pea to a hen's egg; of firm consistence, but some much harder than others.

The interior of the tumour has the consistence of bone. In the middle line in front is a cleft, with bony margins, leading to a cavity. Below is a much smaller opening with well-defined margins. A probe passed into this strikes bone at the depth of about half an inch.

On section the tumour presents a confused mass of cartilage and bones. Some of the latter are easily separable from the mass; they are irregular in shape, and present no resemblance to any known bone of the fetus. There is a great quantity of bony tissue which is confusedly mixed with cartilage and inseparable from it. This bone is above continuous through the main peduncle of the growth with the body of the sphenoid.

On section of the largest of the fleshy growths, a quantity of grumous fluid escaped which, under the microscope, presented the appearance of what is called nucleated blastema. A smaller and firmer growth on section looked like thickened integument. Its microscopic structure was that of white, wavy fibrous tissue interspersed with cells. Another similar growth was composed of a cellular matrix well supplied with blood-vessels.

In the interior of the growth is an irregular cavity about the size of a hazel nut. Its walls are composed of bony material covered by a smooth lining membrane; within it are some two or three bands having a rough resemblance to nerves, but under the microscope no nerve-fibres or cells are discernible.

ALFRED WILTSHIRE,  
THOMAS SMITH.

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7. *Tumour from tendon of transversalis.*

By E. BELLAMY.

THE patient was a female, æt. 27. She noticed a small movable lump like a marble, on the right side, about seventeen months ago. It grew to its present size very rapidly, giving her no pain

whatever, and her only object in having it removed was that its presence interfered with her occupation (a prostitute). Mr. Canton, having previously diagnosed that it was a tumour between the abdominal walls, cut down upon it, and, by a careful dissection, succeeded in removing the mass, which appeared to take its origin from the conjoined tendon.

The patient died three days after from peritonitis. No enlarged glands or similar growth elsewhere.

May 17th, 1870.

### 8. *Encysted orbital tumour.*

By JABEZ HOGG.

MR. S. A., æt. 24, engineer, Public Works Department, India, in the enjoyment of excellent health, living a rough camp life, about June, 1867, became aware of the presence of a slight enlargement beneath the lower lid, near the inner angle of the right eye. Just sufficient double vision seeming to interfere with the use of the rifle he thought might be owing to the swelling; but, as it was then small, gave no pain or other inconvenience, and as he could not leave his employment to proceed to the station to consult a doctor, he determined to try and forget it.

At length he became conscious it was increasing in size and pushing the eyeball outwards, but it was not before November, 1868, that he was able to see Dr. Whitmell; at that time the eyeball was most inconveniently directed, being almost fixed in the outward direction, and requiring the constant application of a bandage. On the 30th of the month, Dr. Whitmell made a small puncture into the tumour, which was followed by a good deal of bleeding. The wound rapidly healed, but no diminution in its size appears to have been produced; a week after the operation was repeated with a similar result, the hæmorrhage being most severe, and requiring cold and pressure before it could be arrested. The eye now required bandaging, and became perfectly useless. Dr. Whitmell, finding he could do nothing more for his patient, recommended him to proceed to Calcutta and place

himself under an ophthalmic surgeon. This advice he was unable to follow before February of the present year, when he saw Mr Macnamara, who told him he might lose the sight of the eye, nevertheless strongly advised another operation for the extirpation of the tumour. As the hot weather had set in, Mr. A. decided on coming to England, and on the 25th of March he called upon me.

The appearance presented was that of a circumscribed encysted tumour, hard and resistant to the touch, larger in size than the eye-ball, and occupying the inner two thirds of the orbit, the lower lid, although much distended, only partially covering it. The eye-ball was pressed upon and fixed in an upward and outward direction, and could not be rotated. The sight of the eye appeared to be nearly normal, but, as, from its fixed position, it produced double vision, it served only to embarrass his movements. As the palpebræ could not be approximated, epiphora had for some time been annoying. The appearance presented was most unsightly.

My colleagues, Mr. Hancock and Mr. Power, saw the patient, and concurred in my view that an immediate attempt should be made to remove the tumour. The patient having been placed under the influence of bichloride of methylene, by Mr. Marshall, I proceeded to make a clean cut, upwards of an inch in length, through the conjunctiva and integuments; this was followed by a gush of serous fluid, and an excessive quantity of blood was lost throughout the operation, which rendered the removal of the mass and the breaking down of the walls of the cyst a work of considerable difficulty; the eyeball was also in great danger of being wounded during the separation of attachments which were firmly adherent both to it and the orbital surface. Cold and pressure sufficed to arrest the hæmorrhage, and a firm compress was then applied. At the end of about four hours bleeding returned, and threatened for a time to become troublesome; this was overcome by the constant application of ice, and the case terminated without a bad symptom. In a week the patient was about. The wound healed rapidly; in a fortnight he was able to use the eye, having previously thrown aside all bandages. In a few days he left town.

The contents of the cyst, after washing away the coagulated blood, filled an ounce wide-mouthed bottle. Portions examined microscopically exhibited a perfectly uniform mass of dilated vessels, cellular tissue, epithelium and fatty matter. The unusual size of the tumour, which as near as could be made out was about that of a

small hen's egg, rendered it one of considerable rarity ; for, although small encysted tumours are very constantly met with in ophthalmic practice, anything attaining to a size as large as this is seldom seen. Upwards of a year has elapsed ; there is no sign of a return of the tumour, and the sight remains perfect. *October 19th, 1869.*

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9. *Pedunculated erectile epithelial growth from the upper eyelid.*

By JABEZ HOGG.

JAMES ALLEN, æt. 35, a mechanic, in good health ; first noticed a small enlargement on the upper eyelid about ten months before he applied to the Royal Westminster Ophthalmic Hospital. It first attracted attention from a certain amount of tenderness, accompanied by pain on touch. For seven months it was seen to increase in size ; during the last three its growth has been rapid, so much so that he was obliged to keep it cut down. In this way more than an inch and a half was removed. The patient noticed after the first paring-down that what was only a warty growth was now spreading over the lid ; its base covering the whole of the upper eyelid. The slightest touch caused great pain, and, on the recommendation of his employer, he sought advice at the hospital.

The outgrowth was erectile, dark-coloured, and horny in appearance, rather exceeding an inch in length, and completely covering up the eye and closing the lid by its weight, as shown in the photograph. On dissecting it away from its attachments considerable bleeding took place. The tarsal cartilage was in no way implicated in the growth. The edges were not brought together, a simple pad only being applied with pressure. The growth was for about a third of its length occupied by a purulent secretion. On submitting various portions to microscopic examination, the hardened mass was found to be composed of worn-out, dark-coloured, condensed epithelial scales and connective tissue.

Growths of this kind are not very commonly met with ; I wish, therefore, to direct attention to a remarkable case, recorded and figured in the 'Boston Medical and Surgical Journal' (February 11th, 1869), by Dr. Shaw of that city. The erectile growth pro-

ceeded from the lower lid of the patient, and presented the appearance of a large bird's claw growing downwards. Dr. Shaw also refers

WOODCUT 19.



to a case removed by Mr. Canton, which he says will be found recorded in the 'Pathological Soc. Trans.;' but on searching the volumes of the Society I have been unable to find any record of this case. It is, however, a fact that Mr. Canton did remove a horny growth from the upper eyelid of a patient.

*October 19th, 1869.*

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10. *Horn growing from the leg for forty years.*

By W. W. WAGSTAFFE.

**T**HE specimen was sent up to me by -Dr. H. G. Lee, of Thame, and had been removed by him from the body of an old woman, aged about 80, after her death.

It was known to have existed forty years, and had not at any time been shed. It grew from the inside of the leg, about six inches below the knee-joint, projecting in a downward direction, and had



become for several years a source of some inconvenience in progression. On the under part of the thigh of the other limb several smaller growths, apparently of a similar nature, had appeared at different times, but these had been much pressed upon in sitting, and had ulcerated off, leaving rupious-looking sores which did not heal. Dr. Lee did not know of any history of tumours in the person of the old woman or her family.

The growth is a flattened horny spiral, of rather more than two turns; grooved in the direction of its length, and marked with numerous transverse lines and fissures. These transverse lines are rather more marked in the older portion and along the inner edge, and rather more upon the upper than upon the under surface. The height of it, measured by the axis of the spiral, is 3·8 inches, and its length if uncoiled would be 14·3 inches. For the last three inches towards the apex the surfaces of the growth are exactly reversed to the position of the surfaces of the lower eleven inches: the band is twisted, and what was upper surface becomes lower, and *vice versa*. It ends in a blunt extremity of half an inch diameter. At its attachment to skin it forms an oval with a long diameter of one and a half inches, and a short diameter of three quarters of an inch.

At the base upon section the line of limit of true skin is clearly defined. So far as it is possible to judge in its present state, the line of papillæ is somewhat flattened out by the pressure of the growth; it is not perceptibly raised above the normal level.

The whole growth is composed, microscopically, of epithelial scales, mixed with a certain amount of oily matter; but the latter is not in excess, and there is no cholesterine visible. The base of the growth shows the large quantity of epithelium most clearly; towards the apex or older portion the cells have undergone disintegration to a greater extent.

The papillary line limiting the base of the growth, together with the epithelial nature of the elements of the growth, together also with the absence of oily matter to any great extent, appear conclusive evidence of its origin in hypertrophy of epithelium—not in outward-forced sebaceous matter.

March 15th, 1870.

11. *Horny growth from clitoris.*

By EDWARD BELLAMY.

THIS growth, which has much the appearance, and is much the size, of a small tiger's claw, was removed from an old woman of 70, by Mr. Hancock. It grew from beneath the præputium clitoridis.

May 17th, 1870.

12. *Large fibro-cystic (?) tumour of the breast.*

By C. DE MORGAN.

MRS. H—, æt. 50, healthy, stout; had nursed two children. She had some uterine disturbance three years ago. A painful tumour in the left breast was noticed six years ago, which continued to grow, but was always larger at the catamenial periods. When I first saw her, with Dr. Cribb, of Compton Terrace, about six months since, the tumour was as large as an orange, in parts very hard, in others soft, as if fluid were present. There was little or no tenderness, no adhesion of skin, or enlargement in the axilla. She suffered from frequent shooting pain.

About a month before this she had a severe fit of the gout, for the first time, in the toe. Two days after, while the gout was still severe in the foot, the breast suddenly increased to at least twice its former size, and became excessively painful, the pain resembling that in the foot. There was very great tenderness, and the skin was reddened. As the gout subsided all this went down, and the tumour returned to its previous size.

Latterly the tumour has grown rapidly, and with very severe pain; and I removed it on the 11th. It measured twenty-nine inches in circumference, and had extended towards the axilla. The skin was very thin, but not adherent. In feel it was uniformly elastic and lobulated; towards the upper and outer part there was an obscure fluctuating sensation. It was found to be divided by deep fissures into several large lobules. These presented, on section, a glistening, smooth, striated, red appearance, one towards the outer side being very deeply coloured; but one of the lobules—the central one—was of a uniformly yellowish-white colour, like that seen in a

pure adenoid tumour, and was made up chiefly of foliated outgrowths packed up within cysts.

There were no cysts with fluid contents in any part of the tumour, and but few characters of cystic growth in any part of it, except the one white lobule.

Some days after removal the weight of the tumour was about five pounds and a half. I considered that at the time of removal it weighed about eight pounds.

The most interesting fact in connection with this tumour is undoubtedly the acute attack in it of gouty inflammation. The patient was all the time under the careful observation of Dr. Cribb.

*April 19th.*

*Report on Mr. De Morgan's specimen of large mammary tumour, referred to the Morbid Growth Committee.*—The naked-eye characters of this specimen have been already fully described by Mr. de Morgan.

We have made numerous sections of the tumour, examining both the firmer portion forming the bulk of the mass and also the soft villous-looking intra-cystic growths. We find the former to be made up wholly of fibrous tissue in its various stages of development, ranging from a richly nucleated structure composed of large oval nuclei, regularly arranged in lines and imbedded in a somewhat granular substance, to the plain wavy lines of ordinary white fibrous tissue. The nuclear element, however, greatly predominated over the distinctly fibrous structure in all the sections taken from this part.

The greater part of this tissue is richly vascular, large thin-walled vessels filled with blood traversing it in all directions.

The soft intra-cystic growths, on the other hand, are composed almost entirely of plain, white, wavy, fibrous tissue, hardly any connective tissue nuclei being visible; but imbedded in this are seen in some parts, and generally at rare intervals, small patches of gland structure, such as are usually far more abundantly met with in these growths.

The tumour in the main, therefore, corresponds to the Fibroma papillare intracaniculare of Virchow, although the slight admixture of glandular tissue approximates it to the ordinary proliferating cystic tumours of the breast.

HENRY ARNOTT,

WILLIAM CAYLEY.

*May 17th, 1870.*

13. *Large cystic tumour of the breast.*

By GEORGE LAWSON.

THIS specimen was taken from a patient æt. 60. She had complained of her breast enlarging for two years before she came under my care. For the last six months the growth had been very rapid. When I first saw her the breast was so large and heavy as to require to be supported by a sling, or by the arm placed under it.

The surface was irregularly nodulated, and at parts where the skin had become thinned from distension it was of a dusky reddish hue.

The large portion of skin which was seen in the specimen was removed with the tumour on account of its having become so thinned and transparent as to make it difficult to dissect it off the cyst. Notwithstanding the removal of this large portion of the integument, yet from the great size of the tumour there was still a redundancy of skin, and more than was required for the closing in of the wound.

The tumour consisted of two large cysts, filled with a dark brownish-red fluid. The cysts occupied entirely the place of the breast, in the centre of which they appear to have been developed, and to have gradually expanded until they obtained their present size.

The operation was performed in June, 1868; the patient recovered without a bad symptom, and when I heard of her about two months ago she was quite well, and had had no recurrence of the disease. The specimen is now in the museum of the Middlesex Hospital.

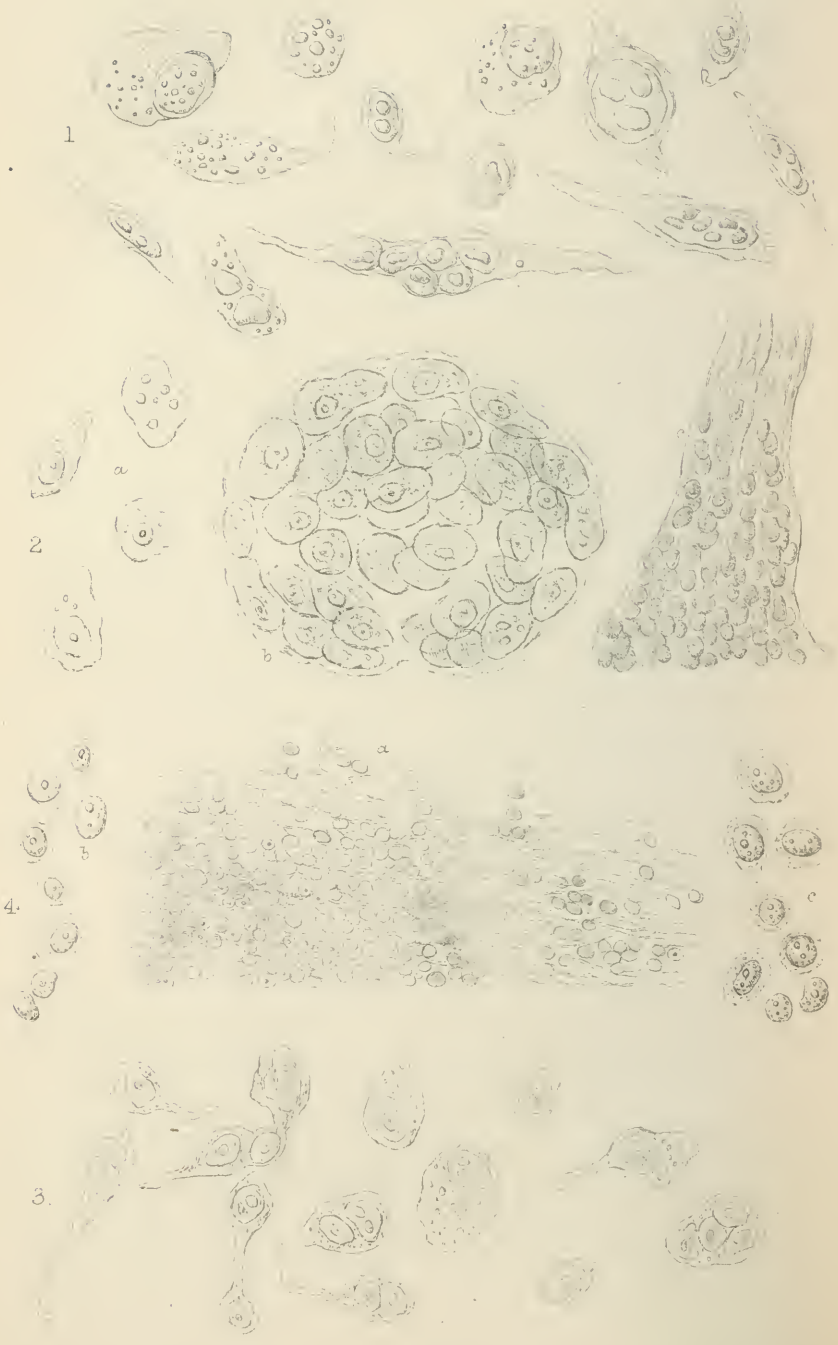
*December 7th, 1869.*

14. *Pedunculated fatty tumour of the buttock.*

By GEORGE LAWSON.

THIS tumour was exhibited on account of its peculiar shape, and from the locality in which it grew. It was globular, and of about the size of a cricket-ball, and was suspended by a broad pedicle. It sprung from the inner side of the left buttock, within





## DESCRIPTION OF PLATE IX.

Fig. 1 illustrates a case of Cancer of the Lungs, Mediastinum, Liver, &c., exhibited by Dr. Bristowe. (Case of J. D., page 355.)

Fig. 1 presents cells from cancer of the lungs, mediastinum, liver, and abdominal lymphatic glands.  $\times 420$ .

Figs. 2 and 3 show the structure of Malignant Growths of the Peritoneum, exhibited by Dr. Bristowe.

Fig. 2. The structure of malignant disease of peritoneum. (Case of E. S. page 197.)  $\times 420$ .

*a.* Isolated cancer-cell.

*b.* Minute nodule of peritoneal cancer.

*c.* Appearance presented by tissue of great omentum, which was healthy-looking to the eye.

Fig. 3. Cells found in cancer of peritoneum and ovary. (Case of E. B. page 298.)  $\times 420$ .

Fig. 4 illustrates the report of the Committee on Morbid Growths upon Dr. Tuckwell's case of Growths in the Spleen and Lymphatic Glands. (Page 365.) From drawings by Dr. Bristowe.

Fig. 4. *a.* From splenic growths.  $\times 220$ .

*b.* Cells and nuclei from splenic growths; from  $\frac{1}{5000}$  to  $\frac{1}{2700}$  inch.  $\times 600$ .

*c.* Cells and nuclei from lymphatic glands; from  $\frac{1}{4500}$  to  $\frac{1}{2200}$  inch.  $\times 600$





one inch of the anus. The patient suffered great inconvenience from constantly sitting upon it.

Since I exhibited this specimen I have removed at the Middlesex Hospital a fatty tumour exactly similar in shape, almost of the same size, and from as near as possible the same locality.

December 7th, 1869.

15. *Cancer of the lungs, mediastinum, liver, and abdominal lymphatic glands, with perforation of the duodenum; remarkable dilatation of cerebral veins.*

By J. S. BRISTOWE, M.D.

J. D—, an appraiser's assistant, 63 years of age, was admitted on the 8th December, 1869. He states that he has been subject to rheumatic gout for years, and that he had a slight attack in his knees last month. He has been getting somewhat weaker for a few months past, and last August he began to spit dark blood; and he has continued to spit blood, off and on, ever since.

He is a dark-complexioned spare man, somewhat enfeebled, and complaining of weakness. He has a not very troublesome cough, which is attended with expectoration of frothy mucus, tinged with blood. He has pains in the chest and palpitation; but the pulse is regular though feeble. Tongue a little furred; appetite fair; bowels confined; urinary organs and urine normal. The chest is generally fairly resonant, but there is an area of relative dulness over the central portion of the left lung behind. Breath sounds feeble. No cardiac murmur. The veins of the right eyelid, and especially those of the upper one, are remarkably large and varicose: they form convoluted bundles, and, to speak somewhat roughly, are individually about the size of a director. He says he has had them for some years, and that they are the result of an accident.

