



From "THE PRACTITIONER" for August, 1899.

INFLUENZA OF A GASTRIC TYPE.
ITS HISTORY, SYMPTOMS, DIAGNOSIS, AND TREATMENT.

BY ROBERT J. COLENZO, M.A., M.B. Oxon.

From "THE PRACTITIONER" for August, 1899.

INFLUENZA OF A GASTRIC TYPE.

ITS HISTORY, SYMPTOMS, DIAGNOSIS, AND TREATMENT.

BY ROBERT J. COLENZO, M.A., M.B. Oxon.



INFLUENZA OF A GASTRIC TYPE.*

ITS HISTORY, SYMPTOMS, DIAGNOSIS, AND TREATMENT.

BY ROBERT J. COLENZO, M.A., M.B. OXON.

DURING the past three months there has been a fresh outburst of a disease known to Hippocrates¹ † B.C. 460, and named variously in its successive visitations since 1173 A.D. as, the "Mure," (? Murrain); 1414, "le Mal du Tac"²; 1427, "la Coqueluche," a name afterwards applied to pertussis; "la Dando"² (? Dandy or Dengue Fever); 1658, "Catarrhal Feaver"⁴; "Tussis Epidemica"⁵; "the Epidemie Distemper"⁶; "la Follette"²; "la Loquette"²; and by many other names.³⁶ Of this disease there were eleven severe epidemics between 1693 and 1790, six during the present century up till 1874, and then the last series beginning in 1889, which, breaking out at the end of May at Bokhara in Central Asia,⁷ ²¹ and rapidly spreading through the Continent westward viâ Russia, revisited us again after a lapse of forty-one years under the name of "le Catarrhe Chinois," "la Grippe," and "Epidemic Influenza."⁷ The last of these names is probably the one which will endure, although the word "Influenza" originally applied to it and merely signifying an "influence" or intangible miasm, has, through misuse, come to be suggestive of an ordinary head-cold or "eatarrh," whereas eatarrhal symptoms are often absent in epidemic influenza. But protean as its name has been,²² no less protean has been the diversity of faeies under which it has had to be grappled with, overlying a uniformity of general type. Its main features have always been a marvellous rapidity, wideness of spread, and universality of incidence; such as that by which in 1847 over 100 Christ's Hospital boys were attacked in one, and 350 in three weeks,⁸ and whole ship's companies and regiments of soldiers were laid low. Previously also we have the same record in 1782 in the following collated⁹ notes of local medical men. "Hardly one escaped, young or old."¹⁰ "Scaree one adult in a hundred under fifty years escaped."¹¹ "It was so universal that it may rather be said to have ceased for want of subjects, than to

* "A Thesis for the Degree of M.D. in the University of Oxford."

† See REFERENCES at end of article.

have lost the power of exerting its deleterious effects."¹² "It prevailed almost universally among the inhabitants of this town, very few families were totally free from it¹³; and so also many others."¹⁴ Again, more lately, within a fortnight of its appearance in St. Petersburg in the middle of May, 1889, one half of the entire population was attacked, and so widespread has been this plague, that no place on the earth has been exempt save only such as are by nature cut off from the human intercourse by which alone its germs^{15 31} is disseminated, whilst, as an instance of its rapidity of spread, may be cited the fact that, starting from Tomsk in Siberia early in November, 1889, within a fortnight it had extended 3,000 miles to the west and 1,500 southward.¹⁶ Other features of this disease are the great antecedent mental depression¹⁷ and physical debility subsequent to an attack, and, finally, the considerable rise in the death rate during an epidemic, the mortality directly credited to it, primarily or secondarily, amounting to 54 per 1,000 in 1891 in London.⁷ As has apparently been the case in the less fully diagnosed and reported cases before the present decade, these last outbreaks of the disease have also inclined to some one of the three main types¹⁸ which are to be found co-existent during its prevalence, but of which one seems usually to become predominant in any given epidemic, viz. the nervous,^{1 8 17} catarrhal,^{2 17} and gastric¹⁷ types. Of these the former, *i.e.* a cerebrospinal type, was prevalent in 1889,^{19 30} its symptoms being some of the following, *i.e.* vertigo; insomnia; cephalgia; delirium; syncope; meningitis, cerebral and spinal; acute hæmorrhagic encephalitis; trigeminal, intercostal, and ischiatic neuralgia; herpes and urticaria;²³ and, on or after convalescence, multiple neuritis; Landry's paralysis; ataxia; chorea⁹; cardiac weakness⁹ in all cases; and the psychoses of depression, neurasthenia, hysteria, and melancholia.²⁰ A cutaneous eruption, also seen in 1847,⁸ was a common feature of this outbreak.⁷ In about six per cent. of the cases, or more,²⁴ this was a simple erythema of an evanescent nature, first appearing on the extensor surface of the arms, forearms and legs, or, in twenty per cent.,²⁴ a papular rash, also beginning upon the limbs but often spreading over the entire skin, of an intensity of tint

