Anthrax

Cultivations. Wednes. 15

No I Blood of Expt. I in serum of rep.
Kept at 35° C. until 24 hours all rods had elongated to filaments, which contained many spores. Kept in warm stage for 36 hours. Then set aside Thursday 22. Numerous small spores still to be seen most of them free some still in the filaments.

2.4.10/79.
No IV. Blood of Expt XII from spleen in sterile serum at 11.30.

24/10/75

No V. Blood fr. heart of Exp XII in aq. hum. at 10.30. at heat. 85°C. until 10 P.m. Began again at 9.45 am. By 5 P.m ~~Saturday~~ Friday filaments have elongated to double their length. Saturday at noon. entire field made up of dense

~~No VI. Blood of spleen in ~~serum~~ aq. hum. no heat.~~

mycelium of fibres the maj. of which are clear translucent tubes. at some pts of the slide the spore like bodies are already to be seen. (Fig 1). at 5 P.m. many more of the filaments contain spores. & there are fragments cont. spores. wh. look very like as if they were developing spores but are only I think bits wh. have broken off. (2) The bits with finely granular pieces in centre (3) are also fragments of the hyphae. Kept in hot stage until 1 a.m of Sunday. Then cold until Monday. 10 am. When condition was as follows. Abundant pt. cont. spores. In many places pt. have broken up & sp. are free; in others pt. indistinct & spores have a linear arrangement. at (4) are drawn the appearance of certain free sp. like bodies - as if in course of subdivision at (5). gen. appearance of small pieces of field at 10.15 am Monday.

Expt XIV.

Bacilli vary much in size, not very numerous. Legs No 9. tube ont E.p. Mic: 5 divns. 4, 10, 8, 10,

Expt. XV. Cat after feeding. Innumerable Bacilli in Spleen, not so many in blood. Measurements of forms in Spleen. Tube ont. & E.p. Mic - 10, 10, 3. 30, 12, 10, 3-

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Horses. Blood. Expt. - Tuesday -

Some cummins. working ont. to exp. with large granular bodies in them

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Aqueous. hum. inoculated with spores of Culture V 27 Ht. room. Heat kept up to 12 Pm. started gram at 9. am. 28 H- some filamentous forms grown ont. but difficult to say what form. The spores do not appear so abundant. The filaments which have developed look thicker & in some at 10.40 am. small spores undeveloping in them. Kept up heat all day and evening there are a no of cummins working arrangement of small bacteria. They form elongated columns.

all adjacent together loosely, as in figure. The filaments of the bacillus have disappeared, and their work as of thing had developed in that place.

The contrast-part of stock is made up of fine moving granular bodies, while the periph. is empty from the perspection of small bacteria, which can be seen wriggling about & often dodge themselves. The whole specimen is occupied with these bodies.

In the virgin cultivation, ink this specimen was inoculated there are none of these, the spores are quite distinct

(3) Second a fresh drop of aqueous humour at 11.45: 29th with material from preceding. It contains many free spores, fragments containing spores, and here & there a translucent, fresh looking filament.

22/2/80

4.50 PM

Capt T · Inoculated Serum from eye of rabbit with bit of mycelial endocarditis.

23rd. 3. P.M. Has been in the warm stage since last date with exception of about 2 hours.

Now field swarms with small spherical bacteria: micrococci in places & particularly at edges of the little bit of tissue there is also seen a distinct mycelium, very fine & delicate

