NOTES

on

SOME OF THE DISEASES CONFUSED

with

ENTERIC FEVER

by

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The following Works are referred to:-

HENOCH: Lectures on Children's Diseases, New Sydenham Society's Translation, 1889.

HILTON-FAGGE: Text Book of the Principles and Practice of Medicine. Third Edition, 1891.

MOORE: Text Book of the Eruptive and Continued Fevers, 1892.

MURCHISON: A Treatise on the Continued Fevers of Great Britain. Third Edition 1884.

STURGES & COUPLAND: The Natural History and Relations of Pneumonia. Second Edition 1890.

VON ZIEMSSEN: A Cyclopedia of the Practice of Medicine. Translation - 1875.

In the years 1896 and 1897 there were admitted to the City of Glasgow Fever Hospital, Belvidere, 1,290 persons certified to be suffering from Enteric or Continued Fever. Of the latter, which is usually admitted to Enteric Wards, there were eleven cases. Six proved to be Enteric Fever, three Typhus Fever, and two Pneumonia.

The Hospital records bear that of the 1,290 cases 180 proved to be suffering from some other disease than Enteric Fever, and that in an additional 16 cases the symptoms presented during residence were so slight or so equivocal that no diagnosis was warranted.

The other diseases were:-

Infectious Diseases (41)

Typhus Fever	33
Scarlet Fever	6
Measles	2

Pulmonary Lesions (89)	
Pneumonia and Pleuropneumonia	66
Bronchitis and Broncho-pneumonia	10
Pleurisy (including Tuberculous Pleurisy)	5
Phthisis	8
Abdominal Lesions (12)	
Gastro Enteritis, intestinal catarrh and diarrhoea	6
Colitis	1
Tabes Mesenterica and Tubercular Peritonitis	2
Typhlitis	1
Abdominal Tumour	1
Carcinoma Recti	1
Nervous Lesions (9)	
Meningitis (including Tubercular Meningitis)	8
Peripheral Neuritis (Alcoholic)	1

Lesions of Genito-Urinary System (5)	
Nephritis	1
Pelvic Cellulitis	1
Retention of Urine	1
Soft Chancre	1
Gonorrhoea	1
Cardiac Lesion (1)	
Pericarditis	1
Skin Lesions (2)	
Scabies	2
General Diseases (21)	
Febricula and Pyrexia	12
Ptomaine poisoning	4
Septicaemia	1
Rheumatism	1
Inanition and Neglect	1
Anaemia and Debility	1
Purpura Haemorrhagica	1

The number of cases sent in certified to suffer from some other disease, and which proved to be suf-

fering from Enteric Fever is for obvious reasons much less. A search of the register for the period referred to gives the following result:-

Disease Certified	Number of Cases
Typhus or Typhus (?)	7
Relapsing Fever	1
Scarlet Fever	5
Puerperal Fever	1
Fever and Undefined Fever	7

These figures indicate roughly the difficulty of diagnosis of Enteric Fever and some of the sources of confusion. The desirability, however, of isolating patients suffering from such a disease will frequently lead to an expression of opinion for or against Enteric Fever at an early stage of illness, while the circumstances of many of the patients, and the assumed freedom from risk of infection occurring in Hospital, should the case prove otherwise, if not elements in the diagnosis, may at least be exciting causes of the certificate.

The number of cases and the diagnoses are taken from the Gate Register of the Hospital.

The purpose of the following paper is to trace sources of error by a survey of cases which gave rise to confusion between Enteric Fever and other diseases. The cases did not all occur within the years 1896 and 1897. That period is examined merely to indicate the direction of the enquiry and not that exact conclusions might be drawn from the analysis. The diagnoses on which cases are admitted to Hospital are transmitted by telephone from the Sanitary Office; the diagnoses on dismissal are entered from ordinary bed cards filled in by the physicians in charge. That in some instances a certain amount of doubt was present in the mind of the certifying practitioner is shewn by the certificate being filled in Enteric (?), Symptoms of Enteric, or in similar terms. Such certificates for the present purpose are regarded as of Enteric Fever.

Eighty-nine, or almost one half of the cases

wrongly diagnosed during the years 1896-1897, proved to be examples of pulmonary affection, and of these by far the greater number have been classed under the head of pneumonia.

Twenty-two cases of acute lobar-pneumonia were under the writer's care between November 1896 and April 1898. All were admitted to Enteric Wards, one being sent in "undefined," and a second "for observation." The ages of the patients ranged from 6 to 45. Only five were females. In five of the cases the apparent onset of the pneumonia was preceded by symptoms of catarrh or other disturbance. In fifteen cases the period of illness at which the patient took to bed is noted; in twelve this happened on the first day of the pneumonia. Examining the history of these cases prior to admission eleven of the patients had complained of pain in the abdomen, and of these six had in addition suffered from looseness of the bowels, the condition in one case (Boy aetat 9) being reported by the friends as severe diarrhoea;

in another (Boy aetat 11) the motions were described as being like pea soup; and in a third severe diarrhoea, as many as fourteen stools in twenty-four hours, (male aetat 33).

The condition of the bowels prior to admission was noted in fifteen cases. In nine they were loose, in five regular, in two constipated.

There was a history of pain in the side or chest in thirteen cases, of headache in twelve, vomiting in eleven, shivering in eight, delirium in four and lumbar pain in three.

The following table shews the relative frequency of these symptoms as invasion phenomena of eighty-nine cases of Enteric Fever observed in 1897 and the early part of 1898.

Symptom	Times Noted	
	In 89 Cases of Enteric Fever	In 22 Cases of Pneumonia
Headache	74	12
Abdominal Pain	48	11
Looseness of bowels	48	9
Shivering	39	8
Vomiting	18	11
Lumbar Pain	14	3
Delirium	6	4

The condition of the bowels was noted in 67 cases of Enteric and in 15 cases of Pneumonia.

The histories as a rule are taken by the nurses, hence important factors may be omitted.

The figures are too small to allow any sure deduction. The very great frequency of headache as

an initial symptom of Enteric Fever - Murchison noted it in 77 out of 82 cases (p. 534) - and the frequency of abdominal pain and looseness of the bowels in the cases of pneumonia are too obvious to escape notice. The higher proportion of cases of pneumonia with a history of delirium calls for comment.