He continued to get weaker and more emaciated, to suffer from cough and dyspnoea, and to expectorate muco-purulent fluid mixed with blood; when on the afternoon of the 22nd January, 1870, he was suddenly attacked with severe pain in the right side of the belly, became collapsed, and died at 9.30 p.m.

*Post-mortem examination.*—Much emaciated. On examining the brain it was found generally healthy, but there was a remarkable condition of the veins connected with the right cerebral hemisphere. These were generally dilated (and considerably larger than the corresponding veins on the opposite side), but the dilatation varied in degree, and here and there tortuous veins, a quarter of an inch in diameter, were seen occupying the inter-gyral spaces and crossing the convolutions. The most remarkable collection of them was discovered at the posterior extremity of the hemisphere; here, indeed, over the space of perhaps a couple of square inches there was a convoluted mass of such veins, which occupied not only the pia mater, but had involved and replaced a considerable portion of the brain substance. There was no distinct line of separation between the venous mass and the nervous tissues; they seemed entangled, as it were, or as though (which was doubtless the case) the dilatation had occurred in the minute veins of the cerebral substance as well as in the veins of the pia mater itself. The brain-substance appeared to have been removed in great measure by absorption; it appeared, in fact, to have become in some degree replaced by fibrillated substance, in connection with which there was not, to judge from naked eye appearances, any inflammatory deposit. There was also some enlargement of some of the veins of the right choroid plexus and the adjacent portion of the velum interpositum. There was no other sign of disease. By some carelessness the right orbit, which I had directed to be opened and examined, was left untouched; but there can be little doubt, I think, that there was dilatation of veins there, as well as in the eyelids and on the surface of the brain.

Larynx and trachea healthy. There were some old adhesions in both pleuræ. The left lung was twice the size of the right, and abundantly affected with encephaloid cancer, in masses varying from the size of a millet seed to that of a hen's egg. These growths were larger and more numerous in the lower lobe, causing it to project towards the mesial line, and to encroach on the mediastinum. The right lung contained a few small cancerous nodules. The bronchial mucous membrane was congested, and somewhat granular; and the tubes contained abundance of yellowish-white muco-purulent fluid. In many places the cancerous growths had involved the tubes, and formed nodulated protuberances upon their mucous surfaces. Many of the lymphatic glands, and apparently] much of the other tissues

of the mediastinum, as high as the arch of the aorta, were largely infiltrated with cancer. Pericardium and heart healthy.

The peritoneum was distinctly inflamed; and on raising the liver a perforation was observed in the first part of the duodenum. A mass of cancerous glands was situated in front of the spine; these were connected above with the cancerous tumours occupying the mediastinum, and below with some similarly affected mesenteric glands.

The liver weighed 53 oz., and contained three small encephaloid nodules. The spleen was small and soft. Pancreas, kidneys, and other urinary organs healthy. Stomach small and healthy. Small intestines generally healthy.

In connection with the under and anterior aspect of the first portion of the duodenum, just beyond the pylorus, was a rounded cancerous mass nearly as large as a pigeon's egg; and immediately above the attachment of this mass the perforation above referred to existed. On laying open the duodenum a superficial ulcer, involving little more than the mucous membrane, and occupying an area equal to that of a sixpence, somewhat irregular in outline, and with little or no thickening of its floor or edges, was recognised in the anterior wall. The lower part of this ulcer was connected with that part of the bowel from the outer aspect of which the cancerous tumour sprung; but no part of the parietes of the ulcer had a cancerous appearance. In the upper part of this ulcer was seated the perforation, an irregular, somewhat ragged, orifice, large enough to allow of the passage of a cedar pencil.

Although in such close relation with cancerous growth, neither the ulcer nor the perforation appeared to have any direct connection with it. It seems possible, however, that they may have originated in some impairment of nutrition of the part due to the influence of the growth.

On microscopic examination the cancerous tumours were found to consist of large irregular epithelium-like or caudate cells, containing one or more large nuclei, which themselves presented for the most part distinct and large nucleoli. Many of the cells contained much fatty matter.

*February 15th, 1870.*

16. *Lympho-sarcoma (or lymph-adenoma) of the anterior mediastinum.*

By R. D. POWELL, M.D.

GEORGE LINES, aged 20, came under my notice as an out-patient at the Brompton Hospital, April 7th, 1869. He was an engraver by trade, and had been for six years a bugler in a rifle corps, and more recently a trombone player. His family history was good, there being no hereditary tendency to phthisis or malignant disease. He had enjoyed fair health until lately, and could not definitely fix the date of his present illness, which had come on very gradually; had suffered from occasional cough for four or five years.

He complained of cough and mucous expectoration, rheumatic pains in the arms, and pains about the chest, constant shortness of breath, and occasional attacks of dyspnoea, hoarseness for the last fourteen days, and some difficulty in swallowing, varying in degree but never great.

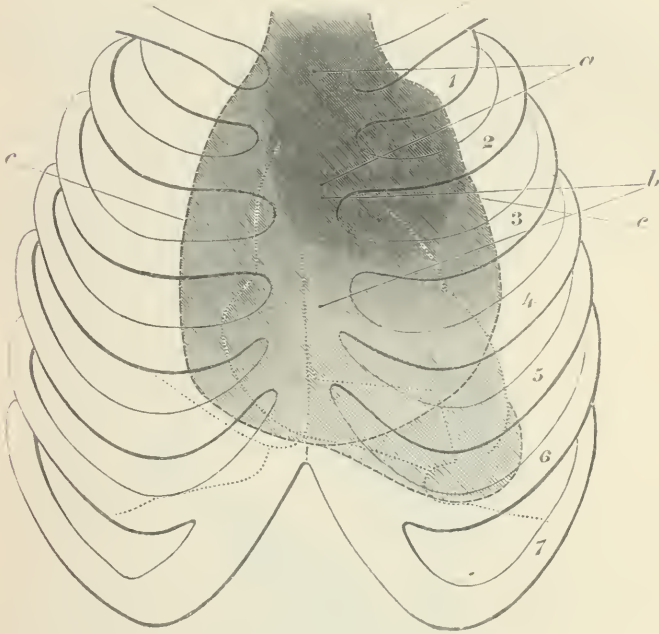
The aspect of the patient was peculiar, tall, of slender frame, features slightly swollen, with some lividity of face and lips, the eyes were large and prominent, the veins of the neck and upper part of the thorax enlarged. The voice was hoarse and whispering. The whole upper middle part of the chest in front was prominent, there was an area of dulness of about four square inches in upper sternal region, continuous below with the cardiac dulness. The apex of the heart was a little lower than natural. Respiratory sounds were inaudible over dull portion, vesicular breath sound distinct elsewhere, with sibilant rhonchus posteriorly. Heart sounds natural. Pulse was quick, full, equal on the two sides.

The patient's symptoms were somewhat relieved by chloric ether and small doses of opium, with conium and morphia pill at night until the end of the month, when he had an attack of tonsillitis, which much increased his distress; on May 4th the quinsy subsided, but the pulse was quick, soft, compressible, though still equal on the two sides; the legs were œdematous, especially the left, and there was œdema of the left arm, with hardness and tenderness over the basilic vein. The patient sank rapidly from exhaustion two days afterwards.

*Post-mortem examination.*—On removing the sternum and car-

tilages they were found adherent to a mass occupying the anterior mediastinum. The morbid growth reached backwards to the trachea,

WOODCUT 20.



Whole shaded area occupied by yellowish-white fibro-cartilaginous-looking structure displacing the anterior margin of the lungs.

*a.* Thickest portion extends backwards to the trachea surrounding it—large vessels imbedded in it. *b.* Structure continuous below with the pericardium. Heart perfectly free.

surrounding it with a thickness posteriorly of a quarter of an inch; it extended downwards to the bifurcation of the trachea, and involving the superior prolongation of the pericardium, invaded and greatly thickened that part of the (parietal) membrane, covering the heart at its upper half. The diseased structure reached upwards to the root of the neck involving the anterior mediastinal glands, and surrounded the trachea by a thin layer as high as the thyroid cartilage; some of the glands on each side of the neck were affected as high as the angle of the jaw; laterally the morbid growth extended on each side to the line of junction of the cartilages with their ribs displacing the anterior margin of the lung: the lung pleura was involved and

thickened at the line of contact, and the right lung at the upper part of its anterior margin was invaded from the pleura by white fibrous-looking branched bands. At the lower part of the anterior lobe the lung was also invaded from the pericardium. One or two of the glands at the root of the lung were involved by extension, but they were not generally affected, nor was the lung invaded except to the limited extent above mentioned. The heart was quite free, there was no pericarditis.

Briefly to sum up the above particulars, it may be said that the disease occupied the anterior mediastinum and invaded the parietal pericardium with its extension upwards, including the great vessels, surrounding the trachea, and involving a few of the thoracic and cervical glands and a small portion of the lungs. The heart was

WOODCUT 21.



Section of portion of lung in neighbourhood of a process directed inwards from the pleura, showing bronchial tubes surrounded by zones of lymphomatous tissue, and the alveolar walls thickened.

about half an inch lower than natural. The calibre of the trachea and vessels was not materially diminished, but they were surrounded by a solid and unyielding substance.

*Minute examination of the growth*:—The substance of the growth was of fibro-cartilaginous consistence, and of a grey-white colour.

It was composed, microscopically, of cells resembling lymph-cells, firmly imbedded in a stroma of reticulated fibres, and mingled in the mediastinal portion with much ordinary wavy fibrous tissue.

A vertical section, taken at a part where a streak of the diseased structure is seen to be directed inwards into the lung shows this process to possess the same structure as the general mass, and to have on each side of it lung-tissue, the alveoli of which are thickened by the nuclear structure, the alveolar spaces being empty. The lung in the neighbourhood of the diseased process and near the pleura presents many centres of disease, which correspond in position with sections of vessels or bronchi, and consist of a zone of gland-like structure surrounding the vessel or bronchus, and having an irregular outer margin giving out processes corresponding with thickened alveoli (see drawing). From the primary processes sent inwards from the pleura secondary processes are given off, which may be seen by the naked eye to join and enclose portions of lung.

The minute structure of the morbid growth within the lung corresponds essentially with that in the mediastinum, and consists of cells, which are very solid looking, well defined, of the size of lymph-cells, uniformly clear. On close examination many of them are seen to contain a large nucleus two thirds the diameter of the cell, which is so nearly of the same density as the cell as to be but dimly visible; the nuclei are uniformly round, while the cells are oval-round or bluntly angular; others contain one or two smaller nuclei or granules. The cells are not arranged in groups, but singly, and are imbedded in a stroma at parts homogeneous, at others fibrous. The proportion between stroma and cells vary accordingly as the latter are crowded together or more widely separate. Neither the cells nor the nuclei colour readily with carmine. Scattered over the field are fine, powdery-looking, deeply-stained granules, at parts crowded together, forming collections; they are of variable size, and refract the light strongly.

On placing a section in water, and pencilling with a brush, the delicate reticulated stroma is well seen, but the cells appear firmly adherent, and can only with difficulty be partially removed.

*Remarks.*—This case during life was considered one of cancerous tumour in the mediastinum, but the growth clearly differs from cancer in its microscopical structure, its invasion of organs by continuity only, and without obstructing the vessels or bronchi which it surrounds, and in its remarkable freedom from all tendency to excite inflammatory action in its neighbourhood.

The retardation in the venous flow present during life seems to have been due, not to actual obstruction of vessels, but to their being converted into rigid tubes, allowing of no adaptation to the amount of blood passing through them, thus immensely diminishing the force of the circulation, leading to thrombosis of veins, and increasing the tendency to syncope, which appeared to be the immediate cause of death.

Anatomically the disease appears to be of a similar nature to that of which specimens were exhibited last session by Dr. Murchison and Dr. Church (vol. xx, pp. 192 and 375).

Though the disease involved the region of the thymus, I am not sure that it originated in that gland; it evidently did not originate in the bronchial glands.

Lymphadenoma is, perhaps, a better name than lympho-sarcoma for this morbid growth.

October 19th, 1869.

*Report by the Committee on Morbid Growths on Dr. R. D. Powell's case.*—We have nothing to add to Dr. R. D. Powell's report. We entirely concur with him in the account which he has furnished of the microscopical structure of his mediastinal tumour, and in the belief which he expresses of the close identity between it and tumours exhibited last session by Drs. Murchison and Church respectively, and reported on by the Committee of Morbid Growths.

J. S. BRISTOWE,

THOMAS P. PICK.

November 16th, 1869.

17. *Enlargement of the lymphatic glands in the abdomen, with formation of peculiar morbid growths in the spleen and peritoneum.*

By H. M. TUCKWELL, M.D.

THE specimens were removed from the body of a woman, æt. 49, who was in the Radcliffe Infirmary, under my care, for six weeks before her death, which took place on November 9th, 1869. On admission, her anæmic, cachectic appearance, the presence of



an enlarged spleen and liver, with rounded edges and smooth surface, a small quantity of albumen in the urine, small purpuric spots on the legs and arms, together with a large ulcer, which almost encircled the right leg and had been discharging profusely for seven years, led me to the supposition that she was suffering from waxy degeneration of the internal organs in consequence of prolonged suppuration. The subsequent supervention of slight peritonitis, with effusion of a small quantity of fluid, and of pleurisy on the right side, seemed only to confirm this diagnosis. For two or three days before her death she suffered also from diarrhœa without vomiting. The only symptom that could not be accounted for was a constant pain in the left lumbar region and back. There was no enlargement of the cervical, axillary, or inguinal glands, to guide one to the real nature of the disease. Her temperature, taken three nights before her death, was 96° Fahr. She died, very emaciated, of asthenia.

On opening the abdomen the large spleen and liver were seen projecting beneath the ribs on either side. The peritoneal surface of the stomach was thinly studded with white non-umbilicated nodules, of the size of a small pea. A short piece of the adjacent transverse colon had a few similar nodules on its surface. The rest of the large and the whole of the small intestines were smooth and healthy in appearance, presenting no trace either of peritonitis or morbid deposit. A few ounces of turbid fluid escaped from the peritoneal cavity. The *spleen* was large and firm, weighing twenty-four ounces. Its capsule, on the convex surface, was a little opaque in parts, and was the seat of two or three small white nodules, like those on the stomach; on the concave surface was marked by a line of dense connective tissue, which served as a connecting medium between the spleen and an abdominal tumour to be presently described. Here and there white masses in the substance of the organ could be seen shining beneath the capsule and bulging it outwards. On section, the spleen itself was nearly filled with whitish growths, varying in size from that of a hemp-seed to that of a large nut; a few isolated, but the majority agglomerated in the centre of the organ, so as to form an irregularly rounded mass as large as a full-sized orange. At one spot in the middle of this large mass was an opaque greenish-yellow patch, evidently the seat of advanced fatty degeneration, as indicated by the microscope. The section was tolerably firm, but a milky juice, very like that of soft cancer,

could be expressed from all the growths. Those parts of the organ which were not diseased had their natural dark-red colour, and contrasted remarkably with the diseased portions. The *lumbar glands* were greatly enlarged, so as to form a tumour, which lay along the front of the spinal column, more marked on the left than the right side. This mass was especially prominent in the neighbourhood of the pancreas, which was completely enveloped in it. The retro-peritoneal connective tissue surrounding the glands, and the peritoneum covering them and the pancreas, were much thickened, and contained here and there, independently of the glands, small round nodules like those on the stomach. To this mass was adherent the spleen on one side, and the under surface of the liver, with the stomach, on the other. The *mesenteric glands* were all similarly diseased, had exactly the same consistence and appearance, and exuded on section the same juice as the splenic tumours and lumbar glands, but were not so much enlarged as the latter. The *liver* weighed sixty-one ounces. It contained, beyond an excess of fatty matter, no evidence of disease in the greater part of its substance; but at its under surface, in the neighbourhood of the lobulus quadratus, where it was adherent to the above-mentioned mass, its capsule was much thickened, and contained some small white nodules. At this same part the liver-tissue was dotted, to the depth of half an inch under the capsule, with little white formations, like those in the spleen, from the size of a millet-seed to that of a pea. The *kidneys* had their capsules implicated in the thickening which pervaded the surrounding tissue, but were themselves unaffected by the disease. The left weighed three ounces, and was a well-marked specimen of the small granular kidney, shrivelled, contracted, and filled with cysts of various sizes. The right weighed five ounces, and was in an earlier stage of the same interstitial nephritis with cyst-formation. The pelvic organs were healthy, nor had the disease of the glands extended downwards below the bifurcation of the aorta. The intestinal tract was throughout healthy. The lungs were emphysematous and œdematous. The right pleura was the seat of recent inflammation, and contained more than a pint of serous fluid. The left was throughout firmly adherent. Immediately beneath, and clinging to the sternum, were two enlarged glands, like those in the abdomen; but nowhere else above the limit of the diaphragm was there any evidence of glandular enlargement. The heart was in an early stage of fatty degeneration.

The growths in the spleen, the lymphatic glands, and the nodules in the peritoneum and in the liver, were all moderately soft on section. Microscopically examined, they were all composed mainly of small cells of various shapes—the majority round, or angular, as if from pressure; others oval or ovoid; a few oat-shaped—which lay closely crowded together in a granular basis-substance. The cell-wall was for the most part pale and indistinct; the contents scanty and granular; while the interior of each cell was nearly filled up by a large nucleolated nucleus. When treated with water, the cell-wall and contents were in many cells lost, leaving the nucleus free. Besides the above were a few larger cells, containing two or three nuclei, and some round masses made up of agglomerated granules.

*Remarks.*—To the naked eye, the resemblance borne by these morbid growths to encephaloid cancer was striking. It was their microscopical structure which seemed to separate them from the group of cancerous tumours, and to bring them rather into the category of tumours described by Virchow ('Die Krankhaften Geschwülste,' Band ii, Hälfte ii, S. 731) under the name of "lymphosarcoma." He recognises a soft variety of this disease, where the growths have on section a whitish medullary appearance, and are composed almost entirely of small round cells and naked nuclei, often resembling cancers in their plan of arrangement, but wanting the epithelial characters of cancer-cells. He remarks that the hard or soft consistence of these formations depends on the predominance of connective tissue or cells respectively. In the case under discussion the presence of innumerable cells was by far the most conspicuous feature both in the glands and in the spleen. The localization of the disease in the abdominal organs, and the immunity enjoyed by the cervical, axillary, and bronchial glands—most commonly involved, or even primarily affected—are points worthy of notice. Whether the morbid process originated in the spleen or glands is difficult to decide, inasmuch as the disease was alike advanced in both organs. Clinically, the enlargement of the spleen was the most striking phenomenon when the woman first came under observation.

*November 16th, 1869.*

*Report of the Committee on Morbid Growths on Dr. Tuckwell's Case.*—The parts referred to us for examination consist of an enlarged spleen containing a quantity of morbid deposit and a large lymphatic gland.

The morbid growth *in the spleen* (after immersion in spirit) varied in different parts of the organ. In some places it was of firm consistence, greyish white colour, closely formed material, and marked by a number of dense fibrous bands which radiated in every direction and were plainly visible to the naked eye. In other parts the deposit was of a reddish buff colour and approached more closely to the colour of the spleen, though still widely different from it: this portion was of softer consistence and less firm texture, and yielded on pressure a milky juice. And, again, there were other parts in which the colour of the growth presented no appreciable distinction from that of the spleen tissue itself, and appeared only to differ in the fact that the structure appeared fuller and more closely packed together than in the surrounding parts.

Though these growths varied somewhat in appearance, it was found that microscopically they were identical in structure, and the description of one would apply to all. There can be no doubt, therefore, that they were the same growth, though of varying ages, and that the difference in appearance was due to the greater or less amount of fibrous tissue and consequent density of the new growth. The firm white deposit, first described, occupied, for the most part, the centre of the organ, surrounding the primary divisions of the splenic artery and forming an irregularly rounded mass, the size of an orange. In the centre of this the tissue was broken down and a cavity formed, which was filled with a grumous material resembling serofulous pus.

The morbid deposit surrounded the vessels, and it seemed as though the growth had radiated from them as a centre. For upon tracing the main branches of the splenic artery, the deposit was found to completely surround them, and as it were isolate them from the natural structure of the organ. Around the branches formed by the main division of the splenic artery the deposit was one third of an inch in thickness and could be traced along the walls of the vessel into the substance of the organ. Again, upon making sections in various directions, numerous small deposits, some the size of pin-heads were found, and in the centre of these could be distinctly seen the cut extremity of a vessel. Microscopic examination showed that the deposit consisted mainly of dense fibrous tissue and nucleated cells. The fibrous tissue varied in amount in different parts of the growth. When a section was made so as to include an artery (fig. 1) it was found that the vessel was much compressed

and its coats thickened, but that otherwise it was natural. For some distance the vessel was surrounded by normal white fibrous tissue, which appeared to spring from and to be incorporated with the wall of the artery. This tissue gradually became less and less dense and formed a fibrillated network, in the meshes of which cells were now found to be imbedded, becoming more and more abundant as the fibrous tissue decreased, till the growth was converted into a mass of

WOODCUT 22.



