

Antiseptic Methods in the Treatment of  
Enteric Fever. :

A T H E S I S

by

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# Antiseptic Methods in the Treatment of Enteric Fever.

## Introduction.

The object of the present investigation was to discover if possible what reliance could be placed on the various antiseptic remedies recommended by physicians in the treatment of Enteric Fever.

Enteric Fever is a disease which has bulked largely in the public eye during the past two years, and notwithstanding the addition to our knowledge of its bacteriology, of recent years, the death rate still remains excessively heavy. In Belvidere Fever Hospital the death rate in 1897-98 was 22.9 per cent and in 1898-99, 17.4 per cent. Over England generally the mortality is 17 per cent, which is about as high as during the time of Murchison. The death rate, however, varies slightly from year to year. In South Africa the mortality per case rate has been 22.2 per cent in both inoculated and non-inoculated soldiers, shewing that inoculation does not evidently diminish the severity of the disease.

The re-introduction of the bath treatment by Brand in 1861 seems to have diminished the mortality wherever it was tried, on the Continent, Australia and America, Osler holding that with hydrotherapy a uniform death rate of 7 per cent has been/

been obtained. Unfortunately it has not yet been introduced into our Glasgow Fever Hospitals, whether from questions of expense or climatic reasons. Therefore the writer of this paper had to fall back on antiseptic methods which have recently obtained prominence, not so much with the idea of lessening the mortality, but, if possible, of diminishing the period of convalescence and guarding the patient of the many risks which Enteric Fever brings in its train, of which relapses and a subsequent prolonged convalescence are the result. Horton Smith says in the Goulstonian Lectures on the Typhoid Bacillus and Typhoid Fever:- "It would seem then probable that auto-intoxication plays a very important part in the causation of relapses - a consideration, be it remarked in favour of the antiseptic treatment of the disease and one which also emphasises the wisdom of the common practice of withholding solid food for some considerable time after the normal temperature has been reached". It was upon these lines that most of the cases of Enteric Fever dealt with in this paper were treated, although the treatment was in process some months prior to the date of Horton Smith's Lecture.

The material for the present paper was obtained while the writer was Assistant Physician in charge of Enteric Fever Wards in the City of Glasgow Fever Hospital, Belvidere from 1899-1900. In addition to reports and charts of twenty-eight cases treated by special methods there is prefixed a note on/



on the Diagnosis of Enteric Fever and an analysis of the more important symptoms and complications which occurred in the cases coming under observation.

The Diagnosis of Enteric Fever.  
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Probably more mistakes are made in the diagnosis of enteric fever than in any other disease. Usually, however, it happens that some other disease is mistaken for enteric fever. Out of 214 cases admitted to the wards certified as having enteric fever, 34 patients or 15.8 per cent were found to be suffering not from enteric fever but from a different disease. I have put these cases in the form of a table.

| Disease.                                    | Male | Female | Total. |
|---------------------------------------------|------|--------|--------|
| Pneumonia                                   | 7    | 6      | 13     |
| Tubercular peritonitis                      | 2    | 2      | 4      |
| General tuberculosis                        | 1    | 1      | 2      |
| Cerebral tumour                             | 1    |        | 1      |
| <del>Septicæmia</del> <del>pulmonalis</del> | 1    |        | 1      |
| Pelvic cellulitis                           |      | 2      | 2      |
| Appendicitis                                | 1    |        | 1      |
| Influenza                                   |      |        | 2      |
| Typhus                                      | 2    |        | 2      |
| Scarlet fever                               | 1    |        | 1      |
| Diphtheria                                  | 1    |        | 1      |
| Facial erysipelas                           |      | 1      | 1      |
| Pernicious anaemia                          |      | 1      | 1      |
| Pyelitis                                    | 1    |        | 1      |
| Nil                                         | 1    |        | 1      |
|                                             | 19   | 15     | 34     |

Of the other mistake calling enteric fever something else the most striking case was that of a girl sent in as scarlet fever. In consequence she spent a night in a scarlet fever ward, but next/

next morning was removed to an enteric ward. However, three days later she developed scarlet fever in addition to her enteric. Subsequently the patient's father and three sisters were sent in also diagnosed as scarlet fever and with scarlatiniform rashes on trunk but all suffering from enteric fever alone. Since then I have seen three other cases of enteric fever with scarlatiniform rashes during the first week.

The diagnosis of enteric fever can seldom be made with accuracy before the end of the first week, at the very earliest, the fifth day, unless the case occurs in association with other cases or there is a history of enteric fever in the patient's surroundings. No single symptom is found to be pathognomonic and in this disease all the symptoms require reviewing and careful weighing and their exact value apportioned before a diagnosis can be reached. The mode of onset, the course of the temperature, the pulse, the tongue, the spleen, the presence of diarrhea or constipation, the characteristic eruption, the state of the abdomen &c. each requires careful consideration. The eruption of rose spots, when present, is the most important but within the past few years there has been added to our knowledge a sign equal in importance to the eruption, the Widal's reaction. This was found to be present in fully 95 per cent of the cases of enteric fever dealt with in this treatise and was absent in the/