Classifying the cases of pneumonia according to the lesions discovered as basal and apical, there were eight cases of the former and twelve of the latter (in one of these both apices were affected), while in one case, to be related, the whole right lung was involved. In one case the upper and lower lobe of the lung were both involved in their posterior portions. Four cases were admitted after the crisis.

Abdominal enlargement was observed in nine cases. In none has it been noted as excessive.

The condition of the spleen was noted in sixteen cases, in three, of whom two were childrem, the organ could be felt. In other four cases aged respectively 45,

23, 16½, and 10 years there was an abnormal percussion dulness in the splenic region. In none of the cases are the recorded observations sufficient to predicate definitely enlargement of the spleen itself.

Looseness of the bowels was noted in six cases, in one a motion seen was distinctly "pea-soupy" in appearance, (See Case III.)

Jaundice, probably a much more common associate of pneumonia than of Enteric Fever, was noted once in an "apical" case. It had preceded the pneumonia which had therefore no causal connection with it.

Rusty spit was noted in six cases - it may have been present in more.

Herpes was present in eight cases, in one both on the face and thumb. Herpes is a very rare eruption in Enteric fever with or without chest complication. The writer cannot remember it in over a

hundred cases of Enteric and the Superintendent of the Hospital cannot recall an example.

Murchison (p. 584) mentions it as an accidental eruption on the lips, in Enteric fever, but later (p. 686) in discussing the diagnosis of simple fever he says, "An eruption of herpes on the face about the fourth or fifth day of an attack of fever would in the absence of pneumonia favour the supposition of simple fever, but is not incompatible with typhus." Evidently from this he regarded the presence of herpes as an argument against a given illness being Enteric fever, at least if noted early in the case. (Since this estimate was made the coincidence of a frontal herpes with a relapse in Enteric fever and in two cases in the primary attack, appearances suggestive of abortive labial herpes have been noted. This does not invalidate the contention that caution should be observed in the diagnosis of Enteric fever in the presence of herpetic eruption.)

The chlorides of the urine were frequently

diminished at times practically to vanishing point. This may, of course, be noted in Enteric fever but, in the writer's experience, less commonly. Diminution to a marked degree was observed in eight of these cases, but no note has been kept of the number examined.

Four of the cases died. Of these two are reported below, one was admitted moribund on the eleventh day of illness, which began suddenly with feeling of chilliness and later pain in chest and back. The remains of a herpes was present on the face. There was marked loss of percussion tone over the right apex in front, and rale on auscultation. In the axilla the R. M. had a tubular quality. The fourth was also an apical case. A precis of four cases may be given.

Case I, Geo. M. aet. 6½, admitted 23rd November 1896 - certified "Enteric."

Had been ill eight days and in bed four.

Invasion symptoms were headache and pain in abdomen. Vomited five days ago. Bowels rather con-

stipated.

The face flushed, the pupils active, there is no evident deafness.

Tongue is moist with white fur, tip clean.

Abdomen is prominent: spleen easily felt. No rose spots, nor gurgling in right iliac fossa.

Chest: Skodaic percussion is present over right apex in front. All over right back the percussion pitch is higher than on the left side, the difference extending laterally to posterior axillary line. Tubular respiration is wide spread over the back. Urine clear.

		Temperature	Pulse	Respiration
On admission		102.8°	132	52
23.11	E	104.4°	148	60
24.11	M	97°	96	36
	E	103.2°	132	48
25.11	M	101.6°	134	44
	E	100.8°	124	48
26.11	M	99°	120	40
	E	98.4°	104	38
27.11	M	98.2°	100	38

November 27th: The spleen cannot be felt.

December 7th: Allowed up.

Case II; Geo. P., aet. 9, admitted certified Enteric, 11th June 1897.

History - Became ill fifteen days ago. In bed past twelve days. Symptoms - sickness, headache, vomiting, pain in abdomen and chest, delirious past night or two.

Diarrhoea for a week, motions at first loose yellow, lately green.

Present condition Temp. 105°, 132/60. Delirious, both cheeks flushed, has difficulty in breathing. Abdomen full, superficial veins distended. No direct evidence of Enteric fever.

Chest: Movement of right side limited.

Heart apex 5th space rather outside nipple line. No murmur.

The right lung is dull to percussion back and front, but laterally an area giving a tympanitic note is present.

Tubular R.M. present over apex in front. On

exploration of chest with "hypodermic" needle and needle of aspirator a small quantity of blood is obtained.

June 12th, 6.30 a.m. died.

Autopsy: The right lung was so large that there was difficulty in its removal - a small portion of the margin was cut off during the act and afterwards its examination was overlooked. The whole remainder was found consolidated. The organ on section exuded pus; the upper lobe more freely than the lower. There was recent fibrinous pleurisy.

The lower Peyer's patches were found enlarged and in one a small black spot, as from necrosis, but there was no infiltration sufficient to found a diagnosis of Enteric fever.

Case III; Mrs. McN. aet 38, admitted 10th March 1897, certified Enteric fever.

History: Illness began suddenly four days ago with headache and severe pains in the limbs. There has been no vomiting nor abdominal pain.

Has been in bed since onset.

The bowels have been loose for the two days prior to admission.

Temperature on admission 102.2°, pulse 118, respiration 40.

On evening of admission Temp. 104.4°, pulse 120, Respiration 30.

Face slightly livid.

Herpes round mouth.

Tongue drying in centre.

Has a frequent short cough which is becoming loose.

Abdominal wall lax. Spleen felt behind the ribs on inspiration.

There is an impaired percussion note over the upper part of the right lung from the third intercostal space in front to a hand's breadth off the angle of the scapula behind, and passing into the axilla.

Towards the upper and inner part of this area, in front, percussion yields a tympanitic note.

Tubular respiration is well marked all over the dull area, and bronchophony is present behind. Percussion of the left lateral region is clear.

Since admission has passed a loose yellow pea-soupy motion, with some solid particles floating in it.

11.3, Temp. 102.4° , Pulse 120, Respiration 48. Had a restless night, slept three hours.