FIG. 1.—Section of tumour showing a vessel cut longitudinally. *A.* Vessel. *B.* Thickened coats. *C.* Fibrous tissue around. *D.* Nucleated cells beyond.

cells, undefined in outline. When subjected to acetic acid, the white fibrous tissue was rendered indistinguishable and an abundance of

WOODCUT 23.

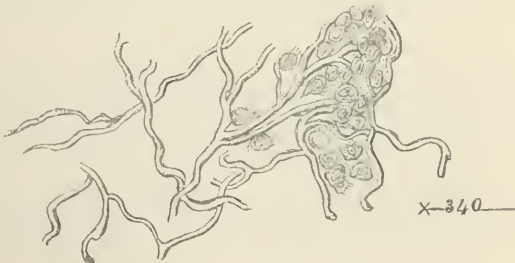


FIG. 2.—A small portion of deposit, after the white fibrous tissue has been rendered invisible by acetic acid. Showing meshes of elastic tissue, and in one part the cells.

elastic tissue was revealed (fig. 2). The manner of arrangement of the

fibrous tissue was regular and definite. A section of the firm splenic growth (Plate IX, fig. 4a) showed the delicate fibrillæ all running more or less in the same direction and parallel with each other and with the vessel with which they were more immediately connected.

The cells were for the most part round or oval in shape (Plate IX, fig. 4b) but some few were angular, as if from pressure, and here and there an oat-shaped one was discovered. They differed considerably in size, varying from the  $\frac{1}{60000}$  to the  $\frac{1}{27000}$  of an inch in diameter. The cell-wall was pale and ill-defined. They contained a distinct nucleolated nucleus, of large size, which nearly filled the cell, and a small amount of granular matter. In some instances the cells were found to contain two and even, though very rarely, three nuclei. In the neighbourhood of the cavity in the central growth, the cells appeared to have undergone a fatty change, and were found to be crowded with oil globules, all trace of nuclei being lost. The microscopic characters of the deposit in the *lymphatic gland* appeared to be identical with that in the spleen; the only difference was the larger size of the cell (Plate IX, fig. 4c); for it was found that whereas in the deposit in the spleen they ranged from the  $\frac{1}{60000}$  to the  $\frac{1}{27000}$  of an inch in diameter, in the lymphatic gland they varied from the  $\frac{1}{45000}$  to the  $\frac{1}{22000}$  of an inch; with the exception of this they differed in no manner from the cells above described. In the gland submitted to us for examination, no trace of normal structure could be discovered; the whole appeared to be occupied by the new growth.

J. S. BRISTOWE,

THOMAS P. PICK.

February 1st, 1870.

### 18. *Lymphoid growth in spleen and lymphatic glands.*

By W. HOWSHIP DICKINSON, M.D.

THE following case gives an example of the growth which in consequence of its resemblance in structure to a lymphatic gland has recently been described as lymphoid or adenoid or, with somewhat laborious definition, as lymphadenoma. The disorder appears

to be the same as was long ago described by Dr. Hodgkin, and has occasionally been called by his name.

A boy named Richard Hope, 7 years of age, came under my care at the Hospital for Sick Children, on the 16th of last October. He had been failing in health for the previous eighteen months, becoming pale and thin; for the last three weeks he had been sick, and he had had some general abdominal pain.

On admission he was very pale and anæmic; he had a faint systolic murmur at the apex, and the inguinal glands were enlarged so as to simulate hernia. He was treated with iron and other tonics, under which he temporarily improved, and was, on the 12th of November, sent to Highgate as convalescent. Early in December, however, he was sent back to the hospital; he was then languid and low, and had pain in the right hypochondrium, in which situation a distinct friction sound was heard with respiration. The breath was offensive, the tongue white, and he had occasional short cough. The belly was tympanitic. The countenance was of cadaveric pallor, the skin yellowish and extremely pallid, as were the mucous membranes. He gradually became prostrate with frequent sickness, occasional diarrhœa, deathlike pallor of the skin, and general paleness of the mucous membranes. The depression increased, he bled slightly from the mouth and gums, the pulse became feeble and very frequent (140), he became drowsy, and died on the 14th of December.

On *post-mortem* examination the body was not emaciated.

The thoracic organs were natural, excepting that the left lung was slightly congested at the back, and the pleura covering it was dry and rough from recent inflammation. The bronchial glands were natural.

The peritoneum contained eleven ounces of clear yellow fluid; there were no general adhesions, though patches of thin semitranslucent lymph were disposed upon the upper surface of the liver. This formation was most abundant between the right lobe and the diaphragm.

The liver itself was soft in texture, and had an intensely yellow colour like yellow ochre.

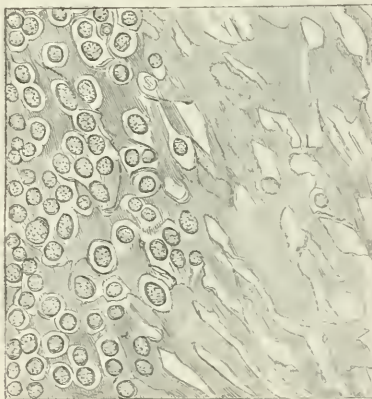
On section the acini were marked round with grey lines with unnatural clearness owing to excess of the interlobular fibroid tissue. The epithelial cells were intensely fatty, and had a yellow tint.

The spleen was increased in size, it weighed six ounces and three quarters. It was unnaturally hard, and on section was closely

besprinkled with light straw-coloured spots, various in size and shape, but having a general resemblance to masses of tubercle. They are represented in Plate X, fig. 1, of their natural size. They were, however, less clearly distinguished from the splenic tissue than is the case with tubercle, and were harder and less opaque. The formations could, with some force, be dislodged from their beds, and then presented an irregular lobulated outline. They were translucent, and had an almost cartilaginous hardness.

On microscopic examination, the new growths in the spleen consisted of a nearly uniform or delicately fibroid network, which held in its meshes corpuscles like those of a lymphatic gland.

WOODCUT 24.



Section of growth in spleen. Magnified 350 diameters.

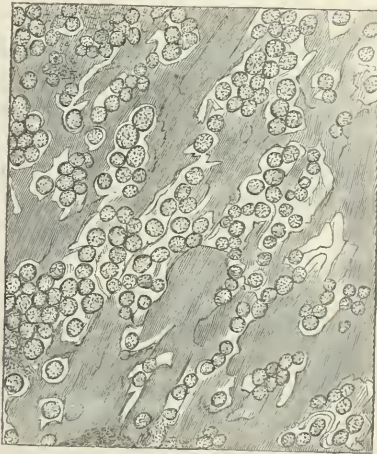
The growths were often arranged concentrically around a blood-vessel. The reticulum had broad bands and small interspaces. It was in some places nearly uniform, but in others had numerous small nuclei imbedded in it. The interspaces of the network contained spherical corpuscles; these were most plentiful towards the centre of each mass, less numerous towards its circumference where the fibroid network was most distinctly seen. Each mass was surrounded by a zone of rust-coloured matter, evidently altered blood, derived from the spleen pulp.

The iliac lumbar and inguinal glands were much enlarged in a regular and uniform manner. They formed a bulky mass in front of the spine, from the diaphragm to the sacrum, and along the psoas



muscles and groins. In the left groin many of the glands (one of which is represented, Plate X, fig. 2) were as large as pigeon's eggs, and formed a conspicuous external swelling. The swollen glands had a regular rounded shape externally. On section they were hard, elastic, smooth and semitransparent, much like cartilage. The microscope showed them to consist of an open network, which was arranged around the blood-vessels in concentric disposition. The bands were wide relatively to the interspaces and were nearly uniform, giving but faint traces of fibro-nucleated elements. The cavities of the network contained loose nuclei like those of a healthy lymphatic gland, but in smaller proportion than in the spleen.

WOODCUT 25.



Section of enlarged inguinal gland. Magnified 350 diameters.<sup>1</sup>

The kidneys were pale white and anæmic. Under the microscope their structure was found to be natural. The other organs presented nothing of pathological importance.

This case corresponds both in the symptoms and in the morbid changes with the affection of the glands and spleen to which the name of Dr. Hodgkin has been attached. In Hodgkin's disease there are the same symptoms of extreme anæmia and prostration as were here observed, the same enlargement of the glands by a new growth of tissue, described as fibro-nucleated, and the same isolated formations in the spleen, consisting also of a fibro-nucleated growth.

May 17th, 1870.

<sup>1</sup> For this and the preceding drawing I am indebted to Dr. Cavafy.

19. Case of "*lymphadenoma*" of the lymphatic system, spleen, liver, lungs, heart, diaphragm, dura mater, &c.

By CHARLES MURCHISON, M.D.

RUTH M—, æt. 6, was admitted into the Middlesex Hospital under my care on December 27th, 1869. There was nothing remarkable in her family history. Her father and mother were both alive and healthy. She had had seven brothers and sisters, three of whom had died of the contagious diseases of childhood, while four were alive and in good health. None had any obvious enlargement of the lymphatic glands. Ruth M— had never been strong. When two years old she had scarlet fever, in the following year she had measles, and in March, 1867, whooping-cough. Six weeks after recovering from whooping-cough she had another feverish attack; she became languid, and suffered from aching pains in the legs; she shivered occasionally; her skin was hot, her eyes dull, and her lips dry and cracked. This attack lasted about ten days, but similar attacks had recurred ever since, about once in four weeks, the height of the fever being usually reached on the seventh day. In the intervals of the attacks, which had lasted rather more than two weeks, the child had at first seemed quite well, played about, and had an enormous appetite, but for two or three months before admission into Middlesex Hospital, even in the intervals of the febrile paroxysms, she had been languid and disinclined to move, and had lost her appetite. In the first paroxysm of fever hard "lumps" had been noticed to form in the neck, axillæ, and groins. With each return of fever these swellings had been noticed to increase, and become somewhat tender; and although, on the cessation of the fever, there had been always a diminution of both the swelling and tenderness, there had, on the whole, been a steady increase of the swellings from the first. For several weeks the patient had been in the Brompton Hospital for Consumption, and had been there treated with quinine, iron, and cod-liver oil.

On admission into the Middlesex Hospital the child presented a very remarkable appearance. She had fair hair and dark eyelashes, and was extremely anæmic. Her face seemed swollen and puffy. On either side of the neck was a hard, bulging tumour, as large as a large orange, and filling up the greater part of the space between



## DESCRIPTION OF PLATE X.

Figs. 1 and 2 illustrate Dr. Dickinson's case of Lymphoid Growths in the Spleen and Lymphatic Glands. (Page 368.)

Fig. 1. Spleen, in section.

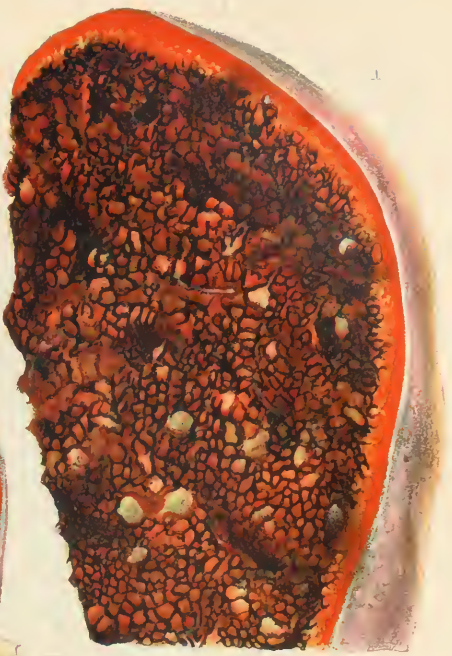
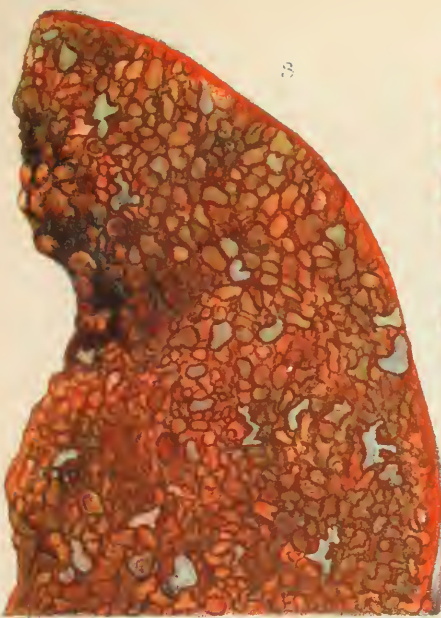
Fig. 2. Enlarged inguinal gland.

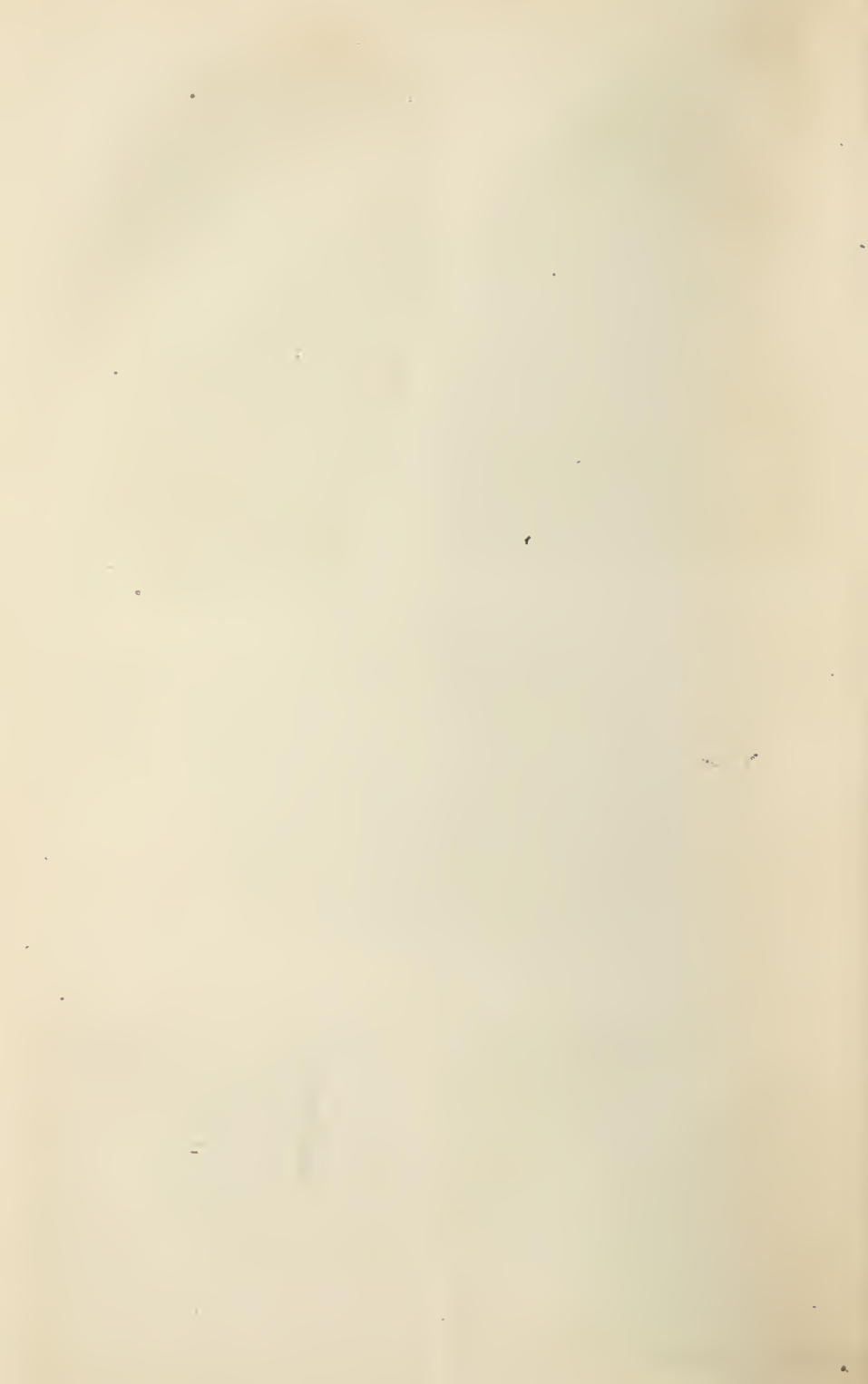
Figs. 3, 4, and 5, illustrate Dr. Murchison's case of Lymphadenoma. (Page 372.)

Fig. 3. Spleen, in section.

Fig. 4. Liver, in section, showing mass of new growth close to external surface.

Fig. 5. Liver, in section, showing mass of new growth deposited around vessels and ducts in portal canal.





the lower jaw and the clavicles, so that the circumference of the neck was as great as that of the head (see fig. 1).

WOODCUT 26.



FIG. 1

Shows the enlarged glands in the neck and axillæ, from a photograph taken two months before death. Subsequently to this the swellings increased considerably.

These swellings were slightly tender on pressure, and distinctly nodulated, and they appeared to consist of a mass of enlarged lymphatic glands. On the left side of the neck, in addition to the large mass referred to, was a second, about one third of the size, overlapping the left clavicle, and a third, still smaller, immediately to the left of the trachea. Bulging forward from the cavity of the left axilla was another nodulated tumour, of a similar nature to those in the neck, and larger than a man's fist. This mass sent a prolongation forwards and upwards to within half an inch of the sternum, which superiorly seemed to be connected with the tumour overlapping the left clavicle. The mass in the left axilla was more painful than that in the neck. The child said that it hurt her when it was touched, or when she coughed; the skin over it was stretched and thin, and the subcutaneous veins unusually distinct. There was a similar tumour in the right axilla, but only about one half of the size of that in the left. In both groins, both above and below Poupart's ligament, were similar masses, of the size of large cherries. The abdomen was distended, and the spleen evidently much enlarged. Its lower edge could be felt distinctly projecting four and a half inches beyond the edge of the ribs. Its surface was tender and felt hard. There was also tenderness in the right hypochondrium, and in the right nipple line the dulness of the liver measured four inches, and its lower edge projected two inches beyond the ribs.

There was evidence of a small amount of fluid in the peritoneum ; the abdominal veins were not enlarged. Pulse 140, regular, weak ; apex of heart beating between fifth and sixth ribs, half an inch outside the nipple ; dulness increased, both vertically (three and a half inches) and transversely (three and a quarter inches). The dulness did not extend farther than natural to the left ; the increase was upwards and to the right across the sternum ; and in the Brompton Hospital it had been noted that this dulness had been more extensive during the febrile paroxysms than in the intervals. Over the whole region of the heart was a loud systolic bellows-murmur. The white corpuscles of the blood were not increased. Frequent and troublesome dry cough : respirations 30, noisy and laboured ; no dulness of lungs and no bronchitic râles. Tongue moist and clean ; very little appetite ; no pain or difficulty in swallowing ; no vomiting ; bowels regular. Skin dry and hot ; temperature  $102\cdot5^{\circ}$ . Urine acid and free from albumen. The child was very weak, slept a great deal, and cried when disturbed.

Soon after admission the cough became much more frequent and distressing, the breathing more laboured and noisy, and dry and moist bronchitic râles were heard over both lungs. The child was at all times very peevish and irritable, cried when any one approached her, and tore off the poultices applied to her chest. There was the greatest difficulty in getting her to take medicine, and at last she would scarcely take food. For the first week after admission there was considerable fever, which always increased towards evening. After this the fever subsided for four or five days, and then the temperature rose again for two or three days before death (see annexed table).

In the night of January 15th the child became much worse. Her breathing was laboured and her pulse irregular, and she was unable to swallow. On the following morning, at 3.15 a.m., she died.

The treatment adopted consisted in cod-liver oil, iodide of iron, an expectorant mixture, poultices to the chest, with milk and such other nourishment as the child could be got to take. On one occasion, January 1st, 7 p.m., five grains of quinine were given without any effect in reducing the pulse or temperature.