varying from a pale rose to a dark purple, in appearance often closely resembling the eruptions of scarlatina,^{23 24 25} morbilli,²³ and epidemic roseola, and followed by more or less desquamation. This rash appeared on the first day, and has occasionally been mentioned previously to the present decade,⁶ but was uncommon, although the neuroses of herpes labialis and zoster, and urticaria, which have also been common lately,^{23 24} are often cited.

On the reappearance in 1891 and 1892 of influenza, this rash²³ was less common, but catarrhal respiratory troubles of a sometimes severe type were prevalent, and considerably raised the death rate amongst the aged. Such were laryngitis, bronchitis, capillary bronchitis, an insidious and lingering form of pneumonia, resembling the lobular pneumonia of infants, and also pleuritis and pericarditis. The sputum in such cases was rarely abundant or rusty coloured, but usually devoid of air bubbles, transparent, viscid and scanty, resembling that of pertussis, and teemed with the specific bacillus of Pfeiffer.¹⁵

The question as to whether gastro-enteric irritation occurring during influenza epidemics be due to this same bacillus is still *sub judice*,²⁶ but in the present outbreak, which began in December last, gastro-enteric symptoms, previously noted,²⁷ have been so constant and predominant, and in some cases so severe, as to appear to me to be worthy of a special mention.

Soon after the invasion of the disease, which commences without prodromata in the ordinary lightning-like manner ("Blitz Katarrh"), symptoms of irritation of the alimentary mucous membrane exceed those of the respiratory. This irritation commences as an injection and œdema of the fauces and pharynx, with pain on deglutition and on pressure behind the angle of the jaw. Shortly after this onset, which is accompanied with malaise, and sometimes with coryza, the irritation extends downward along the trachœa and œsophagus, but, excepting in such as are predisposed to bronchorrhœa, or chronic bronchitis, seems to result in the former case in only a slight bronchial catarrh, with scanty and viscid expectoration, accompanied sometimes with dyspnoea and pain over the manubrium sterni. On the other hand, concomitantly with rigors, a rapid rise of temperature to 103° F., or higher, a great increase in the frequency (120-140), and decrease in the volume and tension of the pulse.