12.3, Temp. 102°, Pulse 140, Respiration 58.

Sputum contains a considerable proportion of blood, which is only slightly altered in appearance. 2.45 p.m. died; on seventh day of illness.

Case IV; Annie T. aet. 16½; admitted, certified Enteric, 10th December 1897.

History: Became suddenly ill on the night of the 5th with sickness, vomiting, general pains. Since yesterday has had a slight cough, accompanied by acute pain in the right side.

The bowels have been loose.

In bed since onset.

Temp. on admission 101.6°, Pulse 110, Respiration 50.

Later Temp. 103.4°, Pulse 100, Respiration 44.

The condition was noted on the morning after admission.

11th December: Temp. 98.2°, Pulse 94, Respiration 30.

Skin has been acting well during the night.

The tongue is still dry in the centre and there are one or two transverse hacks.

There is marked loss of tone on percussion over right apex in front, also rale and diminution of the respiratory murmur.

Behind the loss of tone is not so marked.

The abdomen is perhaps a little full.

Splenic dulness is enlarged.

Patient says she had pain in the right iliac region, but that this has now gone.

One or two pink spots are present on the abdomen, but are not diagnostic.

18th December: Temperature has not again risen. Splenic dulness is not enlarged.

In the following case although the physical signs

of consolidation were not made out so definitely it seems also a case of lobar pneumonia. It was not included in the analysis of cases.

Case V; Newman S. aet. 18. Admitted 1st November 1897. Certified Enteric.

History: Became ill eight days ago, and has been in bed five days. Invasion symptoms - headache, sickness and abdominal pain. Bowels constipated. Temp. 102°, Pulse 92, Respiration 42.

November 2nd: Was very ill on admission but has rallied under the influence of warmth and stimulant. Temp. 101.6°, Pulse 100, Respiration 30.

Tongue foul and drying in centre.

The abdomen is not distended. No enlargement of the spleen is made out. A few pink spots, difficult to make out against the patient's dark skin are present on the abdomen.

He has passed a small, loose, motion since admission. Evening Temp. 100.2°, Pulse 88, Respiration 32.

November 3rd: Temp. 98.4°, Pulse 80, Respira-

tion 34.

General condition is now considerably improved. The sputum contains some altered blood - somewhat like prune juice.

Examination of lungs:- Patient in horizontal position. There is loss of tone on percussion over both apex and base of right lung, behind. Over the apex, as patient lies on his left side vocal resonance is much greater than over the left apex.

Evening, Temp. 98°, Pulse 64, Respiration 36.

November 6th: Temperature has not risen. Pulse 60, Respirations 18.

Yesterday slight loss of tone on percussion over the front of right apex was noted together with prolongation of expiration on auscultation.

December 6th: Loss of tone at right apex in front and behind. Is in good condition generally. To go home.

Moore (p. 414) in discussing the diagnosis of Enteric fever says: "Other morbid conditions which have occasionally led to doubt or confusion are:- mania,

pneumonia, gastro-enteritis, a "bilious attack," (all mentioned by Murchison)....."

Murchison (p. 603) after suggesting the possible confusion writes thus:- "On the other hand, enteric fever may be complicated with pneumonia. When the pneumonia appears late in the disease, the diagnosis is sufficiently easy; but when, as rarely happens, the pneumonia occurs within the first week or ten days, there may be some difficulty in deciding whether it be primary or secondary." In discussing the anatomical lesions of Enteric the same author (p. 639) says of pneumonia "It is usually lobular." Presumably therefore in his remarks on diagnosis he does not differentiate the lobar from the lobular form.

Lobar pneumonia, in the experience of Sturges and Coupland (p. 225-227) is a rare concomitant of enteric fever. They give notes of one case occurring early and one late in the course of enteric fever, and quote a case of Henoch's (Vol. I. p. 402) in which the pneumonia had come on late, and Henoch's remark thereon:-

"The most astonishing case, however, that I have had." Neither of the "late" cases - they occurred in children aged 10 and 12 years respectively - seem to have been recognised during life. In the "early" case the primary symptoms were those of onset of pneumonia and the disease was only recognised by the disappearance of physical signs with continuation of the fever, and later by the appearance of rose spots.

The same authors (p. 110) write: "It may be concluded that gastro-intestinal affections are not common as complications of pneumonia," but mention the occurrence of vomiting, flatulent distension and diarrhoea, and in speaking of "pythogenic pneumonia" they mention the presence of diarrhoea with loose ochre coloured stools (p. 197).

That loose yellow stools, of the consistence of pea-soup, occur so often in cases of lobar pneumonia, running a definite course, as not to give rise per se to apprehension of Typhoid fever, will be admitted by most who have watched the dejecta of patients

suffering from the former disease.

Enlargement of the spleen Sturges and Coupland have not been able to satisfy themselves of e.g. "Enlargement of the spleen is said by Juergensen to be an occasional accompaniment of pneumonia, an observation which in common with most physicians we have been unable to confirm," (p. 46): and again; "Affections of the spleen complicating pneumonia are practically limited to the swelling and softening sometimes observed post mortem and rarely attaining such a degree as to be palpable during life." (p.113). The conditions noted in these cases suggest the necessity for further and careful enquiry in this direction. Of course a patient with an enlarged spleen may be attacked by pneumonia.

The history of sudden onset of illness, the presence of herpes, the early assumption of bed, and the absence of chlorides from the urine, are strongly in favour of the presence of pneumonia - even if the physical signs of consolidation have not declared themselves, or if, as happens when the

patient has been exposed to depressing influences, these are more or less in abeyance. The association of abdominal pain and distension - and even of diarrhoea with light loose yellow motions - with a lobar consolidation will certainly not justify the double diagnosis.

The agglutination of the bacillus typhosus by the patient's serum, where this can be observed by a competent operator, will no doubt have its place in the diagnosis of doubtful cases. Ebrlich's test, more easily applicable, is valueless for it may be present in its complete form in measles, typhus, etc., while in Enteric fever it may be absent. The writer has never sought for it in pneumonia, and statistics of the test fail, for while one observer bases conclusions on the pink coloration of the foam produced by shaking the urine and reagents in a test tube, another requires not only this but a characteristic deposit with a green upper stratum to complete the test.