On *post-mortem* examination, eleven hours after death, the masses in the neck and elsewhere were found to consist of a firm greyish-white or greyish-yellow material, yielding no milky juice on section,



Day of Month.	9 A.M.			2 P.M.			9 P.M.		
	Pulse.	Resp.	Temp.	Pulse.	Resp.	Temp.	Pulse.	Resp.	Temp.
Dec. 30	...	...	...	140	30	102.5	152	30	104.8
„ 31	140	32	100.6	135	32	102.1	160	34	103.
Jan. 1	150	32	100.4	135	28	102.8	150	38	102.8
„ 2	160	36	104.	128	32	104.	140	34	102.4
„ 3	160	35	101.5	160	30	101.	144	36	101.
„ 4	140	36	101.6	150	36	101.	142	32	102.2
„ 5	124	32	101.	136	38	101.4	130	36	101.2
„ 6	155	34	100.8	124	32	100.	140	32	102.
„ 7	155	34	100.2	132	32	101.	165	36	102.2
„ 8	160	35	99.5	116	30	100.	132	28	100.
„ 9	134	33	99.4	123	28	99.6	136	30	99.8
„ 10	112	24	97.8	150	30	99.	132	36	100.
„ 11	140	32	99.2	135	28	100.	146	28	100.4
„ 12	125	28	97.6	130	26	98.	150	32	98.6
„ 13	114	26	98.8	135	28	100.	150	30	101.
„ 14	150	32	...	140	30	101.5	145	36	100.8
„ 15	135	30	102.	135	26	101.8	144	36	101.

and containing none of the cells or nuclei met with in cancer, but having the ordinary structure of enlarged lymphatic glands. The microscopic appearances have been carefully described in detail in a report by Dr. Sanderson, which is annexed.

The tumours in the neck, axillæ, and groins, appeared to be made up of masses of enlarged lymphatic glands. Those in the neck sent prolongations forwards on either side of the larynx and trachea, and downwards behind the sternum, and from those in the axillæ laminae extended beneath the pectoral muscle and into the adjacent inter-muscular spaces.

Masses similar to those in the neck and superficial parts were found throughout the body. At many places these masses seemed to be nothing more than greatly enlarged lymphatic glands, but at others they invaded the substance of solid organs, or were interspersed through their tissues in the manner with which we are familiar in the case of cancer. But wherever they occurred they exhibited the same structure.

Behind the sternum, corresponding to the thymus gland, was a large mass, sending prolongations upwards to the neck, but extending mainly backwards to the base of the heart, where it enveloped the great vessels, the lower end of the trachea, and the roots of the lungs, and communicated with the bronchial and œsophageal glands, which were also enlarged. This mediastinal mass, larger than a

man's fist, encroached upon the tissue of the lungs, entering it with the bronchus and great vessels, in exactly the same way as cancerous tumours of the mediastinum. Both lungs were also studded with numerous opaque-white isolated masses, some of these rounded and varying in size up to that of a marble, enclosing a small bronchial tube; others flattened, and situated on the surface beneath the pleura. The pulmonary tissue surrounding some of the former was in a state of pneumonic consolidation, in others it was quite crepitant. Both pleuræ contained a small quantity of fluid, and the left lung was adherent by soft adventitious membrane. There were firmer adhesions over the right lung. The pericardium contained two or three ounces of clear serum. The heart was not large; it weighed four and a half ounces; its valves were healthy; its muscular tissue was pale, and imbedded in it, at different places, were several isolated greyish-white deposits, some larger than hemp-seeds.

The peritoneum contained a little more than a pint of clear serum. The spleen was greatly enlarged. It measured seven inches in length and weighed thirteen and a half ounces. Its outer surface was smooth, but the capsule was thickened and firmly adherent to surrounding parts. Its tissue was dense, and its cut surface presented a red ground closely packed with innumerable greyish white masses varying in size up to that of a pea (see Plate X, fig. 3). The glands on the fissure of the liver were greatly enlarged, and some of them invaded the tissue of the liver in exactly the same way as the mediastinal tumour encroached upon the lung. The liver also contained several white masses, as large as hazel-nuts, both imbedded in its interior (Plate X, fig. 4) and projecting from its outer surface (fig. 5). The latter exhibited a more or less nodulated form, while those in the interior of the liver were arranged for the most part around the bile-ducts and vessels in Glisson's capsule. The liver weighed twenty-nine ounces; its secreting tissue was pale. There was no enlargement of Peyer's patches or of the solitary glands of the ileum, but the mesenteric, lumbar, and pelvic glands were much enlarged and formed a connecting chain between the diseased inguinal glands and those in the fissure of the liver.

The kidneys were both pale and anæmic; they were free from any morbid deposit, and apparently healthy. The diaphragm, on both surfaces, presented several raised, but flattened, masses of greyish white material, an inch or more in diameter, beneath the peritoneum and

the pleura; and similar masses were found beneath the peritoneal lining of the abdominal wall.

The brain weighed forty-four ounces and was very anæmic; there was much clear fluid beneath the arachnoid and fully three ounces at the base. The lateral ventricles were dilated and full of a clear fluid. There were no traces of lymph or tubercle in the meninges; but on the right side of the foramen magnum, close to the junction of the petrous with the occipital bone, there projected inwards from the dura mater, to which it adhered, a firm lobulated mass, more than half an inch in diameter, of the same morbid material as that found in the other parts of the body.

The blood in the heart and great vessels showed little tendency to coagulate; a drop from the jugular vein presented under the microscope no increase of white corpuscles, and indeed nothing abnormal.

*Remarks.*—This case was evidently of the same nature as the one which I submitted to the Society during last session, and which is published in the twentieth volume of the ‘Transactions’ under the title of “A new morbid growth composed of nuclear tissue,” (vol. xx, p. 192). In both cases there were these characters:—

1. Great enlargement of the lymphatic glands throughout the body.
2. The presence in various organs of masses of a material indistinguishable in structure from the enlarged lymphatic glands.
3. Although, in their ubiquity and in their implication of the glandular system, these new formations resembled tubercle or cancer, and to the naked eye were much more like cancer than tubercle, yet in structure they differed from both, and were made up of minute spheroidal bodies, which appeared to be lymph-corpuscles, held together by a transparent stroma.
4. In both there was remarkable anæmia, but without any increase of the white corpuscles of the blood. The two cases differed in the following minor particulars:—

1. In the case now recorded, the disease seemed to commence in the superficial lymphatic glands of the neck, axillæ and groins, whereas in the first case the superficial lymphatics were never affected.
2. In the second case, the disease was extensively developed in the bronchial and mediastinal glands and in the lungs, and even the dura mater was affected, whereas the kidneys and the intestinal coats were free; but in the first case, the kidneys and the coats of the intestines were among the chief seats of the disease, and the lungs with the bronchial and mediastinal glands had escaped.
3. The dura-

tion of the disease was very different in the two cases; in the first case it did not exceed two months, but in the second it reached almost three years. 4. The mode of fatal termination was also different. The first patient died of prostration consequent on excessive vomiting and peritonitis; the second from compression of the air-passages by a mediastinal tumour and bronchitis. 5. Lastly, the second case was peculiar in the almost periodic febrile paroxysms marking the periods of growth of the glandular enlargements.

Although the structure of the new formations in these two cases has only lately been accurately determined, it was not to be expected that a disease presenting such obvious characters should have escaped the attention of pathologists. In some cases, no doubt, it has been confounded with cancer; in others, with tubercle; and in others with leukæmia; but in many instances it has been described as a disease distinct from all these and *sui generis*.

In 1832 the late Dr. Hodgkin published an essay "On some Morbid Appearances of the Absorbent Glands and Spleen." Although some of the cases in this essay were probably examples of either waxy disease or syphilitic gummata, others seem to have been instances of the disease we are considering. He describes a great enlargement, from simple hypertrophy, of the glands in the neck, axillæ, groins, mediastinum, &c., conjoined with the presence of white hard deposits in the liver and spleen. The white masses in the spleen he believed to be an enlargement of pre-existing structures, and to resemble in structure that of the diseased lymphatic glands, and to be quite "distinct from cerebriform cancer." He mentioned also that the diseased glands were sometimes the seat of hæmorrhages, and that then the ducts connected with them might contain blood. ('Med.-Chir. Trans.,' 1832, vol. xvii, p. 68.)

Some years subsequently to this, Dr. Bright, in his essays on abdominal tumours, described a similar case, and under the head of enlargements of the spleen made the following observations: "There is another form of disease which appears to be of a malignant character, though it varies from the usual forms of malignant disease, and which has been particularly pointed out by Dr. Hodgkin as connected with extensive disease of the absorbent glands, more particularly those which accompany the blood-vessels. The whole of these absorbent glands, or large masses of them, become large and firm, without any tendency to suppuration, as in ordinary scrofulous disease, or to soften as in cerebriform disease,

and, at the same time, the spleen becomes more or less infiltrated throughout its whole substance with a white matter of almost the appearance of suet," &c.—('Syd. Soc. Ed.,' p. 152.)

In the 'Pathological Transactions' for 1853 (vol. iv, p. 177) a well-marked example of the disease was recorded by Dr. Markham. The patient was very anæmic, and had great enlargement of the lymphatic glands in the mediastinum, neck, and mesentery. The spleen weighed 26½ oz., and contained masses of straw-coloured deposit, some as large as a filbert, others as mere specks, distributed through every part of it. The tumours were carefully examined by Dr. Handfield Jones and Dr. Sieveking, as well as by Dr. Markham, but although resembling medullary carcinoma, "were found to contain none of the elements usually given as characteristic of cancerous disease; they seemed to be simply fibrinous effusions containing granular matter with granular nuclei, but no trace of a composite cell or of fibroid deposit." The specimens were referred for further examination to Dr. Bristowe, who reported that they were distinct from both tubercle and cancer, that they were composed of minute corpuscles disseminated through a delicate, scarcely visible, fibrous reticulum, and that they were probably the result of some slow inflammatory change.

In 1856 Dr. Wilks published several cases of "enlargement of the lymphatic glands combined with a peculiar disease of the spleen." The glands in the neck, axillæ, groins, mediastinum, &c., were enlarged; the spleen contained opaque white firm masses; while similar masses were found in the liver, and in one case in the kidneys. The morbid growths yielded no milky juice on section, but only a little watery fluid; and, according to Dr. Wilks, they consisted, not of an hypertrophy of the proper glandular tissue, but of a new formation of fibro-nucleated tissue. The disease induced a fatal form of anæmia, but the important observation was made that there was no excess of the white corpuscles of the blood.—('Guy's Hospital Reports,' 3rd ser., vol. ii, p. 117.)

Two similar cases were described by Dr. J. W. Ogle in the eleventh volume of the 'Pathological Transactions' (p. 247), and three others by Dr. Wilks in the tenth, eleventh, and thirteenth volumes; in each of the last three cases masses of the disease were found in the kidneys, and in one the lungs seemed affected. In the thirteenth volume also there is a coloured figure showing the diseased masses surrounding the bile-ducts in Glisson's capsule from

one of Dr. Wilks's cases (Plate IV, fig. 2). In 1865 Dr. Wilks collected the cases which he had previously published, with others, in a paper entitled, "Cases of Enlargement of the Lymphatic Glands and Spleen, or Hodgkin's Disease." This paper contained a second case in which the lungs were implicated. The cells in the new growths were spoken of as scarcely distinguishable from the normal secreting bodies of the glands, and as to malignancy, the growths were described as occupying a place intermediate between cancer and tubercle. The absence of white corpuscles from the blood was again insisted on; and, consequently, the designation "anæmia lymphatica" was proposed as preferable to leukæmia lymphatica. ('Guy's Hos. Reports,' 3rd ser., vol. xi, p. 56.)

Leukæmia in connection with simple hypertrophy of the spleen had been discovered by Virchow in 1845, and subsequently the term "leukæmia lymphatica" was suggested by him to distinguish cases in which the blood contains an increased number of white corpuscles in connection with enlargement of the lymphatic glands. The division of leukæmia into *leukæmia splenica* and *leukæmia lymphatica* has been adopted by most German writers on pathology, and Niemeyer thus describes the blood in the two cases: "In the *splenic* form of the disease, the white corpuscles are not distinguishable (except in number) from those of normal blood; they are distinct, well-developed cells. In the *lymphatic* form, on the other hand, Virchow and other observers found numerous free nuclei and small cells, both of which corresponded exactly with the elements found in the lymphatic glands. If the spleen and lymphatic glands were diseased at the same time, if the spleen-disease prevailed, there were more of the larger cellular elements in the blood; on the other hand, the more extensive the disease of the glands, the more numerous were the small lymphatic elements."—'Text Book of Practical Medicine, American Transl.,' vol. i, p. 722.

Under the head of *Leukæmia lymphatica*, some German writers have included cases of what appear to be the disease we are now considering (for example, Niemeyer thus speaks of Böttcher's cases). On the other hand, many German pathologists, and more especially Virchow, Friedreich, Böttcher, and Frerichs have described what they have termed "lymphatic new formations" in the liver and other organs, which appear to belong to the same class as the two cases which I have submitted to the Society. These new formations are thus described by Frerichs: "Rounded, or rarely elongated

nodules, about the size of millet-seeds, and of a greyish white colour, are scattered through the parenchyma of the liver. They are made up of densely aggregated nuclei, and of small, slightly granular, rounded cells, between which, especially at the periphery of the mass, a delicate fibrous tissue may be observed. These nodules are connected with the small blood-vessels, in the walls of which they are developed, and the channel of which is thereby narrowed and occasionally blocked up. Smaller new formations of this nature may likewise be found between the hepatic cells, where they are developed in the connective tissue of the gland and compress the cells, assuming at one time a rounded and at another an elongated form. In rare cases, we find tumours belonging to this class, the size of peas, and of a medullary consistence, accompanied by similar formations in the pleura, and likewise in the stomach and intestinal canal."—('Diseases of Liver,' Syd. Soc. Transl., ii, 222.)

Although Frerichs was of opinion that the development of these new formations was intimately connected with leukæmia, Professor Virchow, who has recently described the leukæmic tumours of German pathologists under the designation "lympho-sarcoma," has shown that the enlargement of the lymphatic glands and growths in various organs in that affection are independent of leukæmia. (*Die Krankhaften Geschwülste*, Band ii, s. 640, 732.)

In France, the disease now brought under the notice of the Society has also attracted attention. Examples of it were recorded by M. Bonfils<sup>1</sup> in 1856, and by MM. Cossy<sup>2</sup> and Potain<sup>3</sup> in 1861: and M. Trousseau, in the second edition of his 'Clinique Médicale,' published in 1865, has designated it "*Adénie*," and described its clinical characters in great detail (tom. iii, p. 555). The disease, he says, consists in a simple hypertrophy of the deep and superficial lymphatic glands, sometimes accompanied by simple hypertrophy of the spleen and liver, or by enlargement of the solitary and agminated glands of the ileum, without any tendency to suppuration, inducing great anæmia, but no increase of the white corpuscles of the blood, incurable, and proving fatal, sooner or later, by compression of

<sup>1</sup> Réflexions sur un cas d'hypertrophie ganglionnaire générale ('Soc. Méd. d'Observation de Paris,' 1856).

<sup>2</sup> Mém. pour servir à l'histoire de l'hypertrophie simple plus ou moins généralisée des ganglions lymphatiques, sans leucémie ('Écho Médicale,' t. v, 1861).

<sup>3</sup> 'Bulletins de la Société Anatomique,' 1861, p. 217.

organs important to life, or by producing a state of cachexia with hæmorrhages, &c.

Trousseau seemed to regard the disease as one of the lymphatic glands alone; and although he quoted a case from M. Potain, in which the spleen contained white masses having a structure identical with that of the enlarged lymphatic glands, and another, which occurred in the practice of M. Nélaton, where the liver contained similar masses, he did not refer to the occurrence of the disease in other organs, and spoke of the enlargement of the spleen as being usually due to simple hypertrophy. The disease, according to Trousseau, was independent of the tubercular, cancerous, or syphilitic diatheses, and seemed, in some instances at all events, to be due to some primary local irritation, such as an otorrhœa or ophthalmia, the glands in the neighbourhood of this primary irritation being the first to enlarge. In connection with "Adénie," also, Trousseau called attention to a malady which he had observed in young creoles from the islands of Réunion and Mauritius, characterised by paroxysms of hypertrophy of the inguinal glands, lasting for two or three months, and with intervals of several months between the paroxysms. This disease, however, differed from adénie in the enlarged glands having a tendency to suppurate, and in being, in most instances, spontaneously arrested about the period of puberty.

But the most complete and accurate anatomical description of the disease which has yet appeared is that given by Messrs. Cornil and Ranvier, in their 'Manuel d'Histologie Pathologique,' p. 251, published since the communication to the Society of the case by Dr. Sanderson and myself during last session. They call the disease "lymphadenoma," and state that the morbid growths are composed of the adenoid tissue of His, which was precisely the view taken of the structure of the growths in my first case (see vol. xx of 'Transactions,' description of plate viii). Lymphadenomas, according to Messrs. Cornil and Ranvier, vary in size, from a miliary granule to the head of a fœtus. In the lymphatic glands they appear to be a simple hypertrophy of these organs, but when several adjacent glands are invaded they become fused into a common mass. To the naked eye they resemble encephaloid cancer; they are soft and greyish, with islands of red corresponding to dilatations of the vessels or small hæmorrhages; and sometimes they present opaque, caseous, or lardaceous patches, and yield a milky juice. They describe the new growths as occurring, not only in the lymphatic glands, but in the



thymus, the spleen, in which the Malpighian bodies become enormously hypertrophied, the liver, the kidneys, the stomach and intestines, the lungs, the bones, and the areolar tissue beneath the skin and between the muscles. They further point out that the juice from the tumours sometimes resembles that of cancer in containing cells with one or more nuclei and blood-pigment in their interior, similar to the cells met with in the splenic pulp, and fusiform or flattened cells derived from the walls of the vessels, and that, to determine the real nature of the tumours, it is often necessary to examine thin sections from which the cellular elements have been "pencilled" away. This may account for the anomalous appearances observed in the cases recorded by Dr. Ogle ('Path. Trans.,' vol. xi, p. 248) and Dr. Payne (ib., vol. xix, p. 401).

From this summary of what has been written on the subject it would appear that, although the disease which I have brought under the notice of the Society was observed by Hodgkin and Bright, and carefully described by Wilks, Trousseau, and other observers, it is only quite recently that its structural relations have been apprehended, in this country by Dr. Sanderson, and in France by Messrs. Cornil and Ranvier.

Of the recorded cases there are few in which the disease was so generally distributed throughout the body as in the two cases which I have reported to the Society, and in none, so far as I have been able to discover, have there been noted paroxysms of fever marking the periods of growth of the enlarged glands, such as occurred in the case of Ruth M.— The cases referred to by Trousseau of paroxysmal enlargement of the lymphatic glands in young creoles from Réunion and the Mauritius were evidently of a different nature. Some years ago, however, I had under my care a girl, aged 18, with great anæmia and enormous enlargement of the glands in the neck, axillæ, and groins, but without any increase of the white corpuscles of the blood, who also suffered from paroxysms of fever; but I was unable to trace the case to its termination.

*Microscopical examination of the diseased structures in Dr. Murchison's case of lymphadenoma by Dr. Sanderson.*—The following parts were examined after hardening in Müller's solution and chromic acid: (1) The prolongations which stretched forwards underneath the pectoral muscles from the tumour in the left axilla. (2) The new growths in the lungs, liver and spleen.

The finger-like intermuscular processes have the aspect and consistence of lymphatic glands, and can be very easily dissected clean out of the cellular tissue in which they lie. On cutting them across, it is seen that they are limited by a capsule nearly as distinct as that of a lymphatic gland.

When microscopical sections are examined cursorily, the structure appears to consist merely of minute corpuscles having the character of leucocytes imbedded in some transparent and structureless substance; but more careful investigation shows that both the cells and the interstitial substance (or stroma) have a special arrangement. In very fine sections made at right angles to the surface of the growth, the stroma presents the appearance of a lacework of bands of absolutely transparent material, which is of a pale yellow colour if the section has been in the solution of bichromate of potash, but is stained pink by carmine. Some of the meshes of the network contain single corpuscles, but in general each mesh contains a group closely packed together, so that their surfaces are flattened against each other, the number in each group varying from two to half a dozen or more. In general the bands have no definite direction, so that no description can be given of the form of the network. Here and there they are for the most part oval or rhomboidal, but in general their outline is quite irregular. In every section, oval or circular areas of pale yellow are to be seen, which must be sections of solid cylinders and indicate a tendency in the stroma to assume the form of fibres. This tendency is more marked in the neighbourhood of the surface; the only difference indeed between the capsule and the rest of the tumour being that the stroma at the surface is in fibres, rather than bands of irregular form and width. In the absence of injection it is not possible to state what is the relation between the groups of cells and the capillary vessels. It may, however, be inferred from the following facts: It frequently happens that a solid cylinder of cells may be traced in a section, the character and appearance of which resemble completely the medullary cylinders of the lymphatic glands. Along with these, circular or oval clumps of corpuscles occur, in which the elements are grouped round a circular area, having the aspect of a capillary cut across, and sometimes containing one or two blood corpuscles. From this appearance it may, I think, be inferred that the adventitious growth has at a previous period resembled a lymphatic gland much more closely than it does at present, and that the corpuscles when first formed

were grouped cylindrically round the vessels just in the same way as we see them in the medullary cylinders of normal lymph-glands.