No II. Rabbit inside with bit from endocarditis

No IV. Incubated 23/2/80/4.30 P.M. again

When absorbents discovered, all absorption thought to be carried on by them. Magendie's experiments, &c. series. after ligation of thor. duct poisoning took place if a solution of poison was introduced into the peritoneal cavity the stomach or intestines. Next exp. abdomen opened, loop of intestine drawn out a portion isolated by ligatures & cut thro just beyond them. All the lymphatics were cut through & all the arteries & veins in the mesentery except one pair tied & divided. Bowel had no no connection with general system save thro the single artery and vein. Upas then introduced & full effect. Other experiments to show absorption by veins other than intestinal. In the leg of an animal all the tissues were severed but the artery and vein, & poison had the same effect. In another case a quill was introduced into each vessel, tied & the vessels divided so that no communication but thro the quill. Process goes on according to laws of diffusion. We have on one hand aliment. matters in a more or less liquid state the density of which is much less than that of the blood, and on the other hand there is the blood of high sp. grav. & temp. & in rapid motion, while between the two are numerous delicate permeable membranes forming the capillary walls. No condition could be more favourable. Superficial set of capillaries in stomach & intes. chief agents. sufficient on reflex. that the blood in them must be in a most favourable. In stomach & in [illegible] interstitial set. What are the chief substances absorbed by the veins? soluble matters of every description are taken up, provided they are diffusible & in a crystalloid condition. Glycose & albumen can be detected in the veins. albumen is converted by digestion from a colloid into a crystalloid. Veins absorb most of the water, the greater part of the sugar & saline extractive matters, all the alcohol, the greater part of the albumen. The lacteals absorb nearly all the fatty matters, the remainder of the water & a small proportion of the saccharine, saline & albuminous matters, and it is stated that fats may also find their way into the venous system and it is stated that some of the superficial capillaries present quite an opalescent whiteness by the quantity of fat contained.

Secretion, what understand by it. A process in an organized body whereby certain mat. are separated from the blood in a fluid state, either to serve some special purpose or to be thrown out of the body. The secretions, &c. Examples. Substances out of which the secretions are formed do not present ... require the agency of special cells. Solid matters also bear a certain similarity to the constituents of the blood or may be only modifications. Even in the more special organized parts of the secretion, as the pepsin, are but a step removed from albumen. In serous & synovial the fluids are composed of the constituents of the blood altered perhaps quantitatively. In general, special ... not ...

and are quite different. Most of them have a very simple atomic constitut.. are unorganizable, with strong tend. to crystallize, are helpful in form of acids & bases, uric & lactic acid, urates & phosphates If they are not sep fr. bl. but allowed to accumulate. Sometimes been produced thr another organ, a sense of uric acid pr by skin. This may seem in a true secretion. because secretes. best instance skin & kidneys In disease when one organ performs function of another call Metastasis what are the for secret ment. In ser. & skin. Serous membranes Arach. pleura. periton, pericard, & T vag. testis & as a rule the tissues el membran, usually spoken of a shut sacs with except of perit. but con- and reg. as dilat of lymphatic system. Does a sac exist in all cases? none in ar. & pleura, in others a cavity space & its. Visc at sp. anal.. layers. contain a little fluid. Structure Epith. in matrix, ... & nerv epith. cells squamous. polyhedral, nuclei often placed excentrically, may ... Matrix comp of fibrous and elastic tissue, wavy fibres mostly in small bundles. In some places as diaph. more tendinous. Blood vessels cap. form a wide meshed plexus. a rich system of lymphat vessels & nerv in two sets or layers. Uses guard against frict. & afford a smooth soft surface for the movements of organs. Fluid only enough water to lubricate the surfaces. much of that found after death has transuded. All are much alike & the ... of ... sp. gr. 1012–1020. alkal. visid. little chlorid phosph. are enumerated & one of the fibrin form factor. Quantity pericard ʒii. peritoneum ʒii–iv pleura ʒiii–vi

Synovial membranes. resemble serous surface in general appear. but are a visc. gelat. fluid clear like white of egg. Fat part of ment. & dense & form contains only a few elastic fib. cor vessels. an epithelial layer exist on inner surface. & discuss whether it really exists or not; does in young not in old. Folds of the synov. memb. cont. fat exist in most join. & in almost all fringes vascular processes are met with. Synovia. ch. & ph. diff. from serous. More viscid & contains more solids. albumin gelatinous & very visid. faintly alkaline viscid due to an organic principle synovin which can be separated

Mucous Membranes. (1) Digestive tract mouth fauces phar. esoph. ... (2) Respiratory. nose sinuses, nasal duct to conj. eustach. tube & ... with part of pharynx. larynx ... 3rd Genito-urinary. com. with serous membr. at end of Fallop. tube in the female. another division, nature of epithelium. (1) squamous. mouth lower part of pharynx