The spots observed in Cases IV and V certainly at the first blush suggested Enteric rose spots.

Comparison is suggested with a case of Murchison's (p. 602) proved post mortem to be of a tubercular nature. In this case, however, they were observed over a prolonged period. The protean character of true rose spots is of course familiar to all who have had at all prolonged acquaintance with Enteric fever.

With regard to the swollen Peyer's patches found at the autopsy of Case II, the similar condition found in measles and scarlet fever will be borne in mind. References to this may be found in Henoch Vol. II, p. 229 and p. 251, and Hilton Fagge Vol. I, p. 191, and Sturges and Coupland (p. 271) quote a record of epidemic pneumonia in a German Reformatory where some of the cases presented at the autopsy enlargement of the "intestinal follicular glands." Another reference to the condition in scarlet may be made to Von Ziemssen, (Vol. II, p. 227, article on Scarlet Fever).

This section may be closed with the record of a case in which an extending consolidation of lung was observed during the third week of an illness in

which diarrhoea was a prominent feature. The lad died on the twenty-first day of illness. In the absence of a post mortem the diagnosis remains incomplete. It was most likely an extensive hypostatic pneumonia, in a case of Enteric fever.

Case VI. John Kean, aetat. 19 years, admitted 14th June 1897.

History: Became ill thirteen days ago with languor, loss of appetite, shivering, sickness, headache and diarrhoea. There have been as many as five or six loose yellow motions per diem. He has been in bed eight days.

Temp. 102°, Pulse 104-110, Respiration 28.

Patient is livid, but there is no dyspnoea. He looks dull. Tongue strawberry.

Pulse is dicrotous. The first sound at the apex is weak. Examination of abdomen gives negative results. Splenic enlargement cannot be made out. There is well marked loss of tone on percussion of the right base behind. This extends up past the

angle of the scapula, and cut to a couple of fingers' breadth from the posterior axillary line. Over this area are heard tubular breathing and crepitant rale, with at one point whispered pectoriloquy.

June 15th Temp. 103.2°, Pulse 120, Respiration 40.

Frequent loose yellow motions.

June 17th. Temperature remains high = 104°. Patient does not sleep well though respiration is not embarrassed.

Consolidation has now reached the right upper lobe. There is diarrhoea, the motions loose and yellow. There are no rose spots, and no sign of splenic enlargement. The tongue is red and dry.

A typical diazo reaction has not been obtained. Urinary chlorides have been diminishing and are now very scanty.

June 20th. Temperature continuously about 104°. Patient has never been clear mentally, he does not sleep well and at times is actually delirious. The abdomen is now distending slightly. No rose

spots are seen. There is no enlargement of spleen. Loss of tone from right upper lobe to base, posteriorly. Respiration tubular. Rale scanty. Friction like rale in right axilla. Abundant moist rale, in parts much resonated over the left lower lobe behind. Chlorides very deficient.

June 21st. Died.

Confusion between enteric fever and other infectious diseases has been of somewhat frequent occurrence. Typhus fever has been the most common source of error.

In Glasgow in any year few cases of typhus occur, and hence not only is opportunity to study the disease awanting, but the possibility of its presence may be forgotten. To these facts probably, more often than to the inherent difficulties of diagnosis the confusion is due.

Fresh spots of typhus are easily confused with the rose spots of enteric, but the early appearance, the florid colour and distribution of the eruption, taken with the general aspect of the case should suffice in many instances to put one on one's guard. The spleen, of course, may be much enlarged in cases of typhus and contraction of the pupil is not a constant feature of the disease.

Notwithstanding, cases pass their course to recovery or death while doubt exists as to their nature, and the diagnosis may be finally suggested by relationship to unequivocal cases of typhus.

The following case presented many difficulties in diagnosis. The facies was quite in keeping with Enteric fever, a localized flush on the cheeks being associated with dilatation of the pupils and a clear conjunctiva, while the bowels were relaxed during residence in hospital. Association with a group of typhus cases was ascertained and post mortem showed the absence of an Enteric lesion from the intestine.

Case VII. Marion McG. aetat 19. Admitted 30th November 1897. Certified Enteric fever.

The probable date of sickening with typhus was 23rd November.

She had been in ill health for a year and four months before admission, had suffered from gastric symptoms.

Temperature on admission 104.4°, Pulse 128, Respiration 36.

December 1st, Temp. 105.2°, Pulse 132, Respiration 34. Patient pale and anaemic. Flush on each cheek. Tongue furred. Is drying down the centre.

Admitted Nov.

Pneumonia Dec 2. Died 12.

DATE.	30	Dec. 2	3	4	5	6	7	8	9																							
DAY OF ILLNESS.	8 ME	9 ME	10 ME	11 ME	12 ME	13 ME	14 ME	15 ME	16 ME	17 ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME

TEMPERATURE–FAHRENHEIT.

107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97°

Died.

Pulse.	128 / 132	132 / 132	130 / 132	140 / 134	136 / 128	144 / 136	146 / 138	144 / 136	134	
Resp.	34 / 34	25 / 34	36 / 36	45 / 45	44 / 38	54 / 41	50 / 45	64 / 48	50 / 60	
Bowels.		*								
Urine Oz.,			=	Low. dark						
Urine Alb.,			-	Low. green						

Skin: Many ill developed spots are noted on the front of the trunk and forearms.

The pulse is small and soft. The heart's sounds are deficient in tone.

Bronchitis is present.

The abdomen is not distended.

Examination of the spleen is negative.

December 3rd, Temp. 104.2°, Pulse 134, Respiration 48. The rash which has never been well developed has become mottled and the spots do not all disappear on pressure. The latter feature is distinct on the back, but in this situation there is no mottling. Patient has been mildly delirious and is passing into a typhoid condition.

The remainder of illness was characterised by sleeplessness, difficulty in protruding the tongue, muscular tremor, quickening of the pulse and respiration, formation of bed sores and death on 8th December - the sixteenth day. A night and morning chart shewing a fall at the end of the second week is appended.