the gastro-enteric inflammation increases. This is evident from the uniformly coated tongue²⁸; the anorexia increasing to nausea and vomiting; a frequent slight dry cough; frontal headache and pain in the scrobiculus, the bowels being usually at first constipated. Such symptoms begin on the second day of the disease, and with them is often found pain in the left hypochondrium²⁹ and enlargement of the splenic and hepatic areas of dulness to percussion. Also at this period there is considerable muscular tremor, mental hebetude, and insomnia, and on this or the following day symptoms of invasion of the bile ducts shows itself by icterus⁸ with bile-stained urine. The temperature remains high with slight oscillations; the pulse becomes quicker, less regular, smaller and of lower tension; nausea and retching continue, and the thick white and slimy coating of the tongue becomes drier and darker, not seldom of a dark brown or even glazed from a denudation of epithelium. Tormina occur, and constipation yields to more or less diarrhœa, the stools being foetid, and in appearance a coffee-coloured liquid with powdery mustard-yellow sediment. In fact, at this stage, the disease has a close though not a lasting resemblance to enteric fever, and more rarely to acute dysentery, or even to cholera³². But in this gastric form of influenza there is little or no delirium or coma; tympanites is rarely seen except in children; there is no pain on pressure localised in the ileo-cæcal fossa; the temperature does not continue to rise after the fourth day, nor exhibit the regular diurnal rise and fall characteristic of typhoid, but attains its maximum within a day or two, with slight and irregular remissions, and there is an absence of the "facies hippocratica." By the fifth day the temperature has already begun to fall, and, as a rule, in a day or two falls rapidly and continuously to a degree or two below normal. With this fall the pulse also decreases in frequency, sometimes becoming abnormally slow, irregular and weak. The cephalalgia also departs with the pyrexia, but there is often left in its place for a week or more a great oppression and weight, or a feeling of vacuity in the head, a symptom with which persist both the anorexia and coating on the tongue. The latter cleans but slowly, and from the tip and edges, its dorsum and base continuing furred for two weeks or longer, and with the want of desire for food is linked a difficulty in its digestion, shown by irregularity in the

action, flatulence, and tormina of the bowels. During this last epidemic of influenza, the rash, frequent in that of 1891-92, and almost constant in the previous one, has not been seen by me, the only eruptions noted being herpes labialis, herpes zoster, eczema, and urticaria. But, as usual, it has been followed by mental hebetude and depression in many, and great muscular debility in all cases, recovery from which is slow, leaving the subject open to attack from other diseases, particularly to those of predisposition. Its sequelæ are therefore numerous, the commonest being in the gastro-enteric type, atonic dyspepsia, and a slight dry cough, due probably to peripheral irritation of the gastric vagus, since it disappears with a restoration of the gastric function. The diagnosis of gastric influenza, of which a tabulated form is subjoined, is chiefly, in this country, from the exanthemata and from enteric fever, but also, and especially in tropical or subtropical countries, from dengue, and the severer forms of malarial fevers, as I have experienced. Its chief differences have been already pointed out, but it can often only be diagnosed with certitude from typhoid by watching for a few days its course. The lightning-like onset of influenza with few, if any, prodromata, and sudden rise of temperature to its maximum of 103° or 104° F. within the first two or three days, and its continuous and speedy fall to below normal, are its most characteristic symptoms; vomiting also is far less common than at the onset of typhoid; there is often general abdominal tenderness, and tormina are present, but not localised in the ileo-cæcal region, nor are seen the erythematous or papular eruptions of preceding epidemics, rashes which spread from the limbs to the trunk, and are profuse, whereas the rose spots of typhoid are rarely numerous, nor found on the limbs. The tongue is at first uniformly covered with a moist white fur, sometimes, as in typhoid, becoming dry and glazed, but not transversely fissured, nor is there delirium as in that disease, but there are found the additional symptoms of sore throat, thirst, and, in catarrhal cases chiefly, of dyspnœa. Finally, if the diagnosis be still uncertain, a bacteriological investigation, of the sputum in the one case, may discover the bacillus of Pfeiffer,¹⁵ and that of the dejecta in the other, the bacillus of Eberth, the identity of which may be further confirmed by its reaction to Widal's serum test.³³

Typhus is another disease bearing a strong resemblance to the severer forms of gastric influenza, but its onset is less sudden, the pulse is quicker (120-140), the (max.) temperature higher (104-107°), and on a later day (5); the headache is less; characteristic abdominal symptoms are absent; the tongue is drier and darker, and sordes are present; sore throat is absent; there is great thirst; the insomnia changes into typhomania; coma is common in the second week; there is a peculiar rash of dusky red papules on a mottled surface on the fourth day, and a "erisis" on the fourteenth.