oesophagus conjunctiva. female urethra & vagina. 2nd Cylindr. alimentary canal below the cardia. excretory ducts of all glands, upper part of pharynx and nasal passages, uterus & fallopian tubes. the whole respiratory tract. Many more varieties in the ... resp. but ciliated cuneiform. Epith. basem. & bloodves. Surface more or less in many cases vascular papillae. In surf generally smooth, except small intestine. with conn. & villi. Glands are many simple follic. or racem. In many of bladder. epith. Mucus is viscid. variable in diff. localities some quite liquid in others semisolid. alkali. grey. or white, cloudy turbid look. of admix. of cell elements. These are the desquam. epith. cells & often can design the ... as nasal & vaginal. contains a peculiar body Mucin dis. chlorides. Calc. phosp. & carb. Use protects the ment. & but of ... function may have a part in preventing the absorption of certain matter. Secreting glands. many forms of the ... ment. ... modified. 3 var. (1) simple tubular, peptic gl. foll. of Lieb. simple invol. of m. ment., may be more saccul. as in mucous follicles. Sweat glands also. A connecting link between these & in the last with little prospect or coiled in ... a membrane gl. of ... . II Aggregate or Racemose. a multiple of small vesicles or acini are arranged in groups or lobules opening into a common duct. They are arranged round the com. branch of the duct into which they open both laterally & term. & it m. be said that the branches of the duct are distended into clusters of rounded ... Made up of a ... ... membrane. In this class, some m. gland ... ... sal. lachry. & mamm. those of Brun. & Cowper & the prostate III tubular as kidney where in these the tubules ... & ... into branches, & coiled ... then end in free ... or in capsules. A basement membr. ... ... of ... & ... show that the liver also belongs to this ser.

Process of secretion. cells the active agents. a peculiar form of epithelium exist & thus constitute the only peculiar histol. element in it. It has been shown that the ... in the cells.. cells of the test. and spermatozoa. cells of liver bile & glycogen mostly. & those of the kidney, urea, destined of cellular element also ... & ... & same known in disease a distinct to be made bet. secretn of true glands & that from membranes. Some ... as to the form of the secretion & that it is accomp. in & by the ... ... all ... they given ... & for the sec. & the ... but we possess no ... The view that the cells take up the material

secrete some codyl change & [illegible] then without undergoing any
change the same quite as probable. Glands vary at diff times
~~in [illegible]~~ & many only active at intervals. Pupils either dilat[ed]
[illegible] – [illegible]. [illegible] pale. & gland in repose blood [illegible] & dark
[illegible] v. blood. but during secretion flow much more rapid
quantity increased, & a bright [illegible]. The CO_2 [illegible] so small
[illegible] & [illegible]. It found that the blood in passing the salivary
gland [illegible] with the [illegible] Escape of water and salts supposed
due to a transudat[ion] [illegible] under the greatly increased pressure &
Ludwig has shown that secr[etion] will continue when press[ure] in [illegible] gland
is greater than in the artery, shows that secr[etion] is not a mere filtrat[ion]
& also continue after the arrest of circulation. The [illegible] a large chief ag[ent]
in [illegible] the [illegible] of secr[etion] [illegible], and a [illegible] of [illegible] growth, occur
either rhythmic or [illegible]. In some glands [illegible] secr[etion] [illegible] are [illegible]
as from in others, [illegible] for a long time. At other as lach[rymal]
and salivary the disch[arge] is continu[ous] but at times much [illegible]
Influences. Quantity of blood, quality & nervous agencies.
With an incr[eased] demand for a certain [illegible] an incr[eased] supply [illegible] to
the gland, The supply of ^(raw) quality [illegible] more [illegible] an excess of
any ingred[ient] in the blood [illegible]. [illegible] due to an
incr[ease] of [illegible] in supply of blood, consequent on dilat[ion] or contract[ion]
of small arteries. Thro agency of sympathetic filament. Mental
emotions. Sight or thought of food, Fear will cause a diarrhoea
[illegible] [illegible] is specially affected