Scarlet and enteric fever in their physiognomy present many interesting resemblances to one another. There is in each the flush on the cheeks, while the skin round the mouth remains pale, the restlessness, the peeled tongue with its enlarged papillae and transverse fissures. Not infrequently patients suffering from enteric fever complain of pain in the throat, and on inspection of the fauces congestion is found and at times a little greyish exudation.

An erythema of the skin may be seen at the commencement of enteric fever as of other febrile disturbances. But at times there appears in enteric a rash so distinctly scarlatiniform as, when in association with some of the features mentioned, to deceive experienced observers. The writer has not been so fortunate as to meet an example. In enteric wards where enemata are used for the relief of constipation, scarlatiniform rashes are very frequently seen. They are as a rule regarded as "enema rashes."

At a later stage of enteric fever the occurrence of an amount of desquamation may confuse the diagnosis, especially should those be otorrhoea, a

frequent accompaniment of both diseases.

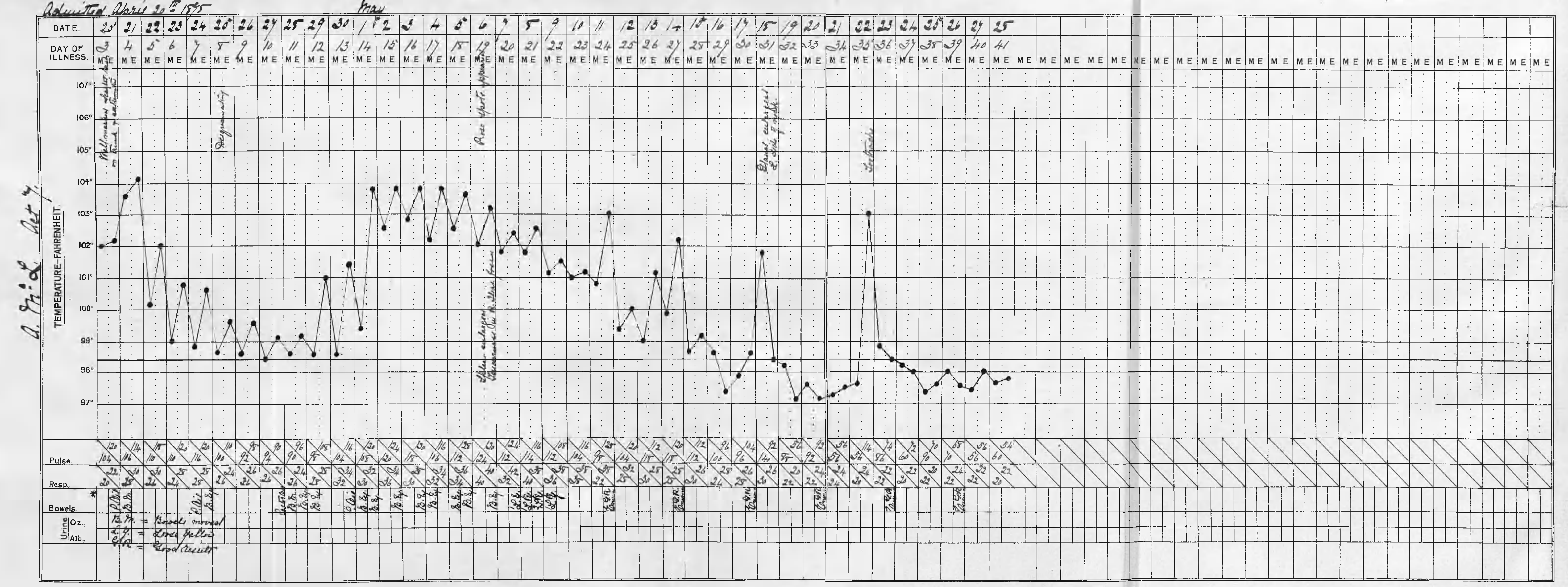
Branny desquamation in enteric is mentioned by Murchison.

At times there may be noticed separating from the trunk of patients suffering from enteric fever thin layers of epidermis even some square inches in area.

In other cases the desquamation may be more equivocal as in a case seen in the wards of a colleague where the last mentioned form of desquamation was present on the trunk, while on the neck the "pin-hole" form was present.

This case from its association with other cases certainly had enteric fever. Whether it was a double infection the writer is unaware.

In the following case there apparently existed a double infection. Such a diagnosis must always be received with a degree of caution in view of the tendency of scarlet fever and enteric to simulate one another. Thomas' description of a "Typhoid Scarlatina" with deafness, enlarged spleen, diarrhoea and post mortem "slight typhoid tumefaction" of



Admitted April 20th 1875
May
A. McL. Aet 4
DATE
DAY OF ILLNESS.
M E
TEMPERATURE–FAHRENHEIT
107°
106°
105°
104°
103°
102°
101°
100°
99°
98°
97°
Pulse.
Resp.
Bowels.
Urine Oz.,
Urine Alb.,
B.M. = Bowels moved
L.Y. = Loose yellow
G.R. = Good result

Peyer's patches may be borne in mind (Von Ziemssen Vol. II. p. 268-69).

The writer saw the case once while rose spots and other signs of enteric were present. For the history and chart he is indebted to his colleague.

Case VIII. A. McL. aet. 7. Admitted April 20th 1898. Certified scarlet fever.

History: Illness began suddenly - in view of the later developments the boy's mother was carefully questioned as to the possibility of the illness having commenced before 18th April - two days ago with sickness, vomiting, diarrhoea and sore throat.

Rash seen yesterday.

A well marked scarlet rash was present on admission on the trunk and limbs. The throat congested but clean, later became dirty and the local condition so severe as to call for application of silver nitrate solution.

The urine on admission contained a trace of albumen. This increased during the following days.

By the eighth day of illness the temperature was 98.6° - 99.6° Fah., and the child desquamating. This process continued in characteristic scarlet fashion.

On the twelfth day the temperature rose and during the next seventeen days a fever associated with splenic enlargement, peasoup motions, tenderness in right iliac fossa, dry and glazed tongue and successive crops of rose spots, was gone through.

The boy made a good recovery.