"Dengue," a disease of tropical and semitropical climates, has a strong likeness to influenza, but least to that of the gastric type. Its invasion is even more sudden; prostration greater, the pulse quicker (120-140), and temperature higher (103-104° F.). But there is no sore throat; the headache is less; the abdominal symptoms are wanting; the tongue cleaner; the eruption is on the fifth day; the joints and testes are painful and swell: and recovery is quicker, in the absence of the relapses which are common to this disease. As in remittent fever, there is a sense of discomfort at the epigastrium, and looseness of the bowels is rare.

In remittent fever the onset is gradual, and invasion by hot and cold paroxysms characteristic of malarial poisoning. The headache is less, and is general; vomiting is usual on the third or fourth days, and severe in the hot stage, occasionally amounting to hæmatemesis⁸; there is usually enlargement and pain of the spleen; the temperature is higher (105-106° F.); there is never any eruption, but icterus is common; thirst is great: diarrhœa rare; the patient is drowsy, or suffers from delirium: there is sometimes coma; the paroxysms occur twice or oftener daily; and a "erisis" occurs, followed by convalescence, and a recurrence in the future as in the past, at an indefinite time, of the same train of symptoms. In conclusion, if, during the paroxysms or rigors, blood from the patient be subjected to a microscopical examination, the discovery of the hæmatozoon of Laveran, or "*plasmodium malariae*"³⁵ may establish beyond a doubt the diagnosis of malarial fever.

In relapsing fever vomiting is common; tympanites and tormina are absent; both the spleen and liver are tender and enlarged; the temperature is higher (104-8° F.) and on a later day (1-5): sore throat is absent: thirst is great; diarrhœa rare

except at the "crisis"; delirium and coma are not uncommon; and a crisis takes place on the seventh day, followed in two weeks by a relapse, or recurrence of all the symptoms.

From this it will be seen that relapsing fever is, after dengue, closest in its resemblance to epidemic influenza, and that its main distinguishing symptoms are, a slower but higher rise of temperature, a crisis on the seventh day, and recurrence within a fortnight.

The main indications in the treatment of influenza are: (1) to economise vitality during its course by absolute rest in a horizontal position in bed, and exhibition of alcohol; and (2) to support it by judicious administration of easily absorbed nourishment. This treatment is necessary even in persons of robust constitution and of sound hearts, for there is much loss of vitality due to an attack, the temperature falling considerably (96° F.) and often remaining for weeks below normal, whilst the pulse also falls in tension, and in rate sometimes as low as forty beats per minute, conditions under which syncope is not uncommon on resuming an erect position.

The use of alcohol and of strychnine is therefore necessary, and the food should be liquid, transfusible, and also in severe cases predigested; a mixture of equal parts of boiled cow's milk and soda water, with the addition of sufficient alcohol, administered often, being the least irritating, most sustaining, and therefore the best possible diet, especially for the first week in gastro-enteric cases, where the production of proteolytic and amylolytic ferments must be considerably disorganised; animal extracts should not be administered until the tongue is fairly clean and the temperature has fallen to normal.

With regard to drugs, quinine in a crude form has of old been a favourite in this disease,³⁴ and, during the febrile stage, in conjunction with salicylic acid, given often in small (G 1) doses, I have found it useful in lessening heat production and tissue change, and in relieving headache and neuralgia, and especially useful for the subjects of malaria, rheumatism, and gout. After the first week there may be substituted for this a mixture of tincture of bark, nitrohydrochloric acid, tincture of rhubarb, and strychnine; and finally, when the appetite is established, the administration during some weeks of arsenic, or of the compound syrup of the phosphites, for debility, always lingering, and sometimes extreme, that follows an attack of epidemic influenza.