WOODCUT 27.



FIG. 2.

Section of one of the prolongations from the tumour in the left axilla, which extended between the intercostal and pectoral muscles. The drawing shows the characteristic peculiarity in the arrangement of the cellular elements. In the centre of the figure, at *a*, is a mass of cells, around which the transparent stroma is arranged in more or less concentric layers, while the cellular elements themselves show a tendency to place themselves in circles. At *b* a mass of the same kind is cut through very obliquely. Similar appearances occur throughout the tumour. They are understood to signify that the minute blood-channels are surrounded by cells in a manner which reminds one of the arrangement which exists in the medullary cylinders of the lymphatic glands. Magnified 180 times.

In comparing the structure of the new growth with that of a lymph-gland, it is to be carefully borne in mind that it resembles such a gland not when in its natural state, but when in the condition I have elsewhere described as that of fibroid induration. When a lymph-gland is subjected to prolonged irritation it always passes through two stages of change. It first becomes pulpy, at the same time enlarging to a size many times greater than that which it before possessed, then becomes much harder than it was originally, the

induration being no doubt accompanied with reduction of volume. I have shown that the pulpy enlargements are due to multiplication of corpuscular elements (so-called proliferation) affecting all parts of the organ at once, in consequence of which the cortical and septal parts of the gland soon become indistinguishable from the medullary, and that the induration is due to the development between and among the groups of newly formed cells, of an interstitial stroma, which from its mode of formation assumes from the first a reticular arrangement. This stroma, which is at first very delicate, gradually increases in strength, as the process of induration goes on. In the mean time the cells waste away, those that remain being clumped together in groups, occupying the meshes of the stroma, in exactly the same way as in the adventitious growth we have under consideration.

I have adverted to these facts for the purpose of showing on what ground and in what sense we are entitled to apply to the growths now in question the term "lymphadenoma," the use of which implies the recognition of a structural resemblance between them and lymphatic glands, similar to that which exists between adenomas and acinous glands. The reticular tissue which forms the ampullæ of a healthy lymph-gland no doubt resembles that of lymphadenoma, but the resemblance is not to be compared with that which exists between the new growth and an indurated gland. The former is merely a question of analogy, the latter almost of identity of structure.

The corpuscles are for the most part very small, not exceeding  $\frac{1}{5000}$  of an inch in diameter. Here and there, however, larger corpuscles are met with, some as large as  $\frac{1}{2000}$  or even  $\frac{1}{1500}$  of an inch in diameter, which further differ from the rest in being distinctly granular and nucleated.

In the lung, the parts examined were (1) a mass of considerable size, which extends from the mediastinal tumour into the depth of the organ, surrounding one of the bronchi, and (2) several portions of lung near the surface covered with thickened pleura. The structure of the central mass corresponds so exactly with that already described that it is not necessary to say anything about it. The other specimens are of more interest. They exhibit, when cut into, spots of greyish white of an oval or circular outline. In microscopical sections made parallel to the thickened pleura, but at some distance from it, the nature of these spots can be readily made out. It is seen that each corresponds to adventitious growth surrounding

a bronchiole; and if successive sections are made in parallel planes of the same bit of lung, it is found that they all correspond, as

WOODCUT 28.

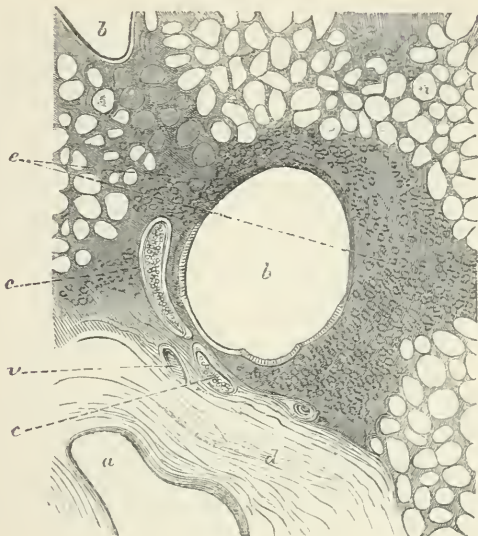


FIG. 3.

Section of lung, as seen with two-inch objective, so as to show the relation between the adventitious growth and the normal structures. *a*, artery surrounded by normal connective tissue, *d*; *b*, bronchus surrounded by a thick layer of adventitious growth, *e*, and partially lined with epithelium; *c*, *c*, cartilages; *v*, a small vessel. The open spaces surrounding *e* are alveoli, of which the walls are thickened by new growth.

regards the positions of the spots. Hence it is evident that the growths are cylindrical, and the bronchioles occupy their axes. On further examination it is seen that the hole which is to be observed in the centre of each spot, is lined with columnar epithelium, outside of which the muscular layer may be distinguished, surrounded by the external layer of fibres with one or two cartilages. Outside of these structures there is an annular area which is marked by the presence of adenoid tissue and corresponds to the new growth. Its thickness is never the same all round, although it completely encloses the bronchiole. It consists of a stroma resembling that already described, but inasmuch as the cells are infinitely more numerous

its general aspect is very different. It is not limited by a definite outline, but extends by radiating prolongations corresponding to the alveolar septa, which may be regarded either as extensions of the growth or as results of irritative overgrowth in the septa themselves, for they present no characters by which they can be distinguished from those which occur at the periphery of so-called tuberculous indurations. In several sections in which I found a bronchiole surrounded with new growth as above described, the artery beside it was entirely free, its sheath of connective tissue being in a perfectly normal state. I found, indeed, that the bronchiole was most thickly covered with adventitious material on the side farthest from its companion artery. In several instances I found small blood-vessels surrounded with new growth, and apparently narrowed by it. I do not know whether they were arteries or veins.

From the preceding facts I conclude that in the lung, as in the liver, lymphadenoma is governed in its distribution by the distribution of the lymphatic vessels, its principal seat being the connective tissue immediately surrounding the minute bronchial tubes. In the present case, the only one I believe in which pulmonary lesions have been described, this fact can be so clearly made out, that it well deserves the attention of those who may have future opportunities of examining the lungs in this disease.

In the liver it is not possible either by the naked eye or with the aid of a lens to make out any relation between the new growth and the original structure, excepting so far as relates to the fact that in the neighbourhood of the hilum it extends from the glandular tumour which surrounds the vessels and duct, in the direction of the portal canals. In microscopical sections the normal tissue is seen to be scattered in a very irregular way with islands of transparent material. In the smallest of these islands it is almost always observed that one or more interlobular hepatic ducts, lined with epithelium, are to be found towards the centre of the area. From this fact it is evident that the new growth has its chief seat in the interlobular spaces. As, however, isolated granulations are met with here and there in which there are no ducts, it is probable that it may also originate in the acinar tissue. In the present case the new growth differs from those described last year only in the relative number of corpuscles. The stroma is much stronger, so that in many sections the whole looks like a felt work of fibres, among which a few corpuscles can only be distinguished here and there.

The mode in which the growth spreads among the gland cells along the *tela conjunctiva* or sheathing tissue of the capillaries can be very distinctly made out.

WOODCUT 29.

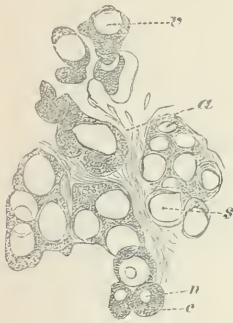


Fig. 4

Liver cells in groups, all of which have undergone the alteration described below. In each cell so altered there exists a round vacuole or space containing transparent liquid. *a*, Tela conjunctiva; *v*, a vacuole; *n*, a normal liver-cell with its nucleus, *n* (which ought to have been represented granular, cf. fig. 5); *s*, a space in the conjunctiva which has been occupied by a liver-cell.

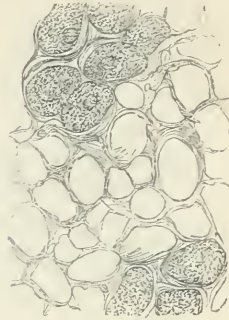


Fig. 5.

Section of an apparently healthy part of the liver, in which, however, the *tela conjunctiva* is stronger and more developed than natural. In some of the spaces there are liver-cells. In other parts, where they have been removed by pencilling, it can be well seen that the conjunctiva is strengthened by the development of fine fibres (newly-formed connective-tissue fibres).

Near the edge of the transparent spots already referred to, which consist entirely of adventitious tissue, the capillary sheaths may be observed to be thicker and more distinct than elsewhere, although the liver cells are of natural appearance. In a neighbouring part of this same section where the liver cells are more completely surrounded by interstitial thickening, they contain vacuoles, resulting from the wasting away of their granular contents. Between this condition and the total disappearance of the secreting elements, all gradations can be observed. Even in the apparently healthy parts, the *tela conjunctiva* is thicker than natural, as may be shown by the facility with which the capillary network may be prepared free from the liver cells.

In the spleen, the white masses present the same structural characters as those in the liver. No inference can be drawn from them as to the relation of the white masses to the Malpighian corpuscles.

May 17th, 1870.

## IX. DISEASES, ETC., OF THE DUCTLESS GLANDS.

## (A) SPLEEN.

1. *A spleen from a case of fatal anæmia.*

By P. H. PYE SMITH, M.D.

THIS specimen was taken from the body of a girl, æt. 17, who was under Dr. Habershon's care for anæmia, with suppression of menses and constant diarrhœa. A remarkable symptom was the high temperature, which for some weeks before her death was 102°, and occasionally rose higher. A soft basic systolic bruit was noticed.

The body, after death, was thin and excessively anæmic throughout. There was no dropsy. The brain (which weighed forty-eight ounces) and its membranes, the pleura, pericardium, lungs, and bronchial tubes, were almost entirely bloodless, but otherwise normal. There was no dilatation, hypertrophy, or valvular disease of the heart, but its muscle was in an advanced state of interstitial fatty degeneration. The stomach and small intestines were thin and pale, with atrophy of the solitary follicles and Peyer's patches. The mucous membrane of the colon, especially of its transverse part, was greatly swollen and injected, with a thin, tenacious, grey false membrane covering it here and there. On examining the fauces, a similar condition was found, though with less swelling; but the diphtheritic process had not extended into the larynx. No symptoms had drawn attention to the throat during life. The liver, kidneys, and suprarenal capsules were not diseased.

The spleen weighed twelve ounces. It was very firm to the touch, and was mottled over with light patches, which looked like the results of emboli. On cutting it open, however, these deposits were found to be scattered throughout it, of irregular shape, and moderately firm texture, almost white in colour, and none larger than a hazel nut. They were distinct from the Malpighian corpuscles, which were moderately conspicuous and showed no morbid character.

That this was not a case of embolism seemed clear from the number and uniform size of the nodules, from their not affecting the surface of the spleen particularly, and from the absence of an injected halo



around them; nor was there any source of fibrinous coagula. It was not a "sago spleen," for the deposits were not in the Malpighian bodies; and there was no reaction with iodine. It was not the spleen of ordinary leuchæmia, for the enlargement was neither uniform nor great, and there was no marked excess of white corpuscles in the blood.<sup>1</sup> The condition most resembled that of anæmia lymphatica, with enlargement of the lymph-glands and adenoid deposits in the spleen. But here the subcutaneous glands, as well as those of the thorax, mesentery, and abdomen were not in the least enlarged. Still, the fact that the deposits in the spleen consisted of small round cells like lymph-corpuscles, smaller, less granular, and less affected by acetic acid than white blood-cells, confirms the conclusion that the condition was essentially one of lymphæmia, affecting the spleen without the glands. It would thus be comparable to M. Béhier's case of similar deposits in the adenoid tissue of Peyer's patches, which he has recorded under the name of leuchæmia intestinalis. In the present case such a condition of the bowel was entirely absent; there were no leuchæmic nodules in the liver or kidneys, and the tonsils, like Peyer's patches, were remarkably inconspicuous, considering the age of the patient.

One may, perhaps, distinguish the cases of splenic leuchæmia, characterised by a great and generally uniform enlargement of the spleen, together with great abundance of white corpuscles in the blood (splenæmia of Virchow), from those like the present, in which the local hypertrophy is less marked and uniform, and the cells smaller and more lymphoid (lymphæmia of the same author). These last cases would then take their places side by side with those affecting the lymphatic glands alone, first described by the late Dr. Hodgekin, those affecting both them and the spleen, those like M. Béhier's, and the more slight and transitory leucocytosis observed in children with enlarged tonsils.

*December 7th, 1869.*

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<sup>1</sup> The left side of the heart was empty, the right contained a small, pale, but tolerably firm coagulum. There was scarcely any blood in the great veins.

2. *Enlargement of the spleen due to fibrinous infiltration of parts of its structure, associated with fibrinous deposits on the mitral valve of heart.*

By WILLIAM ADAMS.

THE morbid specimens exhibited are those of heart and spleen, fibrinous deposits of a warty character on the inner surface of the mitral valve, and what appears to be infiltration of portions of the spleen by inflammatory lymph or fibrinous matter.

The connection between endocarditis, together with fibrinous deposits on the valves of the heart and embolism, is now a settled truth. And the several cases of deposits of fibrine in the spleen associated with valvular disease of the left side of the heart which have been brought before this Society by Drs. Wilks, Ogle, and others, would appear to establish a direct relationship between those morbid changes, and to verify the hypothesis first promulgated by Dr. Kirkes, in his paper before the Medical and Chirurgical Society in 1852, that granules of fibrinous matter are detached from the valves of the heart, and carried by the blood into the capillary vessels of the spleen, there act as plugs in arresting the circulation in parts of the organ, and leading to ulterior changes in the tissue.

The enlargement from infiltration of the spleen exhibited, I have no doubt, has been caused in the way described by Dr. Kirkes, for the mitral valve is seen to be studded with small warty growths, which can easily be detached from the membrane; but there are points in the history of this case which lead me to question whether the cardiac disease was the *fons et origo mali*, and to this point I desire to direct the attention of the Society.

Without wearying the meeting with a full detail of the case from beginning to end, I trust I may be allowed to give a short account of the symptoms observed in the subject of this disease, prior to the detection of any physical signs of local lesion.

CASE.—The patient was a lady, æt. 48. She may be described as a weakly person, but who never ailed much. Her catamenial function ceased in December of last year—about four months before the commencement of her fatal illness. For some weeks she had been feeling unwell, and in the month of April she went to East-

bourne for change of air. While there she experienced, very generally in the afternoon of the day, a sense of coldness, sometimes accompanied by shiverings.

After one of these attacks, of unusual severity, she determined to seek medical advice, and returned to her residence in the north of London.

After her return she was subject to irregular attacks of fever, of an aguish type. At first these attacks occurred every three or four days, then became more frequent, and were characterised by a feeling of coldness, sometimes with shivering, which lasted an hour or more, and then by an increase of temperature and thirst. An attack usually lasted three or four hours, after which she felt comfortable and slept well. It was observed that exposure to cold air, as from an open window or door, or fatigue in receiving visitors, invariably determined an attack.

Careful examination was made by Dr. Garrod and myself without discovering any evidence of organic disease. The cardiac sounds were perfectly healthy, and the pulse never exceeded 96, usually ranging between 84 and 92.

Aperients, quinine in small and large doses, iron, arsenic, and sedatives with salines were severally tried, but with no effect on the recurrent attacks of fever.

For a period extending over two months the symptoms I have described continued increasing gradually in violence, the fever latterly returning every evening about 8 o'clock, the range of temperature being at that period of the day from  $101^{\circ}$  to  $104^{\circ}$ , while in the morning its degree was from  $97^{\circ}$  to  $99^{\circ}$ .

She had now become so feeble that she could only walk a few times across her bedroom without experiencing a sense of great exhaustion.

Very careful examinations were again made by Dr. Garrod and myself without our being able to detect any cause for the continuance of these symptoms.

She now went to Eastbourne again, and at first made some improvement in strength, but the fever continued as persistently as before, the thermometer registering  $99^{\circ}$  in the morning, and generally reaching  $104^{\circ}$  at night.

After seven weeks' sojourn at Eastbourne she returned to town, and on examination presented the following condition: very feeble; pulse 112; systolic murmur at base and apex of heart. Liver much

enlarged, and painful on pressure over left lobe. Spleen greatly enlarged, extending below umbilicus; not painful. Fever returns every night, and continues several hours, after which she is able to sleep comfortably. Blood under microscope shows no excess of white corpuseles. Soon after this ascites appeared, and the spleen and liver gradually diminished in size as the quantity of fluid in the abdomen increased.

She became more and more feeble, and died seven months from the commencement of her illness.

The autopsy revealed no other morbid condition than that exhibited of the heart and spleen, except some recent peritoneal inflammation over the spleen and liver, and about a gallon of dark coloured ascitic fluid.

The heart was soft and flabby, right ventricle thin, and its walls much infiltrated with fat; tricuspid and semilunar valves healthy. Mitral valve, which is in the specimen exhibited, is seen fringed on its margin by soft vegetations, which can easily be broken down by the finger and detached.

There was no atheroma of the large vessels. The spleen weighed on removal 1 lb. 2 oz. The middle portion presents an elevated surface, extending over one half of the organ, the centre of which is covered with inflammatory lymph, giving it a whitish appearance. The margin of this elevated region is marked by a bluish outline of irregular shape, contrasting very markedly with the other more healthy parts. Section of this infiltrated part presents an appearance closely resembling the healthy colour of liver tissue, and very much of the consistence of that viscus.

Dr. Wilks, who saw the case during life, has kindly examined the spleen, and he writes to me that he found no cancer cells, or any, so called, adventitious products.

I should not have thought the case worthy of the attention of the Society simply for the morbid specimens exhibited, or for the relationship which seems to be established between them as cause and effect, but that the fever, which existed for two months before any local sign of disease was discovered, leads one to seek for a cause beyond the onset of the cardiac disease.

What morbid processes were going on to produce and sustain these attacks of fever, and to waste the powers of life? is the question I should like to have the opinion of the Society upon.

*November 16th, 1869.*

3. *Ruptured spleen.*

By RICHARD DAVY.

FROM a woman who was run over, November 8th, 1869, at the foot of the Clock Tower, and then admitted into the Westminster Hospital.

She lived for nearly two hours after the accident. The portion of spleen corresponding to the suspensory ligament was completely crushed off from the remaining five sixths of the organ. Another rent nearly severed the organ secondly, at its middle, commencing from the anterior edge.

There were three short linear rents of the capsule only.

She had ruptured liver also in four different parts of that organ, and eight fractured ribs. The lungs escaped rupture.

December 7th, 1869.

## (B) SUPRA-RENAL CAPSULES.

4. *Extravasation of blood into both supra-renal capsules.*

By JOHN MURRAY, M.D.

I BRING these specimens before the notice of the Society not only because of the rarity of extravasation of blood into both supra-renal bodies in the same individual, but also on account of the patient presenting, during life, some of the symptoms of Addison's disease, which may possibly have been due in some measure to the state presented by the specimens now exhibited, although this I consider to be very hypothetical. The specimens were taken from the body of a brassfounder fifty-six years of age, who was admitted into the Middlesex Hospital on March 4th, 1870, under the care of Dr. Goodfellow. The patient had been the subject of winter cough for several years, and had been under the care of Dr. Greenhow four years ago with acute rheumatism and "metal ague." He had suffered from "metal ague" twenty years before. He was admitted into the Hos-

pital on the present occasion labouring under an attack of pneumonia of four days' standing, affecting the greater part of the right lung and some general bronchitis in addition. The respirations, on admission, were forty-four per minute, much embarrassed, and there was strong action of the diaphragm and auxiliary muscles of respiration, the pulse was 144, and the temperature  $100^{\circ}9$ . There was a general duskiess of the skin, but no definite bronziug, neither were there discoloured cicatrices observed on the body nor discoloration of the mucous covering of the mouth. A trace of albumen was present in the urine. On the following day he suffered from very severe headache. Two days afterwards the pulmonary mischief had slightly increased, and he had been retching all the previous night, the latter caused apparently by the viscid expectoration. On the following day, that preceding his death, there was little increase of the lung affection, but the dyspnœa was, notwithstanding this, sometimes excessive, and of a paroxysmal character, yet it was specially noted by the clinical assistant as a marked feature of the condition that the lips were not livid. The patient became gradually more and more exhausted, and died next day, the fifth after admission.