Of the cases of measles wrongly diagnosed, one was evidently seen by the certifying doctor prior to the development of the measles rash. Neither seems, on admission to hospital, to have presented much difficulty of diagnosis. They were not, at this stage under the writer's care.

A fatal case of colitis sent in as enteric fever to one of his wards, from the history prior to admission, and the mottling of the skin, probably had its origin in a measles infection.

At the autopsy, injection of the mucous membrane of the ileum and large intestine was found. The

mesenteric glands were enlarged and fleshy on section.

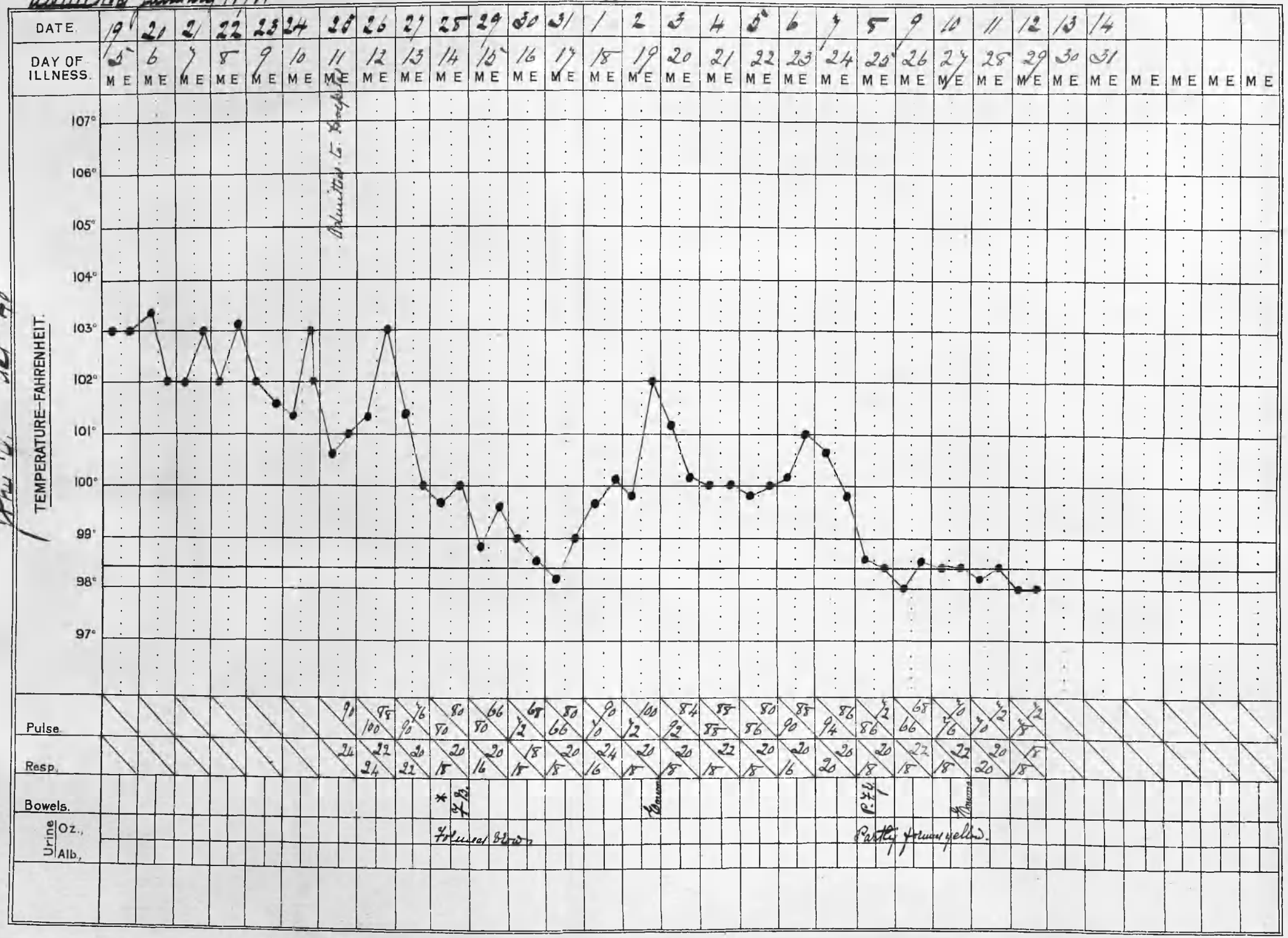
Before considering an interesting series of three cases of appendicitis there may be mentioned (1) Two cases of tuberculosis of abdominal organs, in which the advent of more acute symptoms may have led to the diagnosis of enteric fever, and (2) A case of cancer of the rectum in a patient aged 39 years. The facies of the case at once gave rise to doubt of the admission diagnosis, but abdominal distension, most prominent in the lower part, a remittent temperature, and frequent motions were present. Examination of the rectum gave the explanation.

The cases of appendicitis occurred in patients aged respectively 40, 26 and 7 years. One of the cases recovered without abscess formation, the second after passing about two ounces of pus per rectum, while the third died of a general peritonitis.

A brief resume of the three cases may be given.

Case IX. John C. aet. 40. Admitted certified enteric, 25th January 1898.

Admitted January 19th 1895. Feb.



History: Was quite well on going to bed early in morning of 15th inst., but soon wakened feeling acute pain in his abdomen. He took some castor oil. Pain continued for some days in upper part of abdomen, then disappeared from this part and a localized painful spot was discovered in the caecal region. Was "up and down" during first two days, in bed since. There was retching but not vomiting on the first day. He had no shivering. There had been no attack of pain in region of caecum at any time before this attack. Temp. 101°, Pulse 90, Respiration 24. The temperatures had been taken twice daily by the medical attendant since the fifth day of illness and a chart of these and the early temperatures during residence is appended. On admission and for some time after this man's decubitus was quite characteristic, he lay with the right thigh flexed and to relieve the strain a pillow had to be put under it as a support. On the morning after admission his condition was:-

Tongue furred but moist. Right thigh flexed

on abdomen, but not so acutely as on admission. There is thickening over lower part of ascending colon the lower part being palpable as a cylindrical mass which is dull to percussion. There is no tenderness in McBurney's spot,

January 31st. Tumour less defined and tone on percussion over it is returning.