When absorbents discovered, all absorption thought to be carried on by
them. Magendies experiments. 1st series. after ligation of thor[acic] duct poisoning
took place if a solution of [illegible] was introduced into the peritoneal cavity
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a portion isolated by ligatures & cut thus just beyond them. All the lymphatics were
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and vein. Upas then introduced & full effect. Other experim[ents] to show absorp[tion]
of veins other than intestinal. In the leg of an animal all the tissues were severed
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quill was introduced into each vessel, [illegible] & the vessels divided so that no
communicat[ion] but thro the quill. Process goes on according to laws of diff[usion]
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the density of which is much less than that of the blood, and on the other hand
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two are [illegible] [illegible] permeable membranes forming the capillary
walls. no condition could be more favourable. Superficial set of capillaries
in stomach & intes[tines] chief agents. [illegible] on reflex, that the blood in them
must be in a most favourable, [illegible] stomach [illegible] [illegible] in [illegible] [illegible]
[illegible] are the chief substances absorbed by the veins? soluble matters of every
[illegible] [illegible] provided they are diffus[ible] & in a crystalloid condit[ion]
description are taken up, provided they are diffus[ible] & in a crystalloid condit[ion]
Glycerine & other can [illegible] in the veins, albumen is converted by
[illegible] from a colloid into a crystalloid. Veins absorb most of the water
[illegible] from a colloid into a crystalloid, all the alcohol, the greater part of
the saccharine & soluble [illegible] matters, all the alcohol, the greater part of
the albumen. The lacteals absorb nearly all the fatty matters, the remain[der]
[illegible] of the water & a small proportion of the saccharine, saline & albumin[ous]
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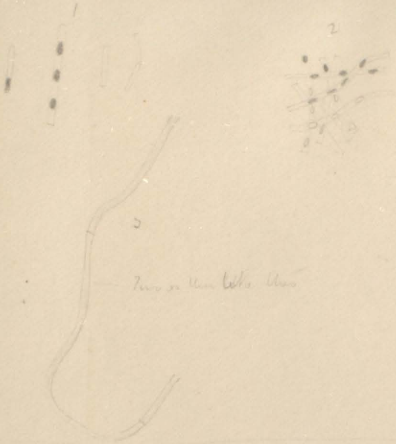
Blood from cattle dead of Peculiar Disease from Ralston N.S. July 25/8



(1) Inoculated serum with blood at 11 am & kept in warm stage until 4 pm - numerous Bacteria-like bodies & filaments with short points - not like the anthrax bacillus. Filaments with spores remain unchanged - no development in them

27th. 4 am

Inoculated serum with blood & kept in warm stage.
When put on - element in are.
(1) groups of filaments with spores as at fig 2 above (2) small bits scattered in the field like as at fig 1 (3) small highly refractile bodies like small spores and some groups of small micrococci like organisms and small bacteria

... many blood corpuscles, with their numerous nucleated red.

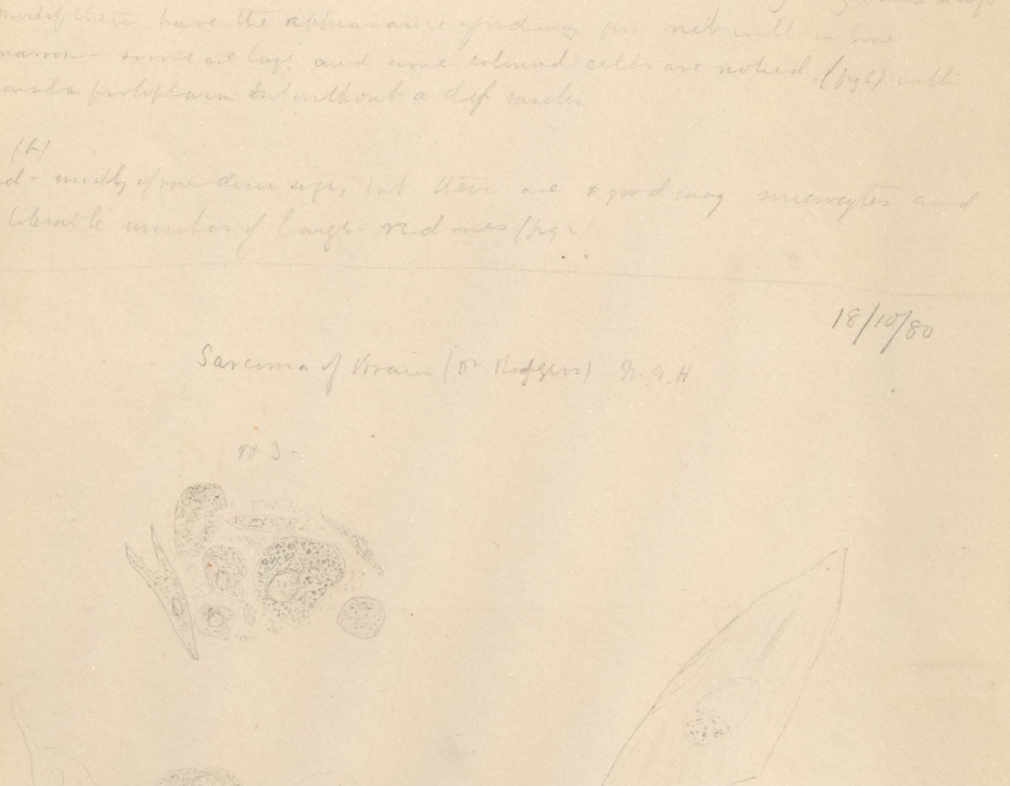
1 – 6 nucleated red corp – they are abundant, vary very much in size most of them have the appearance of ordinary [illegible] nuclei [illegible] in bone marrow – some are large and some coloured cells are noticed, (fig 6) with granular protoplasm but without a def nuclei