The *post-mortem* examination was made twelve hours after death. Extensive extravasation of blood was found to have taken place into both supra-renal capsules. The right capsule was enlarged to three times its natural size; its centre was occupied by a large, firm and black clot; its cortical part presented a pale waxy appearance, but still showed the characters of normal supra-renal structure. The capsule was neither nodulated nor was it adherent to the surrounding parts. The left capsule was about the normal size, and it presented to a less marked extent the characters of the right. Its centre, however, was broken down by the extravasated blood. The clot was somewhat discoloured and of older but still recent date. Dr. Cayley kindly examined the capsules with me, but there were no abnormal microscopical changes in their structure ascertained. On examining the chest the whole right lung, with the exception of the extreme apex, was found in a state of grey hepatization, and the pleura on the same side was covered with soft and recent lymph. The left lung was much congested, but everywhere crepitant. The bronchial mucous membrane was universally injected. There was slight granular disease of the kidneys; the mitral and aortic valves were thickened to a trifling extent; there were, however, no evidences of diseased vessels anywhere. May 13th, 1870.

## (c) ABSORBENT GLANDS.

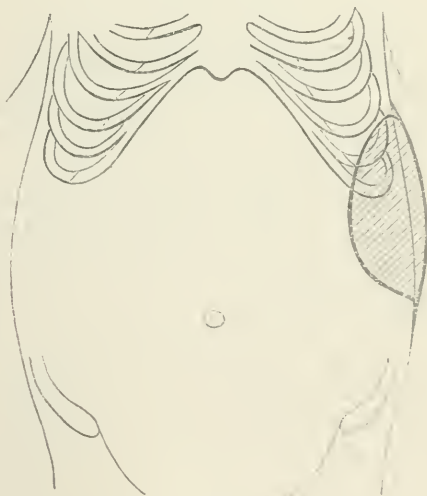
5. *Encephaloid disease of the lumbar glands simulating a renal tumour.*

By W. HOWSHIP DICKINSON, M.D.

THE chief interest in the following case lay in the apparent identity of the physical signs with those produced by a renal tumour.

Francis Hooper had good health until he was nine years of age, when he fell upon a chair, and hurt the left side of the belly. This was followed by pain, but did not produce any scar or visible evidence of injury. He afterwards complained of shooting pain in the upper part of the left thigh, which was found to be slightly swollen. He remained weak and low, and did not recover his former health. The accident occurred at Christmas, 1868. In the following March he was brought to St. George's Hospital. He then had a full colour and healthy appearance, and had no pain or distress. On the left side of the body, in the hypochondriac region, was a swelling, which occupied the position indicated in the diagram. It could be felt

WOODCUT 30.

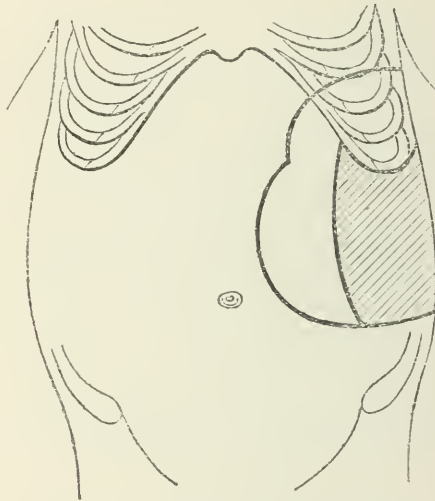


Tumour of lumbar glands, March, 1869.

passing under the edge of the thorax, the ribs being somewhat bulged

over it. The mass extended two or three inches below the ribs; it was evenly rounded, slightly tender on pressure, and descended slightly with inspiration. Opinions at this date, and to the con-

WOODCUT 31.



Shading = swelling to be felt with fingers.  
Surrounding line = dulness on percussion.

clusion of the case, differed as to the nature and seat of the tumour. It was variously supposed to be a parietal abscess, a splenic and a renal growth. The urine was natural.

He left St. George's in May, and in the following August was brought to the Hospital for Sick Children, where he became my patient, and his symptoms were carefully recorded by Mr. Reginald Stocker, at that time registrar.

The tumour had by this time much increased; it occupied a large portion of the left side of the abdomen, extending from near the umbilicus to the left lumbar region. Its dimensions at this date (August 19th, 1869) are seen in the annexed sketch, the outer line showing the limits of the dulness on percussion, the inner the outline of the tumour as far as it could be determined by touch. Behind the tumour could be traced backwards until it was obscured by the great muscles of the back. Dulness extended to the spine.

The apex of the right lung was dull in front. The general health



still appeared to be tolerably good. The boy for a time did not change his condition in any respect, excepting that the tumour underwent a slight increase of size.

In October, however, fresh symptoms appeared. Pain and soreness in the left foot and ankle were followed, on the next day, by nearly complete loss of power in the limb. He then complained of pains in the calf and sole of the foot on the right side, and almost at the same time began to pass the urine involuntarily.

The spine was carefully examined, but no evidence of disease could be found in this situation. The tumour was now soft to the touch, giving an obscure fluctuation, as if from fluid or pulpy contents. Towards the end of October a bed-sore formed behind the left hip, and the motions as well as the urine passed involuntarily.

In order to determine the nature of the tumour, my colleague, Mr. Smith, at my request, punctured the swelling with a fine trocar. A small quantity of bloody fluid was obtained, which showed under the microscope a great number of large globular nucleated cells, such as might belong to an encephaloid growth, with some granular matter and fat.

The bed-sores gradually extended, in spite of a water-bed and other precautions. The pain in the left leg continued, and caused much distress; there was no return of pain in the right.

With the nearly complete paralysis of the bladder which existed the urine, notwithstanding daily evacuation with the catheter, became ammoniacal, fetid, and purulent. It would be out of place in this Society to dwell upon therapeutical proceedings; but the case afforded an opportunity for testing the effects of various remedies in restoring and preserving the acidity of the urine, and so preventing ammoniacal decomposition. Benzoic, citric, sulphuric, nitric, and hydrochloric acids were tried with this view. Of these, sulphuric was the most effective; this in doses of a drachm (of the dilute acid) three times a day was generally sufficient to keep the secretion in an acid state.

At the end of October a small rounded protrusion, such as might have been caused by a blow, appeared over the left eyebrow, and another on the left side of the occiput. These were regarded as resulting from infiltration of the bone by the growth, the malignancy of which was now sufficiently evident. He subsequently had strabismus of the left eye. The enlargement on the forehead increased; the boy gradually became sallow, and assumed

a characteristic cachectic look. The bed-sores increased; he lost flesh, and finally sank on the 28th of January, 1870.

On *post-mortem* examination it was found that the abdominal tumour was, as had been concluded during life, encephaloid. It was situated entirely behind the peritoneum, and was most prominent in the left lumbar region, but extended also into the iliac region, crossing in front of the psoas and iliacus muscles. A part lay in front of the spine. The spleen and left kidney were displaced. The spleen was elevated. The kidney lay upon the upper surface of the tumour in a horizontal position, with its front face looking upwards, its lower extremity pointing straight forwards. The descending colon passed vertically downwards in front of the tumour, nearly in the position of the vertical line in the diagram, separating the palpation from the percussion area. The mass was nodulated upon its surface, and had an appearance as if made up of distinct gland masses. It appeared to have sprung from the left lumbar glands, which were entirely absorbed in the tumour. The supra-renal capsules were natural, as were the neighbouring bones, with the exception of the lower lumbar vertebrae, which were somewhat softened. The mass lay in close apposition to the intervertebral foramina, but the spinal dura mater and cord appeared natural.

The bones of the skull contained many nodules of encephaloid matter, which caused the prominences observed during life.

A large irregular suppurating cavity occupied the upper part of the right lung, which resembled an ordinary tubercular excavation; no tubercles were found, however, in the lungs, or elsewhere.

The kidneys presented a few minute specks of circumscribed suppuration in their cortical tissues, and the malpighian bodies gave an amyloid reaction with iodine.

Although the nature of the disease became, as the case progressed, painfully evident, the doubts which prevailed as to its seat were not solved until after death. I had always regarded the tumour as renal, and even with the light of the *post-mortem* it is not easy to see how that error could have been avoided. It appeared, indeed, that the tumefaction, which early in the case was evident to the eye and touch, was veritably renal, though not the result of renal disease. The tumour lay behind the peritoneum, and occupied the position of the left kidney, which it had displaced, and against which it lay in apposition, inseparable by any mode of examination consistent with

the life of the patient. It appeared from the situation in which the kidney was found that this organ in horizontal displacement had formed the swelling which first attracted notice. It was long ago observed by the late Dr. Bright that renal tumours were often traversed in front by intestine. In this case the characters of a renal tumour were completed by the position in front of the mass of a portion of the colon.

The freedom of the urine from any evidence of disease of the kidney furnished no presumption against the renal origin of the growth; the urine is natural more often than not in cases of renal tumour.

The loss of power in the left leg and in the bladder were apparently due to the pressure exerted by the tumour upon the nerves in front of the sacrum.

The tendency to alkalinity and putrefaction in the urine, consequent upon the paralysis of the bladder, was apparently controlled by the sulphuric acid, a point of much practical importance.

The commencing lardaceous change in the kidneys was no doubt due to the profuse discharge, which had for a long time taken place from the deep and extensive bed-sores. *May 3rd, 1870.*

## X. DISEASES, ETC., OF THE SKIN.

1. *Diffused Scleriosis.*

By C. HILTON FAGGE, M.D.

A WOMAN, æt. 63, affected with the same disease as another patient who was exhibited by me to the Society in the year 1868. The case is of interest on account of the woman's age, no previous instance of the affection having been recorded at so advanced a period of life. It is also unique in the fact that, in certain parts, the cuticle presents a peculiar change, being brown, rough, and divided by cross furrows into little squares, somewhat as in ichthyosis. Having already had occasion to publish an account of the case in the 15th volume of the 3rd series of the 'Guy's Hospital Reports,' I will not repeat the details in the 'Transactions' of the Society, but I thought that the members would be interested to see another example of so rare a disease.

*December 7th, 1869.*

2. *Elephantiasis laxus.*

By T. C. WEEDEN COOKE.

MR. WEEDEN COOKE presented a girl, æt. 17, of healthy parents, who, when four years of age, broke her right leg, which received no surgical attendance. She was allowed to limp about, and after a time lateral curvature of the spine to the left side came on. There was still no surgical interference. She continued to get about, with sometimes much pain in the spine. At fourteen years of age the skin of the leg which had been broken, became much hypertrophied at the seat of the fracture, and at the same time the skin of the opposite thigh (the left) assumed a hypertrophic or pachydermatous condition, which gradually increased, and is now lying in thick folds overlapping each other, which may be drawn out from the substance of the limb some twelve or fourteen inches.

This remarkable condition of the skin extends from the pelvis to the knee on the right side, and there is a similar condition of skin at the back of the left thigh. The menses have never appeared, and when she first came under Mr. Cooke's care, some twelve months since, there was much sugar in the urine, and she was in a very debilitated condition. Principally under the influence of iron in full doses the general health has been restored, and the glucosuria has disappeared, although no alteration has taken place in the condition of the skin, neither has there been any establishment of the menstrual function. Mr. Cooke had not found in books or drawings any similar case, and ventured, therefore, to give this peculiar exaggeration of skin structure the name of *Elephantiasis laxus*. As to treatment, Mr. Cooke proposes to wait still some months longer the possible oncoming of the menstrual flow, and should the skin not be influenced by that function to excise portions of it at intervals.

*December 7th, 1869.*

### 3. *Two cases of elephantiasis Græcorum.*

By BALMANNO SQUIRE, M.B.

THESE cases are interesting on more than one account. In the first place, because the disease they illustrate is so common, so incurable, and so fatal a disorder in so many of our colonies.

In the second, because opportunities of studying it in this country are so rarely met with. And in the third place because these two cases throw some light on the remarkably obscure etiology of this disease, which, unlike most diseases, is confined to certain quarters of the globe, and would seem to be the result, in some way, of climatic influence, were it not that it prevails equally in apparently the most opposite climates—in Norway, on the one hand, and in the East and West Indies, on the other. Some authorities have got rid of this difficulty by attributing a large share in its causation to the influence of race, or, in other words, to hereditary predisposition; while others have attributed it to the effect of certain articles of diet, *e. g.* pork and fish.

In both of the cases now brought forward the subjects of the disease, although born in tropical climates, were of European descent.

The two patients happen to be nearly of the same age; the one a girl, aged  $13\frac{1}{2}$  years, is a native of Trinidad, in the West Indies; the other, a boy, aged  $15\frac{1}{2}$  years, is a native of the East Indies. He was born in Calcutta.

With respect to their parentage, the girl's father, an Englishman, is a native of Newcastle; her mother, a Canadian, is a native of Quebec. Her father, however, has lived in Trinidad for twenty-three years, and her mother for twenty-eight years. The girl herself arrived in England about two years since, so that in considering the possible influence of climate in the production of her disease, it must be remembered that not only was she born and has passed the greater part of her life in Trinidad, but that both her parents had been resident in that island for many years previous to her birth.

As regards the parentage of the *boy*, his father is a Jew, who was born in Devonshire, but who had resided in India for fifteen years before he came to this country *with* the *boy* about six years since.

His mother is *not* a Jewess, but is a native of India by French parents.

The girl is the third child of a family of five children.

The boy is the eldest child of a family of four children.

None of the relations of the girl or the boy have ever been affected with anything at all resembling this disease; so that altogether, in their family history, the two cases are tolerably alike.

The girl came to this country at the age of eleven years.

The boy came here at the age of nine years.

The two are affected by the disease very much in the same way, that is to say, in either of them the face and ears are the parts chiefly attacked, in a less degree the limbs are affected, and in a *still* less degree the trunk.

On the face, in either case, the patches are tubercular and shiny, whereas on the limbs and trunk they are flat, wrinkled stains.

In the girl the tubercular patches of the face, as well as the flat stains on the trunk and limbs, are of a tawny-red colour, very much resembling the colour of a syphilitic eruption that has become fully developed: while at various parts of the trunk and limbs, where a

part of a flat stain is raised up into a tubercle, the tubercular spots are of a livid bluish colour.

In the boy the tubercular patches of the face are livid rather than ruddy, the flat patches on his trunk and limbs are of a deep chocolate-brown, resembling in colour brown stains which are seen surrounding the recent cicatrix of a syphilitic ulcer.

The patches of both patients are anæsthetic, but the anæsthesia is much more marked in the patches on the face than it is on those of the limbs.

Both patients have a remarkably aged appearance. The boy, whose complexion exhibited a peculiar dead-leaf tinge, looked very much like a middle-aged Chinaman; and a photograph of the girl was taken by one person to be the portrait of a woman of sixty years old, and by another to be the portrait of a woman of sixty-five years old.

In the girl the disease was first noticed when she was about eight years old, so that she has been affected with it for about five years; that is to say, it first appeared about three years before she came to England.

In the boy (strangely enough) the disease did not appear until two years after his arrival in England, so that his father attributed it to the change to the climate of England.

Although in both cases the face is the part most affected, in neither case was the face the part that was first attacked.

In the girl the disease showed itself first on the legs and arms, and not till a year afterwards on the face.

In the boy it appeared first on the shoulders, two or three months afterwards on the face, then very soon after on the arms, and three or four months after that on the legs.

In neither case does the general health of the patient appear to have become notably affected by the disease. The girl has always enjoyed good health up to the present time. The boy has always been weakly.

Although in either case the patient is the only affected one of an averagely large family, it does not appear that either patient has in any way lived under conditions which were not common to the rest of his or her family.

From these two cases it would appear that special susceptibility and the prolonged influence of a topical climate during infancy and childhood are capable of producing in an individual of European

parentage the phenomena of *Elephantiasis græcorum*. It is a remarkable fact that that part of Norway in which leprosy most prevails is that portion of the sea-coast which is washed by the current of the Gulf Stream; so that the prevalence of the disease in Norway may be accounted for by the conveyance of the essential climatic conditions by the medium of the Gulf Stream from the West Indies to Norway.

February 1st, 1870.

#### 4. *A case of accidental ichthyosis.*

By BALMANNO SQUIRE, M.B.

THIS was an example of the rare cutaneous disease known as "spurious ichthyosis cornea," or "horny sebaceous acne" (Hardy).

The patient was a boy æt. 4, and the disease had not made its appearance on him until after he had attained the age of nine months. He had three patches of the disease: one, the size of his hand, in the right inguinal region; another, much smaller, over his right clavicle, and another, still smaller, on the right side of the nape of his neck. The patches appeared in the order above named, the first at the age of nine months, the second at the age of two years, and the third at the age of three years and nine months. The disease, although so closely resembling ordinary congenital ichthyosis in appearance, differed from it in three important details, viz., that it was localised and unaccompanied by general xeroderma, that it affected the *flexures* chiefly, and, lastly, that it was not a congenital disease. The exhibitor proposed the term "accidental" as preferable to "spurious" ichthyosis, inasmuch as the former term conveyed information as to the history of the disease, and expressed definitely the chief kind of difference existing between this disease and ordinary ichthyosis, viz., that the former was *not a congenital disease*. He demurred to the name "horny sebaceous acne," because he considered that it had not been satisfactorily proved that the affection was essentially a sebaceous disease.

February 1st, 1870.

*Report on Mr. Balmanno Squire's case of ichthyosis.*—We have carefully examined portions of the crusts from Mr. Balmanno Squire's



case of ichthyosis, and report that they are formed of epidermic cells arranged in a stratified manner, so as to form conical masses; they also contain a considerable quantity of fatty matter and dirt. In consequence of the small amount of material at our disposal, we have been unable to make any chemical analysis.

TILBURY FOX,

C. HILTON FAGGE.

*March 15th, 1870.*

### 5. *Cases of Ring-worm of the Nails.*

By C. HILTON FAGGE, M.D.

MRS. C— has five children affected with ringworm of the scalp (*tinea tonsurans*). In the eldest, Rosamond, *æt.* 11, the right little finger-nail is also occupied by the *Trichophyton*. The disease in the nail commenced in the month of June last. At first the whole length of the finger was covered with “little white blisters very painful.” The nail became loose and movable, and at length came off. When it grew again it had an unnatural appearance, which it has since retained.

At present the nail is much altered in appearance, although it is still of its full length, projecting to the level of the end of the finger. It preserves to some extent its natural shiny appearance, but is slightly ribbed longitudinally. It is of a mottled, reddish-brown colour, with streaks of whitish-yellow and dark brown. Beneath its free edge there is a considerable quantity of dirty yellowish material. The fold of skin above the nail and the cuticle of the finger are perfectly healthy.

The child’s mother has noticed that the diseased nail, when cut, seems more brittle than natural.

The other children, who have ringworm, present no affection of the nails; but the mother, who is thirty-one years old, has had her left little finger-nail diseased for about four months. The morbid change is said to have begun in the tip of the finger, with small white blisters, and to have gradually spread over the whole length

of the finger. At the present time the whole finger has the appearance of being affected with an *eczema rimosum* in slight degree. The natural grooves of the cuticle are lost, and instead of them the surface is marked with fissured lines, some of which penetrate into the cutis, giving her much pain. The nail is of the natural colour, but is marked by an irregular transverse groove or indentation, about a quarter of an inch from its root. From this smaller grooves start in a longitudinal direction, and the spaces between these are scaly. The part of the nail behind the transverse groove is thickened, and the fold of skin which covers its root is enlarged, rounded, and slightly reddened.

On microscopical examination it was found that fungus was present in the nail substance in considerable quantity, taking the form of long beaded and branching tubes. Rows of spores were also seen, and these were remarkably large, much larger than ordinarily seen in *tinea tonsurans* of the scalp. The presence of fungus was also determined in the cuticle of the affected part of the finger, although the appearance was merely that of an ordinary *eczema rimosum*.

*Remarks.*—So far as I am aware, the liability of the nails to be affected by the *Trichophyton* in cases of ringworm had not been mentioned by writers on diseases of the skin, when, in 1868, I exhibited to the Clinical Society two sisters, in each of whom a nail was so affected, and one at least of whom had *tinea tonsurans* of the scalp.<sup>1</sup>

In these two girls the appearance of the diseased nails was very similar to that observed in cases of *favus* affecting the same structures; and I was inclined to regard this similarity as affording an argument in favour of the opinion that the fungi in different forms of parasitic disease are closely related to one another, or even mutually convertible. In the present instances, however, the character of the affected nails is much more like that produced by an ordinary eczematous affection.

*February 18th, 1870.*

<sup>1</sup> The other sister had on her head several bald patches, which at the time I regarded as patches of *tinea decalvans* (*alopecia areata*). My subsequent experience, however, leads me to believe that *tinea tonsurans* sometimes gives rise to such an appearance when the active growth of the fungus has ceased.