The temperature finally settled to normal on 8th February.

March 11th. There is no tenderness over colon. Perhaps slight feeling of resistance. Allowed up.

Case X. James W., aet. 26. Admitted cartified enteric, 11th February 1898.

History: Had an attack of diarrhoea 18 days ago. A fortnight ago acute pain in right iliac region came on and caused him to take to bed. Bowels during time he was in bed - except on 7th inst. - have been confined. Temp. 98.8, Pulse 68, Respiration 22.

February 13th. Temperature normal since admission. The man gives a history of swelling in

right side. There is still resistance on palpation and less tone on percussion in caecal region. Tenderness is present at McBurney's point.

February 21st. Temperature subfebrile since 15th has risen today to 100.8°.

February 23rd. For some days past there has been pain across the lower abdomen and a sense of fulness on palpation of the hypogaster. On examination per rectum a swelling situated anteriorly was felt, tender on pressure and partially occluding the gut. This morning patient passed a small quantity (say two ounces) of pus. There has been considerable relief to sensations since.

March 21st. Temperature has not been elevated since 22nd February. Allowed up.

In these two cases the diagnosis seems clear. In the following case it was confirmed by operation and at autopsy. The child was an intelligent boy of healthy habit of body. The history was got from himself.

Case XI. John Smith aet. 7, admitted certi-

fied enteric, 8th February 1898.

History: Was well and took his tea the evening before admission. Later had pain in abdomen and vomited. The pain in abdomen was worse on the right side.

February 8th. Temp. 100.2, Pulse 110, Respiration 32. The boy seemed fairly well on admission. He complained of pain in abdomen, not at all commanding. About 5 a.m. on 9th he vomited, and again at 3 p.m. he vomited, without effort or retching, what the nurse described as clear fluid. Seen shortly after the abdomen was very tender, distended and motionless. The pulse very rapid. Dr. James Nicholl was asked to see the boy and an exploration of the abdomen was made. The appendix was found to be sloughing, a concretion being present. There was a general peritonitis.

The boy died in the early morning of the 10th.

Contrasting with the last case is the following one of enteric fever terminating in peritonitis, but without perforation.

Case XII. Mrs. B. aetat 21 years. Admitted 3 p.m. 3rd September 1896.

History: Has been ill a fortnight, vaguely at first, loss of appetite being a prominent feature. For past three days has been much worse, heady and unable to sleep at night. Forty-four hours prior to admission, while in bed, was seized with acute abdominal pain, soon accompanied by perspiration. The following morning vomiting set in and continued. She had opening medicine after the onset of acute pain and the bowels have acted.

Patient on admission was in an extreme condition of collapse; restless, sweating, the extremities cold, face pinched and the pulse small. She vomited frequently and evidently suffered acute abdominal pain. Under the influence of warmth, stimulants and opium she rallied a little. On examination of the abdomen, there was tenderness, but no extreme distension, and contraction of the recti could not be made out. The percussion note in each flank was deficient in tone. The urine contained a large quantity of albumen.

She died 14½ hours after admission.

		Temperature	Pulse	Respiration
September 3rd	6 p.m.	102.8°	140	24
" "	10 p.m.	104.6°	135 to 140	28
" 4th	2 a.m.	104.2°	145	20

At the autopsy a general peritonitis was found. No intestinal perforation was discovered, and origin in stomach, spleen, ovary, bladder or appendix was excluded. Typhoid lesions were found in the intestine.

That tubercular meningitis may be confused with enteric fever is admitted by all.

The following series of cases, all supported by post mortem evidence illustrates some of the resemblances.

Case XIII. (1) Robert P. aet. 18. Admitted August 12th 1896, certified enteric fever.

History: Illness began three weeks ago - anorexia, headache, shivering, and pain in abdomen, (he complained more of pain in his abdomen than in his head). In bed a week. Four days before admission had slight sickness and vomiting. Bowels have been regular.

On admission Temp. 102.6°, Pulse 100, Respiration 24.

Is fairly comfortable. Pupils large, fairly active to the light of a taper. Abdomen moderately distended, is tender but not specially so in right iliac fossa, indeed there is a general hyperaesthesia.

Splenic dulness $3\frac{1}{4}$". No rose spots. Urine a trace of albumen.

The patient was in first night and continued to be restless and irritable.

August 13th. Abdomen not distended. Pupils moderate in size and equal. No spinal tenderness. Tache cérébrale is not present.

August 15th. Temp. 101.4°to 103°.

August 17th. Continues restless but not quite so irritable.

Spleen felt below costal margin.

Temp. 100.6° to 102.2° .

August 19th. For past two days there has been a Cheyne-Stokes element in breathing. This is marked today. Pupil dilates in inspiratory phase. Tache marked this morning. Spleen still felt.

Afternoon: Twitching of limbs noticed.

Evening: Breathing quiet and regular.

Intellect clear. Temp. 101° to 104°.

August 20th. Drowsy. Pulse slowing, at times irregular. Temperature falling. Ankle clonus present in both ankles, more marked on left side. Plantar and abdominal reflexes active.

Right leg has less power than the left.

Temp. 99.4° to 100.8°, Pulse 60 to 80.

August 21st. Less conscious. Temp. 98.2° to 101.4°. Pulse 60 to 100.

August 22nd. There is slight rigidity of arms and marked retraction of head. Pulse 95 to 140.

Evening: Breathing very irregular. There is considerable cyanosis. Temp. 103.6°. He is less conscious than he was in morning.

11.30 p.m. Conjunctival reflex still present.

August 23rd. Died at 3.30 a.m.

At autopsy there was found a general tuberculosis, with a very extensive infection of the basal membranes. The basal ganglia were soft. In this case the diagnosis could be plainly made prior to death, though at first it seemed doubtful. Judging from the very numerous and large sized tubercles in the brain membranes ophthalmoscopic examination might have been useful in diagnosis at an early period of residence. The splenic enlargement, abdominal pain and temperature were all in keeping with the idea of enteric.