(b)
Red – mostly of ordinary size, but there are a good many microcytes and a tolerable number of large red ones (fig 2)

18/10/80

Sarcoma of Brain (Dr Rodgers) M.G.H

Fig 3 –



When teazed a small vegetation appears made up of little spherules measuring about 1 – 1 1/2 div of 9 & OC 2 (with tube out)

They are disk-shaped, on side have a rod-like appearance. Most of them show the flattened side. They have a clumsy grannular glassy aspect. Some are clear, several present a darker mass or the darker aspect ranges over 1/4 – 1/2 the disk. Many are tailed with small narrow projection, others are kite shaped. Some had 3 small processes.

Movement gliding but turn about rod from side to side, rounded end first.
Turned a corpuscle over

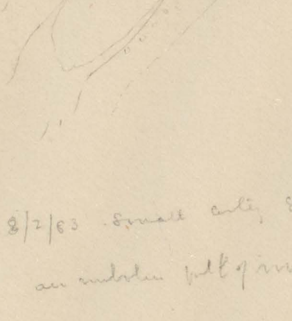
Same
frog's mouth
body like a narrow worm, constantly in a state of undulatory tremor
not like a Bacillus
curved very slightly from the flex
Is as long as a red corpuscle

Ulcerative Endocarditis. Dr P. case 6/5/81

Large capsule-like mass at edge of a section, measures 30 X 25 div. (No 9 + Eyep. M. tube out)

another one measures 36 X 25 and is very dark with well defined margins & a rounded ball-like structure imbedded in the tissue

One which is free has no definite boundary wall, the micc/granules free the outer limit except at one side where it appears bounded by a portion of the tissue



8/2/83 Small cavity [illegible] embolic [illegible] in intestine filled with an embolic [illegible]

From scraping of large carcinoma.

In large seen fr humerus nucleated red bl. numerous – not nearly as ab. as in V. azzys. In marrow – of humerus – numbers seen – not more than would judge those in the spleen

II

15/12/81

Child at term. female. good ?

Very few (none intact –) corp. holding red-? corp. – a considerable number of single ordinary cells with one red corp inside

 many – fr. ? in V. azzys – a great many

 very pale one

 – red corp inside a granular cell

 red corp in an ord. spleen cell

very large ? … cells like … in marrow …

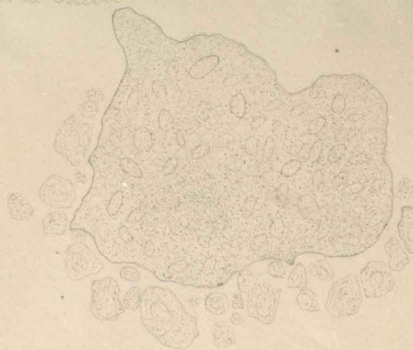
In 20 fields … not so numerous … 3 or 4 … affected by the …

 prob. ? … & nucleus dividing into 4

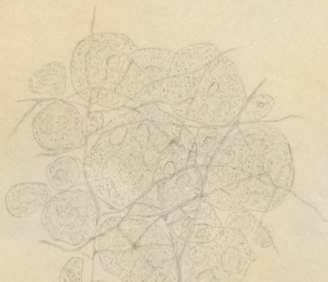
Case - 903

Small tubercles size of (000) [illegible] up — [illegible] apex of lung —

Peculiar series of cells as figured below extending over 4-5 fields to no 9 — with remarkable highly refractile bodies in them



Giant cell. 45 x 35 (9.1 . very finely granular, innumerable oval nuclei, some very distinct, others indistinct. Surrounding it are numerous small tubercle cells of various sizes, both nucleated & non nucleated



5/12/79

3

Epithelioma of skin. Dr Roddick
no 4 + camera.