SYMPTOMS.	GASTRIC INFLUENZA.	ENTERIC FEVER.	TYPHUS.	DENGUE.	REMITTENT FEVER.	RELAPSING FEVER.
1. Incubation ...	2 to 3 days.	6 to 24 days.	5 to 14 days.	1 to 2 days.	1 to 6 days.	2 to 16 days.
2. Invasion ...	Sudden.	Gradual.	Rather sudden.	Very sudden.	Rather gradual.	Sudden.
3. Duration ...	2 weeks or less.	3 to 4 weeks.	2 to 3 weeks.	1 week, if no relapse.	Indefinite, by successive attacks.	Indefinite, by successive attacks.
4. Cephalalgia ...	1st to 4th day, frontal.	1st to 7th day, frontal.	2nd to 4th day, vertebral.	1st day, general.	General.	General.
5. Emesis ...	2nd to 3rd day, occasional.	1st to 3rd day, usual.	1st day, occasional.	1st day, occasional.	Severe in hot stage, 3rd to 4th day, occasional hæmatemesis.	Common.
6. Abdominal Pain -	Tormina. General tenderness.	Common in right iliac region.	Unusual.	Epigastric pain.	Epigastric discomfort.	Unusual.
7. Tympanites ...	In children only.	Usual throughout.	None.	None.	None.	None.
8. Splenic ...	Pain, sometimes enlargement.	Enlargement.	None.	Painful.	Painful, usually enlargement.	Tenderness and enlargement, also of liver.
9. Pyrexia (max.) ...	1st day, 103° F.	8th to 10th day, 104° to 106° F.	5th day, 107° F.	1st day, 103° to 104° F.	1st day, 105° to 106° F.	1st to 5th day, 104° to 105° F.
10. Pulse ...	1st day, 100 to 130.	8th to 10th day, 90 to 100.	5th day, 120 to 140.	1st day, 120 to 140.	1st day, 100 to 120.	1st to 5th day, 110 to 140.
11. Coating on Tongue ...	2nd day, moist, white-brown.	7th day, dry, yellow-brown, tends to glaze and fissure. Sordes.	4th day, white-brown-black, tends to shrivel. Sordes.	2nd and 3rd day, white.	3rd or 4th day, white-brown.	2nd day, white.
12. Sore Throat ...	Usual.	Occasional.	Rare.	None.	None.	None.
13. Eruption ...	None in gastric, common in cerebral type, various, 1st day.	7th to 10th day, on abdomen, rosy, papular.	4th day, mottling and papular, trunk to limbs.	4th to 5th day, various.	None.	None.
14. Anorexia ...	Much throughout.	Some, following invasion.	Much throughout.	Common.	Constant during paroxysms.	Constant.
15. Thirst ...	None.	Some.	Great.	Slight.	Great.	Great.
16. Diarrhoea ...	Present, 1st week.	Present throughout, usually.	Unusual, except at crisis.	Unusual.	Unusual.	Rare, except at crisis.
17. Insomnia ...	Usual.	Usual at first.	Unusual at first.	Usual.	Drowsiness.	Usual.
18. Delirium ...	Rare.	Common, noisy, 12th day.	Usual, typhomania 4th day.	Rare.	Common.	Occasional.
19. Coma ...	Rare.	Occasional before death.	Common 10th day.	Rare.	Occasional.	Occasional.
20. Special symptoms ...	Sudden prostration, dyspnoea.	Regular diurnal remission of T.	Peculiar rash, typhomania, crisis.	Sudden and great prostration, articular and testicular pain and swelling.	Hot and cold paroxysms, twice daily. Crisis, recurrence at uncertain time.	Crisis 7th day, recurrence in two weeks.
21. Contagiousness...	Great.	Slight.	Great.	Great.	Non-contagious.	Non-contagious.
22. Materies Morbi...	Bacillus of Pfeiffer.	Bacillus of Eberth.	Not known.	Not known.	Plasmodium Malarie.	Not known.

REFERENCES.