*6. Case of markings on the nails after illness.*

By LANGDON DOWN, M.D.

THE subject of this phenomenon was a gentleman, who had been engaged in severe professional work. He had supplemented his daily work by late study in the evening, which was followed by restless nights.

About the middle of July, 1869, he was suddenly attacked with ulceration of the left cornea. He became much prostrated, the slightest exertion overcame him, and his heart assumed intermittent action. Immediate rest, entire cessation from work, and stimulants in large quantity, followed by tonics, were resorted to. The ulceration gradually healed and the eye assumed a healthy state. Simultaneously the heart's intermission disappeared, and physical strength returned.

In August he recommenced work, imprudently attempting to make up for lost time, when, after a fortnight's return to London, ulceration of the cornea again set in, with the same accompanying symptoms of depression.

He was seen by Mr. Wordsworth, who urged immediate removal from London and from all professional work. After a fortnight's idleness in Paris, supplemented by a liberal and slightly stimulating diet, the ulceration and the constitutional symptoms disappeared as before, and the recovery was permanent.

In about six weeks white markings were noticed on the nails of the fingers and toes. The markings were most distinct on those of the left side of the body. They were transverse, extending the entire width of the nail, quite opaquely white, as if painted with white lead. It was at once thought that they might be the result of the deranged nutritive health which had led to the corneal ulceration in July, and a record of the like derangement in August was looked for with some curiosity. This record was in due time observed, and the nails now exhibit two complete opaque markings on the nails, records of nutritive change affecting the tissues, orderly as to time, and with the healthy tissue corresponding to the period of comparative health intervening between the two well-marked disturbances to local and general nutrition.

For six months the records of these two attacks were distinctly marked on the nails of the hands and feet.

*February 1st, 1870.*

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7. *Spots on the skin resembling cadaveric ecchymosis (living specimen).*

By HENRY DICK, M.D.

THE child was brought to the National Orthopædic Hospital, suffering from Osteomalacia infantium, and is about two and a half years old. When examining the child I was astonished to find these curious spots (which I now show to the Society) on its skin, resembling cadaveric sugillations, all over its body. The mother related to me that, while pregnant, she lived in a house where a coroner's inquest was held on a lad, and when the inquest was over the mother of the lad asked her to clean the room. That circumstance made such an impression on her that to it she ascribed the production of the spots on the child's body. The spots resemble exactly those we find in cadaveri, having the colour of claret wine, but being of a darker hue, on the toes, fingers, and nose, and also on the declining parts.

*April 5th, 1870.*

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## XI. MISCELLANEOUS.

1. *Fungus foot of India.*

By TILBURY FOX, M.D.

DR. TILBURY FOX brought to the Society a specimen of fungus foot of India in order that it might be carefully examined and reported upon by a Committee, should the Society think fit to approve this step.

October 19th, 1869.

*Report of a Committee appointed to examine the specimen of Fungus Foot exhibited by Dr. Tilbury Fox.*—We have carefully examined the foot, and find that it corresponds to the description given by Dr. Carter of his second form of fungus foot. As to the characters of the disease viewed by the unaided eye, Dr. Carter's descriptions would suffice to describe the specimen before us. The soft parts of the foot are swollen. But the muscles are degraded and wasted, so that it is difficult to recognise them. The swelling arises partly from increase of subcutaneous fat, and partly from the size and number of the fungus canals. The several tissues are traversed in all directions by these canals, which branch and inter-communicate. The bones, as well as the soft parts, are pierced by them, but the tissue of the bone, even close around the walls of the channels, is quite healthy-looking.

The walls of the channels are composed of a soft greyish filmy substance, continuous with and not separable from the tissues around. Microscopic examination does not reveal any structure in this substance, except a few fibrils and a defaced nucleus here and there. The contents of the channels are not connected with their walls. They correspond to the descriptions of fish-roe-like substance, which is described as filling these canals in the second form of fungus foot, except that they do not show any pink colour.

The main interest in the disease before us concerns the nature of these contents, and we have examined them very carefully. We have not, however, succeeded in detecting anything in them that has not been already described. There was no trace of structure that could be set down as that of fungus. The cells and fibres that Dr. Carter has described in the black matter of his first form of fungus

foot we could not see any sign of. Dr. Carter, however, has not himself seen these unequivocally more than once, and never has seen them in the paler matter, present in the second form to which our specimens belong.

His opinion that the rounded bodies composing the fish-roe-like substance are made up of defaced fungus structure, coated with fringes of fat crystals, may be correct, but we must remark that if so, the defacement of the fungous characters is curiously complete. On the other hand, these rounded masses, with their covering of sub-filamentous material, have a very uniform appearance, such as suggests to us a less accidental nature than that attributed to them by Dr. Carter. The substance of the little rounded masses is softly granular, and has in some instances a texture of fine fibrils in it, like in character to the fibrils of coagulated fibrine. The surface of each mass is rounded, and its curve is perfect, but we cannot see any nuclei or cells upon it. The subfilamentous material presents at first sight the appearance of a ciliated epithelium, as its component matter gathers itself into masses about the size of cells, and these masses will separate and float about, but in them, when separate, there is no nucleus to be seen, but only a faint fibrillation; in some instances these filaments are separated from each other. They are not acted on by acetic acid, or caustic soda, or potash of moderate strength. The filaments bend in a wavy manner, and appear entirely devoid of rigidity such as characterises crystals.

We are of opinion that the nature of these remarkable structures requires further investigation, directed rather to their stages of development, or of further transformation, than to the minute structure of the bodies themselves, as they are now familiarly known. We think that their very peculiar and constant form, and especially the subfilamentous covering of them, marks them as something more definite than perished fungus. On the other hand, fungus growths are sufficiently apt to develop in any organic decaying matters, to lay open to serious doubt the conclusion that any matter in which fungus is occasionally found, or about which fungus is sometimes developed is essentially fungus growth.

W. MOXON, M.D.

JABEZ HOGG.

November 16th, 1869,

2. *Dry gangrene of the extremities in a young person; portions of both hands that had been removed.*

By J. GAY.

A LADY, æt. 36, of feeble constitution, and who had been subject to "asthma," with valvular disease of the heart for a period of sixteen years, was attacked in February with gastric fever. The attack was severe. As convalescence commenced, the tip of the nose and the ends of the fingers and toes showed signs of gangrene. The nose and toes recovered with small loss after three weeks; but the gangrene rapidly extended along the hands, with pain and some vesication. At the end of May lines of demarcation made their appearance, denoting, on the right side, that the gangrene had extended to the entire phalangeal portion of the hand; and on the left, to the carpo-metacarpal articulation.

I saw the patient with Mr. Hoskins, of Dalston, on the 22nd July. She was very weak, and the discharge from the parts profuse and offensive. Nature had left, on both sides, a plenty of integument wherewith to cover in the ends of the living bones; so I determined simply to remove the dead portions of the hands by twisting them off at the points of intended separation. This was done under chloroform. A little bleeding followed, and after three days secondary hæmorrhage took place from a vessel which required to be secured.

The healing went on most favorably. At this period, October 7th, the process is completed, and the stumps are good.

The hands, as seen in the specimens, are good specimens of dry gangrene; the fingers are clenched. The radial and ulnar arteries pulsated on both sides, although feebly in consonance with the weakened powers of the heart and general circulation.

*October 19th, 1869.*

3. *Obstruction of the arteries in relapsing fever, leading to gangrene of the foot, deposits in the spleen and kidneys, and softening of the brain.*

By C. MURCHISON, M.D.

GEORGE C—, æt. 20, was admitted into the London Fever Hospital on December 15th, 1869, on the third day of a severe attack of relapsing fever, which was very prevalent at the time. He had been out of health for some weeks before, and on admission his symptoms were: pulse 120; skin hot, but free from eruption; distinct jaundice of conjunctivæ; no vomiting; tongue dry; much thirst; bowels confined; severe headache. On the 23rd the pulse had fallen to 76, the skin was cool, and the appetite returning, but the tongue remained dry and the jaundice persisted. On the 28th the skin again became hot, and the pulse rose to 120. The fever on this occasion did not subside, and on January 7th the left foot and leg were found to be cold and livid, and there was no pulsation in the corresponding femoral artery. The gangrene gradually extended over the lower third of the left leg, with much pain; but on January 11th a line of demarcation had begun to form, and the patient's general condition was much improved: he slept and ate and drank well. This improvement continued until after breakfast on the morning of the 17th, when he became rather suddenly unconscious. He was unable to swallow, had stertorous breathing, divergence of both eyes to the left, and clammy sweat. No improvement took place, and he died at 1.30 a.m. next morning. The existence, or not, of hemiplegia was not noted.

At the autopsy the upper part of the left femoral artery, over an extent of five inches, was occluded by a firm, white, adherent coagulum. Both ventricles of the heart contained a solid white coagulum entangled among the fleshy columns, and extending into the pulmonary artery and aorta, but there were no vegetations on any of the valves. Both lungs were congested. The spleen was very large, and weighed 31 oz.; its tissue was soft, except at either end, where there was a firm pale mass as large as a small orange, and exactly like the masses usually ascribed to embolism. The kidneys were also large, and together weighed  $16\frac{1}{2}$  oz. Externally they were smooth, and their capsules separated readily. Both organs had



imbedded in the cortex several large pale masses surrounded by rims of injected renal tissue. These masses produced slight bulgings on the outer surface. The liver was pale and fatty. The left middle cerebral artery was obstructed by adherent coagulum, and there was doubtful softening of the central part of the corresponding hemisphere of the brain. This was not examined when fresh, and after immersion for some time in spirit contained no granular corpuscles.

*Remarks.*—Gangrene of the limbs is an occasional and well-known sequel of typhus and enteric fevers, and is always due to obstruction of the arterial trunks; but it is rarely, if ever, referred to in the accounts of the epidemics of relapsing fever observed in this country. Still not only gangrene of the limbs but gangrene of the nose and ears was met with as an occasional complication of relapsing fever in the epidemic at St. Petersburg in 1864-5.<sup>1</sup> The case now recorded is the only instance of the complication which has come under my notice in the recent epidemic in London, and is the only instance out of at least 1200 cases admitted into the Fever Hospital. The pathology of the gangrene is the same as when gangrene occurs in other fevers. The case now recorded, however, possesses additional interest from the circumstance that not only was the femoral artery obstructed, but there were appearances in the kidneys, spleen, and brain similar to what are usually ascribed to embolism. In cases of acute rheumatism with endocarditis, it is not uncommon to get gangrene of the extremities from obstruction of the femoral arteries, softening of the brain from obstruction of the cerebral arteries, and so-called “embolic deposits” in the spleen and kidneys, all of which it is the fashion to ascribe to embolism. In this case the appearances were the same, but there were no vegetations in the heart, and no other apparent source of embolism. The obstructions of the vessels must therefore have been due to some morbid condition of the blood, and the question arises whether in many cases of rheumatism they may not also be due to some blood-change rather than to embolism.

Although one of the cerebral arteries was obstructed, it is doubtful if the fatal termination was not rather due to sudden and extensive deposits in the kidneys interfering with their functions.

May 17th, 1870.

<sup>1</sup> See Dr. Zuelzer's appendix to his German translation of 'Murchison on the Continued Fevers of Great Britain,' p. 684, 1867.

4. *Amputated right index.*

By RICHARD DAVY.

THE patient had the divided tendon of the flexor profundus digitorum. The wound healed in a month, but one inch and a half of the tendon sloughed and was cast off, leaving the forefinger useless. Being a milliner, the forefinger was amputated.

December 7th, 1869.

5. *Tracheotomy tube which has been retained in the trachea upwards of five years and a half.*

By THOMAS P. PICK.

THE patient from whom this remains of a tracheotomy tube was removed was first admitted into St. George's Hospital in January, 1864. He then stated that he had had a chancre twelve months previously, followed by secondary eruption and sore throat; that three months before admission he became very hoarse; and that six weeks after he entirely lost his voice, suffered from pain in the larynx and difficulty of swallowing. The day before admission he was seized with the most urgent dyspnoea and very severe pain in the throat.

When he came under observation there was an extremely anxious expression of countenance, a pulse of 80, a burning hot skin, noisy respiration, and a peculiar barking cough. He was ordered salines and antimony.

In the evening of the third day after his admission the resident medical officer and myself (then house surgeon) were called to him, and found him evidently in a state of impending suffocation; the face was blue, and he was making violent efforts at forced respiration. I immediately performed laryngotomy, and so great was the relief that, before the tube could be tied in, he was in a sound sleep, in which he continued five hours; he woke up easy and comfortable, with a full frequent pulse and a warm skin, and all anxiety of countenance gone.

He went on well after the operation. On the twelfth day he

began to breathe through the mouth, but could not be induced to allow the tube to be left out, as when it was he became nervous, and then had an attack of dyspnœa. He, however, went about with cork in it.

The laryngoscope showed very considerable thickening of both true and false vocal cords, though there was still a large interspace between the right and left cords, apparently quite sufficient for all ordinary purposes of breathing.

He was discharged in the following April, when he was lost sight of. During the period he was in the hospital he took biniodide of mercury.

He was readmitted in September of the present year (1869) for an attack of bronchitis. He stated that after he was discharged from the hospital he was in the habit of removing the tube twice a week for the purpose of cleaning it, and this he continued to do for three years; but after a time he neglected to do so, and for the last two years the tube had never been removed. When he came into the hospital it was taken out, much against the patient's will, who was exceedingly nervous at getting rid of it. When he was discharged, a month afterwards, the opening was considerably contracted, and he breathed with perfect freedom through the natural passages.

It will be seen that the whole of the outer tube has become oxidized and eaten away, so that nothing remains of it but the shield which lay external to the windpipe. The inner tube is also partially destroyed, at least half of it having disappeared. The portion remaining is much thinned, and has an eroded margin where the part has been eaten away.

*December 7th, 1869.*

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6. *Three specimens illustrating the reparative process in human tendons at different periods, from six weeks to six years after division.*

By WILLIAM ADAMS.

THE specimens consisted of three legs of club-footed children, who had died of scarlet fever in the Royal Orthopædic Hospital, and had been operated upon at various periods. Some tendons had

been divided six weeks before death, and others had been divided at different times, varying from a year and a half to six years previously.

Two of the legs were removed from the body of F. D—, a boy, who had been admitted for congenital talipes varus of both feet into the Royal Orthopædic Hospital, when three months old, on the 7th March, 1864, and was then operated upon by Mr. Adams, the anterior and posterior tibial and the Achilles tendons being divided in the ordinary way, and the child was discharged as cured on the 8th August, 1864.

In this case relapse of the deformity to some extent occurred, in consequence of the after treatment not being persevered in, and the child being neglected in the country. When readmitted into the Orthopædic Hospital on the 4th August, 1868, both feet were in the position of talipes equino-varus, and in consequence of the extreme rigidity and unyielding character of the deformity its cure was slow, and difficult to accomplish, the ligaments offering more resistance than any contracted tendons, and therefore the treatment relied upon was chiefly mechanical. The anterior and posterior tibial tendons with the flexor longus in both feet were, however, redivided soon after admission, and the Achilles tendons about two months afterwards.

This child died of scarlet fever on the 10th March, 1870, aged six years and three months, and at the period of death both feet had been brought into a perfectly natural position, and the boy was about to be discharged as cured, with directions to the parents to persevere in the daily employment of passive motion, in addition to walking exercise, for the purpose of increasing the range of motion, which was still very limited, at the ankle-joints.

The appearances on dissection were as follows :

*Left foot.*—The tibialis posticus and flexor longus tendons had been divided a year and a half before death, and in both the reparative process was so perfect that, previous to a longitudinal division of these tendons being made, it was impossible to recognise the seat of division, or to distinguish the old from the new tendon. Both tendons were uniform in diameter, thickness, and rotundity throughout their length, and the only indications of an operation were to be found in thin membranous bands of adhesion between the posterior tibial tendon and the sheath, along the edge of the tibia, not sufficient, however, to interfere materially with the free play of the tendon, which could be moved upwards and downwards suffi-

ciently to ensure the action of the posterior tibial muscle. From the thin membranous character and length of these adhesions, which varied from about a quarter to half an inch in different parts, it did not appear to me that they could interfere with the efficiency of the tendon.

A longitudinal section of the posterior tibial tendon showed that half an inch of new tendon had been formed at the seat of division, just above the malleolus, and the new tissue was easily recognisable by its grey, translucent, and homogeneous appearance, as distinguished from the opaque pearly lustre of the old tendon with its longitudinal striæ.

The line of junction between the old and new tendon by the process of dovetailing, the new grey tissue passing between the separated fibres of the old tendon, was very distinct. Although this tendon had been divided six years before death in about the same situation, no traces of the operation could be discerned. I expected to find some indications of it above the last operation, in consequence of the growth of the leg during the six years that intervened between the operation and death. It was evident, however, that time had obliterated all traces of the operation performed when the child was only three months old.

A longitudinal section of the *flexor longus tendon* exhibited appearances similar to those above described in the posterior tibial tendon, but there was rather a greater length of new tissue, with some indications of a portion of old tissue intermixed at the lower part; it could hardly be stated, however, that there were distinct traces of two operations.

*The anterior tibial tendon* had been divided in the usual situation, as it passes over the ankle-joint, and perfect reunion had taken place, the form and outline of the tendon being restored, so that there could be no doubt as to its efficiency, though near to its insertion this tendon appeared to be rather flat and feeble.

*The Achilles tendon* was uniform in diameter and thickness throughout its length, and by an external examination alone the seat of its division could not have been detected; a longitudinal section, however, showed distinct indications of its having been divided twice, and indistinct indications of a third operation were traceable at the upper part. At the lower part, an inch above the insertion of the tendon, and evidently the seat of the last division, which had been performed sixteen months previous to death, three quarters of an

inch of new tendon had been formed, and could be easily recognised by its grey, translucent appearance, and the line of junction between the old and new tendon, above and below, was very distinct. About an inch above this the tendon had evidently been divided at an earlier period, but the date of this operation was uncertain. About half an inch of new tendon could be traced in this situation, and a little above it there were somewhat obscure indications of a third division having been made, possibly the traces of the operation performed when the child was three months old. In this situation there was about three eighths of an inch of what appeared to have been new tendon, as the structure at this part was less regular in appearance than the old tendon, though it had lost the grey translucency which distinguishes recently formed tendon.

*Right foot.*—The same tendons had been divided as in the left foot, and within a few weeks of the same time, though the exact date of each operation had not been kept in the hospital case-books. Half an inch of new tendon had been formed in the length of the posterior tibial tendon, the reunion and reparative process in which was as perfect as it possibly could be; moreover, there was in connection with this tendon an absence of the fibrous bands of adhesion which existed in the left foot, so that the perfection of the reparative process was more complete. In the sheath of the posterior tibial tendon there was only a little delicate areolar tissue, such as always exists in the sheaths of tendons, and some slender membranous adhesions not sufficient to interfere with the free play of the tendon. A more perfect specimen of repair after division a year and a half previous to death certainly could not be produced.

*The flexor longus tendon* exhibited only a quarter of an inch of new tendon, diminishing posteriorly, as if the separation had been hindered by the muscular fibres, which descend much lower down than in the posterior tibial, or possibly the division had been less complete than in the other leg.

*The anterior tibial tendon* was strong and well defined in all parts, and externally there were no traces of recent division. As a longitudinal section was not made in the recent state it was impossible to say whether this tendon had been divided at the same time as the posterior tibial, though, as this is the usual practice, it probably had been, and there can be no doubt it had been divided when the child was three months old.

*The Achilles tendon*, like that of the opposite leg, was uniform in

diameter and thickness throughout its length, but on a longitudinal section two divisions were distinctly traceable; at the lower part rather more than an inch of new tendon had been formed as the result of division, about sixteen months before death, and above this half an inch of new tendon, as the result of a previous operation of uncertain date. The appearances were precisely similar to those described in the Achilles tendon of the left leg.

The third leg exhibited was removed from the body of C. A—, æt. 13 years, a girl, who was admitted into the Royal Orthopædic Hospital on the 1st February, 1870, and died of scarlet fever on the 21st March, 1870. This girl was operated upon by Mr. Adams on the 3rd February, the anterior and posterior tibial tendons being divided, with the object of bringing the foot into the position of talipes equinus as the result of the first stage of treatment; the division of the Achilles tendon being deferred to the second stage, and in the present instance that tendon was not divided, as the child died before the first stage was completed.

This was also a case of relapse of deformity, the girl having been the subject of congenital varus of the left leg, which had been operated upon at the Orthopædic Hospital in May, 1868, when she was brought to the hospital as an out-patient. The foot was brought into a straight position, and she was enabled to walk with a boot and steel support, but in consequence of the severity of the case and the difficulty of attendance, as her parents resided in the country, partial relapse of the deformity occurred, and when she was admitted as an in-door patient on the 1st February, 1870, the foot was in the position of equino-varus of a rigid and severe form.