Both the other cases were admitted at a period much nearer the fatal termination.

Case XIV. Jessie S. aetat 26. Admitted, certified enteric, 31st August 1897, about 8 p.m.

History: Complained of pain in head early in July, went for holiday and returning after the "Fair" felt better. A fortnight ago complained of pain in head and had severe vomiting. Suffered severely from diarrhoea during past week. This ceased yesterday. Has been drowsy for past five days.

The girl was admitted in a prostrate condition and semiconscious. She could be roused to answer questions and when she was roused the idea suggested seemed to remain in her mind for a considerable time. The tongue could be protruded, it was dry. The conjunctive were congested and the pupils unequal. The right pupil contracted slowly to light of a taper, but the left did not contract appreciably.

Patient used her arms freely, but apparently had a paresis of the right side of the face and a slight ptosis of the left eye. At times, on manip-

ulation of back of head she complained of pain.

Abdomen was a little full, but presented no exanthem and was not tender.

At 9.30 Temp. 98.4°, Pulse 104, Respiration 40.

At 3 a.m.Temp.100.2°, Pulse 100, Respiration 38.

She died at 3.30.

Post mortem: General tuberculosis, with marked infection of pericardium.

There was a well marked tubercular meningitis, but no tumour of brain.

The last case of tubercular meningitis is that of an old man aet. 61.

Case XV. Peter Fraser, aetat 61, admitted April 11th 1898. Certified, Enteric fever.

History: Became ill twelve days ago with pain in the body and limbs. Complained of headache eight days ago. Took to bed seven days ago. Delirium and stupor have been noted, and in past two days diarrhoea.

Temp. 98.2°, Pulse 90, Respiration 24.

April 12th. Temp. 101.2°, Pulse 98, Respiration 24.

This man was admitted yesterday with cold extremities and very ill. He has been restless and irritable since admission and refuses nourishment.

The mouth and tongue are dry and dirty and have an offensive odour.

The cheeks are flushed.

The abdomen is concave, and there is no tenderness of it on ordinary manipulation.

Examination of chest gives negative results.

There is a squint - this is of old standing.

It has been noted that he did not use the right arm and the left leg so freely as the other limbs. No definite paralysis has been made out.

Temp. 100.2°to 101.6°.

April 14th. Remained restless. Has been tossing his arms about and picking at imaginary objects in the air. Yesterday he did not move his legs, though at evening visit he could raise his body slightly from the bed.

Temp. at 6 a.m. 103°.

About 6.15 he became unconscious and died at 7 a.m.

Autopsy: Tubercle of lungs. Many small tubercles in the upper lobe of the right lung.

Tubercles are present at the base of the brain.

The other side of the picture is given by the two following cases of enteric fever with symptoms which during life suggested meningeal trouble as their explanation.

Case XVI. Peter D. aet. 4. Admitted 17th March 1897.

Was one of a series of cases of enteric fever from Possilpark, caused by an infected milk supply.

History: Illness began eight days ago with symptoms of cold and sore throat. Later pains in limbs and drowsiness. No pain in abdomen nor diarrhoea.

Temp. 102.2°, Pulse 124, Respiration 30.

March 18th. Restless in early part of night. Child is dull and drowsy. The pupils are moderate in size. The tongue dry and transversely fissured.

The abdomen is distended. Splenic enlargement is not made out. No spots are seen.

A few dry rales are heard over the lungs.

March 19th. Mouth bleeds frequently. Irregularity of respiration and squint observed this evening. Pupils react to light.

March 20th. Temperature at 6 a.m. 104.8°, has since fallen to 101.2°.

The pulse and respiration have been taken two hourly since yesterday morning. No intermission in pulse has been observed. Respirations have varied from 28 to 64.

Twitching of the mouth at 1 a.m. is reported. Pupils do not react to light. Conjunctival reflex present. Pulse circa 200, Respiration 70.

All the limbs are flaccid. The left leg probably more so than the right.

He has passed four loose motions during the night. 12.55 p.m. died.

During the early part of residence there was some degree of restlessness and a cry slightly suggestive of the hydrocephalic. Squint and irregular respiration were only noticed on the one occasion. Squint is at times seen in enteric patients who nevertheless recover.

Autopsy: Brain - there is excess of fluid in the soft membranes of the cortex and in the ventricles. There is no evidence of meningitis.

The Peyer's patches in the lowest fourteen inches of the ileum are slightly enlarged.

The solitary glands in the lowest part of the small intestine are enlarged. The mesenteric glands are enlarged and fleshy.

The spleen is enlarged and of firm consistence.

In the following case the condition of the brain post mortem could not be ascertained. Characteristic enteric lesions were discovered in the intestine.

Case XVII. Mrs. D. aet. 32. Admitted 5th February 1898.

History: Ill since 25th ultimo. Prominent features being sore throat, at first; diarrhoea, delirium and stupor.

Was admitted in a cold semi-conscious condition. Extremely dirty. Temp. 101.4° , Pulse 112, Respiration 26.

The pupils were small, but both contracted to the light of a taper. There was no obvious paralysis.

Shortly after these facts were noted during an attempt to administer stimulant the woman sat up and talked rationally.

February 7th. Evening: Since admission this woman has presented anomalous symptoms. Temperature has now run up to 105.4°. She has frequently been heady and wished out of bed, but at times has been difficult to rouse or feed. Bowels have only moved once since admission. The urine contains a large quantity of albumen.

A.V.S. murmur is present at the apex.

The pupils react to light.

There is no tenderness on percussion of the vertex.

February 8th: Temp. 105.6°.

Is livid and has been perspiring freely.

Legs both drop lifeless when raised. The right foot is everted. Knee jerk or clonus cannot be demonstrated on either side.

She swallows teaspoonfuls of fluid when these are put in the mouth.

Later - died.

Post mortem limited on account of time to intestine. Enlargement and ulceration of lymphoid tissue in small intestine. Many ulcers in large intestine. Mesenteric glands moderately enlarged.

Post Script. It seems necessary to add to the foregoing notes of cases that the writer does not in every case of supposed Enteric examine the whole skin for rose spots. Naturally the abdomen is the region most frequently examined.