- ¹ Hippocrates: "Opera omnia," Fœsius, Frankfort, 1624.
- ² Pasquier: "Recherches de la France," Paris, 1643.
- ³ "Short, Thos., Works of," 1510.
- ⁴ Willis, Thos.: "Practice of Physic," London, 1684.
- ⁵ "Sydenham, Thos., Works of," 1675, vol. i., ch. i.
- ⁶ Huxham, John: "De aere et morbis epidemicis," London, 1733.
- ⁷ Parsons: "Reports to Local Government Board," 1891.
- ⁸ Peacock, Thos. B.: "On the Influenza of 1847-8," London, 1848.
- ⁹ Symes Thompson: "Influenza or Epidemic Catarrh," London, 1890.
- ¹⁰ Ibid: Jacob of Feversham.
- ¹¹ Ibid: Bisset of Knayton.
- ¹² Ibid: Ruston of Exeter.
- ¹³ Ibid: Houlston of Liverpool.
- ¹⁴ Ibid: Livingston of Aberdeen, Hamilton of St. Albans, Murray of Norwich.
- ¹⁵ Pfeiffer, R.: "Vorläufige Mitteilungen über die Erregen der Influenza"—*Deutsch medicinische Wächenschrift*, 1892, No. 2. Pfeiffer et Beck, *ibid*; Kitasato, *ibid*.
- ¹⁶ Clemow, F. G., on "Epid. Influenza," *Public Health*, vol. 11, 1890.
- ¹⁷ Wood, G. B.: "Practice of Medicine," Philadelphia, 1866.
- ¹⁸ Tussier, J.: "Rapport de Mission sur la Grippe," Paris, Baillière et Fils, 1891.
- ¹⁹ Wood of Chichester: "Local Government Board Reports," 1891.
- ²⁰ Eulenburg, Alb.: "Real Encyclopädie," Leipsic, 1896.
- ²¹ Heyfelden: "Unsere Zeit," Leipsic, 1890.
- ²² Sisley, Richd.: "Epidemic Influenza," London, 1891; *cf.* also Symes Thompson, *op. cit.* (9).
- ²³ Bruce-Low, of Chichester: "Local Government Board Report," 1891.
- ²⁴ Bristowe, J. S.: "Local Government Board Report."
- ²⁵ Moir of Oldham: "Local Government Board Report."
- ²⁶ Klein, E. E.: Private Letter.
- ²⁷ 1737 and 1743, Huxham *supra*. 1782, Leith of Greenwich: "Med. Essays and Obs.," ed. 3, vol. ii. 1803, Neilson-Scott: "Annales Medicæ," vol. iii., 1891. Young of Okehampton: "Annual Report, M.O.H.," 1896, Eulenburg, *supra*.
- ²⁸ *Cf.*, Gray, Ed., "Medical Communications," London, 1784. Peacock, *supra*. Carnichael-Smith: "Med. Comms.," 1782. "Observations by R. C. Physicians," *Med. Transac.*, vol. iii.
- ²⁹ *Cf.*, Heberden, W.: *Med. Transactions*, ed. 3, vol. i., 1785.
- ³⁰ Leledy, Alb.: "La Grippe," Paris, 1891.
- ³¹ Klein, E. E.: "Reports on Influenza," 1889-90 and 1889-92. Brouardel, Gilbert, et Girode, "Traité de Médecine," tome i.
- ³² Althaus, Julius: "Pathology and Prevention of Influenza," London, 1892.
- ³³ Churchill, J. H.: "Notes on Serum Reaction in Typhoid Fever," *St. Bart. Hospital Reports*, vol. xxxiv., 1890.
- ³⁴ Baker, George: "Treatise on the Epidemic," 1763. Cummings, Wm., 1775. Gray, Cleghorn of Dublin, Scott of Isle of Man, Wilmer of Coventry, and others, 1782.
- ³⁵ Fayer, Sir Joseph: "Croonian Lecture," March, 1882. Manson, Patrick: "Goulstonian Lectures," March 10, 12, and 28, 1896.
- ³⁶ Hirsch, Aug.: *New Syden. Soc. Trans.*, vol. iii.