The posterior and the anterior tibial tendons had been divided between six and seven weeks previous to death, and at the time of operation the girl was doubtless under the influence of scarlet fever poison, as the eruption appeared two or three days afterwards. In consequence of this condition of blood-poisoning the reparative process in the divided tendons had been arrested at an early stage, and very little attempt at the formation of new tendon had been made.

The divided extremities of the posterior tibial tendon were fully three quarters of an inch apart, and imbedded in blood-stained areolar tissue, irregularly thickened by inflammatory infiltration, and adherent to the bone, or rather to the deep surface of the sheath of the tendon and the edge of its groove in the tibia; blood-stained and

infiltrated areolar tissue, in which a small quantity of fat was included, also extended between and indirectly connected the divided extremities of the tendon, but there had been no attempt at direct union by the formation of new tendonous tissue, nor was there any definition in the direction of the tendon in the tissue between its divided extremities.

*The flexor longus tendon* had not been recently divided. This tendon sometimes escapes the knife in operations in infancy, but at a later period it probably escapes much more frequently, in consequence of the increased separation during growth between it and the posterior tibial tendon in severe cases of varus.

*The anterior tibial tendon* exhibited the same indications of arrest in the reparative process as described in the posterior tibial tendon, but from the existence of delicate fibrous and areolar tissue round this, as, indeed, it is found round all other tendons imbedded in fat and cellular tissue, forming a sheath, which is more distinctly seen after division of the tendon, in consequence of the traction exerted upon it, the divided extremities of the anterior tibial tendon, which in the present case were nearly three quarters of an inch apart, were directly connected by fibrous tissue, evidently the sheath and adjacent tissue in an infiltrated and thickened condition. A certain amount of definition was, therefore, given to the connecting tissue between the divided extremities of the anterior tibial tendon, although the true reparative process, or regeneration of tendon, seemed to have scarcely commenced. The contrast in this respect between the anterior and posterior tibial tendons, in consequence of the absence of a loose fibro-cellular sheath in the latter, was remarkably well exhibited.

April 5th, 1870.

*Report on Mr. Adams's case of division of tendons.*—We examined the two legs of Frederick Davis, æt.  $6\frac{1}{4}$ , in which the posterior tibial tendons had been divided six years previously, and again in the left leg a year and a half ago. In the left leg there is a fibrous band of adhesion between the tendon and the tibia, measuring rather more than one eighth of an inch, and slight membranous adhesions between the tendon and the sheath. In the right leg there are delicate membranous adhesions at the point of division between the tendon and the bone.

In neither case do the adhesions interfere with the movement of the tendon as performed in the dead subject.



In the left leg of Caroline Amabilino, æt. 13, operated upon six weeks before death from scarlet fever, the ends of the divided posterior tibial tendon are separated to three quarters of an inch, and each is adherent to the bone and connected with its fellow by a mass of new connective tissue mixed with fat and stained with blood. The reparative process in this latter instance has been evidently arrested or modified by the disease of which the child died, and from which she was probably suffering at the time of operation.

RICHARD BARWELL.

CHRIS. HEATH.

HENRY ARNOTT.

*April 19th, 1870.*

## XII.—SPECIMENS FROM THE LOWER ANIMALS.

1. *Urinary calculi in the lower animals.*

By E. CRISP, M.D.

THE calculus exhibited was recently taken from the urinary bladder of a Japanese dog that had been a short time only in this country, and but little is known of its history. The animal was of the female sex. The stone is of a white colour, of a rounded form; smooth externally, weighs 400 grains, and measures four and a half inches in its largest circumference. Internally it is laminated, of a white colour, of a friable structure, and, judging from others examined, consists chiefly of carbonate of lime.

I have formed a table of the various calculi from the lower animals that I have examined in different museums, and seen described in museum catalogues and in the works of English veterinary writers, for the purpose of ascertaining the nature of the food of these animals and the chemical composition of the calculi, so that I may compare them with the like products in man, and I shall endeavour by this means to throw some light on the origin of these urinary concretions in the human subject.

One of the most interesting and practical matters connected with these formations in the lower animals is the occurrence of urinary deposit in male sheep when fed on saccharine and carbonaceous food. I have had an opportunity of seeing many examples. My brother, the late Mr. Thomas Crisp, of Butley Abbey, Suffolk, lost several of his best rams from this cause, and I have known many celebrated breeders of sheep that have suffered similar losses. The obstruction occurs only in rams and in wether sheep, and is clearly traceable to the nature of the food. I may observe that the formation of the extremity of the penis in the male sheep tends also to favour these obstructions, the urethral canal in the vermiform appendix being small and contracted. The urethra is blocked up with a gravelly deposit, the particles of which vary in size from those of fine sand to a mustard seed. Sometimes the deposit is confined to the urethra, where it may become hard, and cylindrical in form; in other instances the bladder and pelvis of the kidneys are the seats of the sediment. There is great straining, bloody urine, and sometimes rupture of the

bladder. The sabulous matter is composed chiefly of the ammoniaco-magnesian phosphate. I believe that I could produce this deposit at pleasure in male sheep by feeding them on saccharine roots and oil-cake, so that here we have positive evidence that one form of concretion in a lower animal depends upon the nature of the food. The sheep is, moreover, subject to small compact calculi in the bladder and kidneys, but these are composed generally of carbonate of lime and are comparatively rare.

The largest and best collection I have met with of urinary calculi in the lower animals is in the Hunterian Museum. At the Veterinary College Museum, there are several from the horse and ox, but there is no proper account of these in the catalogue. In other museums, as St. Bartholomew's, Fort Pitt, Irish College of Surgeons, and the Boston Museum, specimens are met with. The collection in the Hunterian Museum is thus classified, and the analysis of the calculi will enable us to form an interesting comparison of the composition of human urinary calculi and those of the lower animals:

*Uric acid*.—Ostrich, and bladder of iguana.

*Urate of ammonia*.—Kidney of sheep, rectum of fowl, eagle, and boa constrictor.

*Oxalate of lime*.—Two, ureter of hog.

*Uric oxide* (xanthic oxide).—Guano.

*Phosphate of lime*.—Ureter of sturgeon, beluga, mosco, and rabbit.

*Phosphate of magnesia and ammonia*.—3 dog, 1 hog, and 1 whale.

*Mixed phosphates* (fusible calculus).—3 dog, 1 monkey (probably from the kidney), 3 horse, 6 ox, and 2 hog.

*Carbonate of lime, or carbonate of lime and magnesia*.—Horse 19, ass 1, hog 5, rhinoceros 1, ox 13, and tortoise 1.

It will be seen by the above analysis that the carbonate of lime calculus, so rare in man, is the most frequent among the lower animals, and that the uric acid calculus, so common in the human subject, is comparatively infrequent in the lower mammals.

Urinary calculi in wild animals are probably very rare. Sir D. Gibb ('Trans.,' vol. vii, p. 401) showed a urinary calculus weighing three grains, and composed of oxalate and carbonate of lime, from the bladder of a field mouse (*A. arvalis*). This animal was found by my brother, Dr. Henry Crisp, on the wall of a salt-water river in Suffolk. But the most remarkable example is described in the 'Boston Museum Catalogue.' Calculi weighing 86 lbs. were taken from the urinary bladder of an old "bull" sperm whale; one of these

was double the size of a man's fist (a calculus from this animal is in the Hunterian Museum). These calculi were composed of carbonate of lime and ammonia, with some phosphate of lime. With the exception of the hare, rabbit, and rat (which can scarcely be considered wild animals, or animals living in a state of nature), I am unacquainted with other examples. The largest urinary calculus that I know of is the one I exhibited at the Society from the urinary bladder of the horse ('Trans.,' vol. xv, p. 256); it weighed 20 lbs.

The following is the summary of a table I have made of urinary calculi from the lower animals, with the exception of those in the whale. The cases have all occurred in the United Kingdom. I have placed them in systematic order:

Monkey (kidney) 1, dog 10, mouse 1, rat 2, hare 1, rabbit 1, ass 1, horse 46, hog 15, rhinoceros 1, sheep 6, goat 1, whale 2. The sedimentary deposits in the sheep are not included.

It will be seen that, with the exception of the whales, none of these animals are carnivorous. The domesticated dog is a mixed feeder, many of these animals getting a large amount of vegetable food. As regards the size of these calculi, they are much larger in the horse than in any other animal. In the ox and sheep they are generally small, in the hog of larger size, and in the dog larger than in any of the above-named animals with the exception of the horse. In the Hunterian Museum there is a calculus from the bladder of a mastiff weighing 12 oz.

In birds I have often found concretions in the cloaca, and these are all taken from the carnivorous and piscivorous species; they contain a large proportion of urate of ammonia. Although the alvine and urinary evacuations in the bird are mixed in the cloaca, these concretions are evidently connected with an abnormal condition of the kidney, as the ureters are generally distended with the calcareous deposit.

The composition of the calculi found in the tortoise, iguana, and in the ureter of the sturgeon, has been already spoken of.

Can we draw any useful deductions from the above evidence, imperfect as it is, respecting the origin of urinary calculus in the human subject?

But little is said about the supposed causes of calculus in man, and it has been erroneously assumed by nearly all writers upon the subject that it is scarcely known in tropical climates. Mr. Erichsen says, in his work on surgery, "he believes that in tropical climates

the disease is scarcely known," but in some tropical climates it is far more frequent than in the temperate zones. It prevails more in Norfolk and Suffolk, where there are more examples than in any four counties in England and Wales, although I have reason to believe that in these counties it is less frequent than formerly. The constant use of the Norfolk and Suffolk dumplings as articles of diet has been assigned as one cause of the greater prevalence of this affection, and I think it is not an unlikely one. Next to these localities, urinary calculi are more frequent in the north midland counties. In Scotland and Ireland it is comparatively infrequent. But the interesting revelations recently made in the 'Indian Annals of Medical Science' are likely hereafter, when the diet and other matters connected with the habits of the people, and the localities they inhabit, are more fully investigated, to throw much light upon the subject. Dr. Greenhow, 'Annals,' 1866, wrote to forty different surgeons in the north-west provinces of India for the purpose of ascertaining "the nature of the operation, amount of division of the prostate, use of tubes, the comparative success of lithotomy and lithotripsy, and the effect of chloroform?" From twenty surgeons he received answers, and these gentlemen, most of them attached to dispensaries, had operated upon 1851 patients, including 91 females. Dr. Courtney had 201 cases in twelve years, Dr. Keernander 28 cases in one year, Mr. Gorgaon 143 cases in six years, Mr. Newton 48 cases in four years, and the cases of the remainder occurred within a short period. Of these 1851 examples 1160 occurred among Mussulmans, and 551 were Hindoos. Taking the population into account, the numbers are about equal; the youngest patient was one and a quarter years; the largest stone weighed 11 oz., the smallest 3 grains, and the largest number of stones was 12; the mortality after operation 1—6·93. Scurvy prevailed to a great extent both among Hindoos and Mussulmans. An interesting statement is made respecting the analysis of a collection of calculi from this district of India; only two kinds were found, bone calculus and earthy phosphates and ammonia (p. 14). *No lithic acid nor triple phosphate calculi were found.*

In another communication in 1868, by Dr. Garden, an analysis is given of 831 cases of urinary calculus (including of females) which occurred at the Saharunpore Dispensary (Calcutta pres.) during a period of eighteen years; the mortality after operation was 1—7·63, two or three per cent. less than the mortality in the United

Kingdom. Of these, 577 were Hindoos and 254 Mussulmans, forming, as in the example already quoted, but a slight difference when the number of the two castes is taken into account. The chief causes assigned by Dr. Garden are exposure, bad grain, bad digestion, and rheumatic complaints. An analysis of 250 calculi examined forms a remarkable contrast with that already quoted :—15 were fusible, 1 triple phosphate, 3 phosphate of lime, 81 uric acid, 55 urate of lime, 23 urate of ammonia, 72 oxalate of lime. Of these, 58 were pure calculus, uric acid 26, fusible 10, oxalate of lime 10, urate of lime 5, urate of ammonia 1, triple phosphate 1.

In the Museum of the College of Surgeons of Edinburgh there are 95 urinary calculi, of which the analysis is given :—Uric acid 29, cystic oxide 2, oxalate of lime 5, phosphates 20, alternating 26, mixed 11, carbonate of lime 2.

Dr. Prout quotes the analysis of 823 calculi examined by Brande, Henry, Marcet, himself, and others ; 294 of these were lithic acid (98 nearly pure, 151 mixed with a little oxalate of lime), 113 oxalate of lime, 3 of cystic oxide, 202 phosphates, 186 alternating.

I have not mentioned the various combinations, as my object is only to show the difference between the general composition of urinary calculi in Europeans ; in those found among some of the natives of India ; and in the lower vertebrates.

As I have said before, calculous disorders are far more frequent in some districts of India than in European countries, but in other parts of our Indian possessions the natives are comparatively exempt. Why is this ? Are the domesticated animals in the districts I have mentioned also more liable to these formations ? These questions will not be solved till many important matters have been more minutely studied, but three important facts are learnt from this investigation. Firstly, that the composition of calculi in the lower animals differs naturally from that of human calculi ; secondly, that urinary calculi are seldom or never met with in the purely animal feeders ; and, thirdly, that sedimentary and gravelly deposit may be produced almost at will in the sheep, by the food named. I venture, in conclusion, to express my belief that hereafter, by careful and well-directed experiments on the lower animals, that much light may be thrown on the origin of calculous disorders in man.

*December 7th, 1869.*

2. *Inflamed and congested condition of the ova and oviduct in the common fowl.*

By E. CRISP, M.D.

SPECIMENS, in wax and in spirits, were exhibited for the purpose of showing that malformed and imperfect ova in the hen arise generally from an inflamed or congested condition of the oviduct. In two examples, where the eggs were small and the earthy matter of the shell deficient, the lining membrane of the oviduct was extremely vascular and of a uniform red colour; in others the oviduct was in a congested state only. In all, the incipient ova were preternaturally vascular.

*December 7th, 1869.*

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3. *Microscopical preparations of artificial tuberculosis consequent on the ingestion of tuberculous material.*

By J. BURDON SANDERSON, M.D.

THE preparations exhibited were obtained from bovine animals in which tuberculosis had been artificially produced by the ingestion of tuberculous material. The material was obtained partly from diseased lungs of cattle, partly from those of patients who had died of phthisis. It was pounded in a mortar, and given to the animals diluted with water. In one case, only one dose was given, in the other experiments either two or four doses were given at intervals of several days. The animals were slaughtered at various periods, varying from thirty-one to eighty-one days after the first feeding. The principal lesions were minute granulations of the mucous membrane of the small intestine, particularly of the ileum, situated either in the submucous tissue or in the villi; similar granulations of the mucous membrane of the trachea and bronchial tubes; subserous granulations of the peritoneum; peribronchial miliary granulations in the lungs, with nodules of grey interstitial induration in their neighbourhood; miliary granulations in the liver.

These lesions, when compared with those of idiopathic tuberculous disease of cattle, showed the closest resemblance with them. The preparations showed that the smallest granulations had their seat, and apparently their origin, in the normal adenoid tissue of the affected parts.

*February 1st, 1870.*

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4. *Calculus from the cloaca of a brown Pelican (Pelicanus fuscus).*

By E. CRISP, M.D.

THE calculus taken from the cloaca of this bird weighs 2 oz. 200 grs. ; it measures  $3\frac{3}{4}$  inches in length, and its largest circumference is 5 inches. It is tolerably smooth on its surface, of a cylindrical form, hard consistence, and of a laminated structure, and appears to be composed chiefly of lime and urate of ammonia, although no analysis has been made. Unfortunately I had not an opportunity of examining the bird, but I ascertained that it was emaciated, and that its death was gradual. I have met with many concretions of a smaller size in the cloaca of birds, especially in the accipitrine and palmipede divisions, but I have never before seen or heard of a calculus of this size in a bird. In my recent communication, at this Society, on calculi in the urinary bladder of quadrupeds, I stated that these calculi were chiefly confined to the vegetable feeders and to the mixed feeders, and that they were rarely found in the bladders of purely carnivorous animals. In birds they are more common in carnivorous and piscivorous feeders. In every instance where these calculi existed I have found the kidneys mottled in appearance, fatty, and enlarged.

*May 3rd, 1870.*

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5. *On fatty degeneration in the lower animals as compared with that in the human species.*

By E. CRISP, M.D.

ALTHOUGH fatty degeneration of muscular fibre is very common in man, I have not up to the present time met with an example in one of the lower animals, and the infrequency of atheromatous and bony deposit in the arteries is also extremely rare, and when it occurs I believe that it is always in animals living in a confined or in a domesticated state. Probably among savages, whose diet is comparatively simple, the same kind of degeneration and deposit is equally rare, both in the muscles and in the arteries. I have placed before the Society specimens of muscular fibre in very fat animals, and I have examined the heart and other parts of the body in many prize animals, but I have never found fatty degeneration; the fat and oil-globules are placed upon the areolar tissue, as shown in the preparations, but there is no displacement of muscular tissue, as in the fatty degeneration in the human species. But without the aid of the microscope we might fairly come to such a conclusion. A fat man is not necessarily an unhealthy man, and may generally, by proper treatment, be reduced to a normal state, and so with prize animals. I believe that they might all be deprived of their fat (indeed, some of them have been) for the purpose of breeding. This involves a curious and practical question as regards fatty degeneration in the human subject, viz., when fat takes the place of muscular fibre, is it ever replaced by muscle? I believe not, although it is difficult and, indeed, almost impossible to obtain reliable evidence upon the subject. Agriculturists have been accused of great cruelty in consequence of the supposed excessive obesity of some of our prize oxen, sheep, and pigs; but I can scarcely imagine a greater amount of animal enjoyment than that experienced by these animals, that are kept in a state of perfect rest. Moreover, the test of an animal's good points and good breeding is better ascertained when in a state of obesity. I have been led to these remarks in consequence of a pamphlet written by Mr. Gant (1858), and circulated extensively among agriculturists and among the general press, 'On the evil Results of Overfeeding, a new Result on the Diseased Prize Cattle.' As I have said before, like Mr. Gant I have examined the

muscular fibre of many prize animals, but I have failed to find fatty degeneration in any. Mr. Gant says, "*the healthy structure is thoroughly degenerated by the substitution of fat for muscle.*" I have found abundance of fat, but no disease, and I believe that nearly all these animals might be restored to a normal condition, but it is questionable whether, in man or in the lower animals, muscular fibre, when once replaced by fat, is ever restored? I leave this question for the consideration of the members of the Society. I scarcely need remark that, in all my communications on diseases of the lower animals, my object is to endeavour to throw some light on the etiology of disease in man.

May 3rd, 1870.

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6. *The liver of a turkey affected with a growth which to external appearance resembled encephaloid cancer.*

By T. WHIPHAM, M.B.

THE specimen exhibited was that of a turkey's liver, enormously increased in size, and studded throughout with whitish masses of irregular shape and variable sizes, and which to the naked eye resembled encephaloid cancer, as seen in the human subject. The liver was brought up from the country by Mr. Rowland, the present house-surgeon at St. George's Hospital, in order that the growth might be submitted to microscopic examination. The history of the case is brief. It was noticed about a year previous to its death that the bird separated itself from its fellows, that it subsequently lost appetite, and became gradually thinner. It finally died, much emaciated.

*Microscopic appearances.*—The growth consists of a delicate fibrous network, of which the small interspaces vary both in size and shape. Entangled among the meshes of this stroma are numberless minute glistening bodies, of round shape, and bearing a strong resemblance to free nuclei; they appear to avoid, as it were, the interspaces, which are thus left empty. It may be that they have been washed away during the preparation of the specimen; but even supposing this to have happened in the majority of the cases, it seems hardly probable that every interspace should be perfectly empty, in spite of

the great care taken in the mounting of each section. The great tenuity of the fibres of this reticulated stroma, and the small size of the interspaces, distinguishes this growth from cancer as seen in the human subject. The vessels are small and few in number, but when seen the walls are evidently thickened from excess of fibrous tissue, and this tissue in their neighbourhood appears to have made their walls its starting-point ; but, on the other hand, the vessels are so small and so few in number, while the fibrous tissue of the growth is so excessive, that it seems improbable that it originated solely in the walls of the blood-vessels. Here and there were small collections of hepatic cells, and running between them bands of fibrous tissue, which pressed upon and contracted the outermost cells in the group. Even in such places, where the disease might be supposed to be in an earlier stage, no cells peculiar to the growth itself could be distinguished.

*May 3rd, 1870.*



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