Tumour of skin of- 2 x 2 ctm. elevation of 1 ctm. Surface reddish & irregular - not much fissured.
Surface - made up of - 50 cells - flattened epith. scales and papillary outgrowths - containing capillaries.
Deeper parts, contain nests of cells - tol. numerous. many prickle cells - papillary outgrowth -

A Smear from rat 24/7/79

cells with vacuoles + rshd cell nuclei
protop of body homog. from gram

N.R. Gram med. hom. pnk coloured flesh

cell body not col. but homog. nuclei larger
in proport

clear homog. body protopl

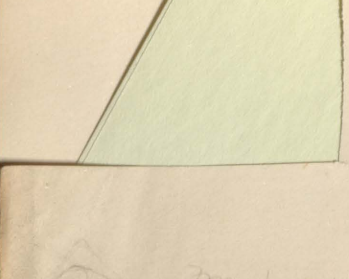
cells with homog nuclei small rim of
body protopl, which is not granular

1
2
3

Three cells close together each with
granular nuclei + homog. body protoplasm
1 + 2 not coloured 3 darkly coloured

rshd nuclei
red corpuscle

A vast many of these
cells do appear to have
a soft protop. In the
field can be seen rshd looking high
up cut bodies very like their nuclei



from lymph gland. 20 X 12, thick cell wall vacuole-like space interior

Tumour of base of skull. Lt from beneath the orbital plate.

No 9 & 2 Eyep. ¼ in [illegible] mean 4, 5; the smaller & most abundant varieties. Some of the larger ones measure 6 & 7 divisions

The great proportion of the cells are rounded, nuclei either indistinct or else large & irregular

There is a great deal of granular debris

Blood from spleen -. Microcytes with pale spheres adherent &c.


oval clear body with two solid-looking bodies - little coloured?

Microcyte adherent to col. sphere

[illegible] 8 X 6. Almost coloured. contains two coloured corpuscles
[illegible] d between these a small vacuole like space - not granu[lar]

[illegible] fine.

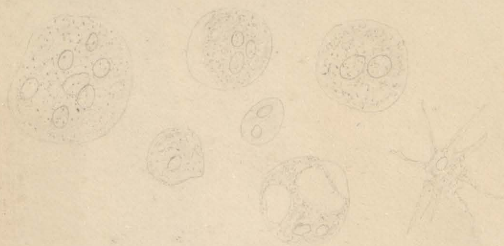
[illegible] bodies one solid looking other
[illegible] smaller more [illegible]
[illegible] granules [illegible]


From lymph gland. 20 X 12. Three cells in vacuole-like space in interior

7/11/79 (1)

Ovarian Tumour. Dr Howards.. Dermoid.. & serous

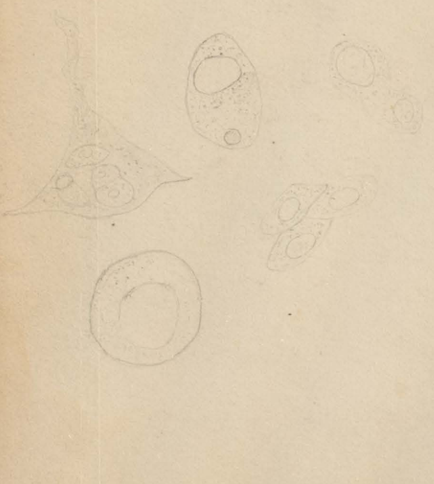
In some of the smaller cyst the fluid is mucous colloid coag on heating & is a little streaky from presence of formed elements.
They consist of (1) numerous cylindrical cells, singly and in layers – (2) of numerous large round cells of various sizes some very large with numerous nuclei. They occur in groups



They are finely & coarsely granular, some appear to have vacuoles. a few with long irregular processes.

5/12/79

Scrapings of interior of uterus. from Dr Trenholme.
about 3ii of shreddy soft fleshy-looking material, mixed with blood. Some firmer flakes. tissue of which is indistinct, fibrillar.
In softer parts numerous cells, large with bold vesicular nuclei mostly round a few irregular in shape. no definite arrangement



No 9[illegible]