(6)

the 34 cases of diseases not enteric fever. Serum obtained by putting a blister on the patient's chest was at first employed but latterly it was found more convenient to use blood, obtaining it from the ear. An 18 hours broth culture of *Bacillus typhosus* was used. At first a dilution of 1 in 10 was used, a similar dilution to what was being done in the Glasgow Sanitary Office, but this was found to be too low, some cases not presenting clinically any of the features of enteric fever giving it. In fact the case of pernicious Anaemia had given outside a positive reaction with a dilution of 1 in 10, and was certified on the strength of this as enteric fever. A dilution of 1 in 50 was then tried and a time limit of an hour allowed, but many cases clearly enteric failed to give a positive re-action, one case for instance, ~~with enlarged spleen and~~ a copious eruption of rose spots, which died on the twenty-first day and showed on post-mortem examination enteric ulcers yet failed to give the re-action on the twentieth day with a dilution of 1 in 50. Another case, a nurse who had been nursing enteric fever cases, with no other symptoms beyond persistent headache and a temperature running about 100°F both morning and evening, entirely failed to give it although done on three occasions. I have no doubt but that in this case the re-action would have been obtained during convalescence but was refused permission by the/

the patient to take either serum or blood.

I have come to the conclusion that a medium dilution, 1 in 20 for instance, with a time limit of an hour is the most suitable for routine examination, but that if time and circumstances permit, the dilutions 1 in 10, 1 in 20, 1 in 50 and even 1 in 100 can be easily done at the same time, and if 1 in 10 proves negative, no further examination is required, but if positive, to exclude error the other dilutions could afterwards be examined at the expiry of the time allowed.

There can be little doubt that all cases of enteric fever, excluding of course fatal cases, give at one time or another during either their course or convalescence, a positive Widal's reaction, and if only one examination is ~~made in each case it stands~~ to reason that reactions will be missed in a certain proportion of cases.

As to the duration of Widal's reaction it is stated by observers that in the majority of cases it has disappeared by the end of a year, but in some cases it has been known to last for two years. One of my cases - a boy certified enteric fever but found on examination to be a case of appendicitis and operated on - had a history of having had a severe attack of enteric fever two years previously in Belvidere, but a negative Widal was obtained on two occasions  
a/

a negative result being in such a case of the greatest value. Another case was that of a female aged twenty, admitted as enteric fever on the 4th. day of illness but with a normal temperature and absence of any symptoms. She had been nursing a sister who suffered from enteric fever. Her temperature continued normal and on the 7th. day of illness a positive Widal's reaction was obtained. She was accordingly kept in bed, although the temperature was normal and the patient felt quite well. On the 17th. day of illness thrombosis of the left femoral vein occurred, accompanied by highly febrile temperatures for several days.

Mild cases of puerperal septic infection often present some difficulty, and here a negative Widal's reaction is useful. In such cases an examination of the blood forms an aid to the diagnosis. By the combined use of the Widal's reaction and the haemocytometer our diagnosis in enteric fever has been greatly improved during the past few years.

Analysis of some important symptoms and complications.

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Rose Spots Were found to be present in 75 out of the 180 patients suffering from enteric fever or 41.6 per cent. These patients were of course at different stages of their illness. In several cases, especially adult males, the eruption was very profuse, often more abundant on the back than anywhere else, and even seen on arms, back of hands and upper portions of thighs. There was however, only one death among the cases noted to have a very profuse eruption and several of the fatal cases occurred among those known to have had no eruption of rose spots during the course of their illness.

The Spleen Was definitely enlarged to percussion in 121 of the cases or 67.2 per cent. In only a small percentage of the cases was the spleen at any time palpable. In one case during life the spleen was not perceptibly enlarged but was found post mortem to weigh 16 oz.

Diarrhea Was found the predominating feature in only 27 per cent of the cases and in the great majority of the other cases constipation was the rule necessitating the regular use of enemata.

Haemorrhage Was present in 9 cases or 5 per cent, five being males and four females. Three of these patients died two males and one female.

Tympanitis

To any extent or requiring special treatment was only observed in 7 cases or 3.8 per cent. It is probable that this may have been due to the treatment followed. No cases of perforation occurred, the majority of the fatal cases of enteric fever being examined post-mortem.

Relapses

Occurred in 7 cases or 3.8 per cent of total number of cases. The interval was 4 days in one case, 5 days in one, 6 days in one, 8 days in three, and 10 days in one. The duration varied from twelve to twenty-two days, but in one case the temperature did not reach normal till the thirtieth day of the relapse.

Thrombosis

Occurred in three cases, females; in each the left femoral vein being affected, but all made a good recovery.



## The Scope of Intestinal Antiseptics in Enteric Fever.

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This is a subject round which considerable discussion has raged. The value of antiseptics in cases of putrefaction in the stomach and intestines is generally admitted, but divergences of opinion are found when the question of enteric fever is approached. This is probably due to the doubt on the part of some whether antiseptic treatment can really be so carried out as to have any appreciable effect on the small intestine, and on the part of others, whether by merely attempting to treat the local condition the grave general effects, seen in a disease such as enteric fever, can be averted. There is however, the question whether the general effects seen in enteric fever are entirely due to ~~the bacillus of enteric fever~~ only. It is known that the *Bacillus coli communis* is closely related to the *Bacillus typhosus* and that in cases of enteric fever the *Bacillus coli* increases greatly in number and virulence and this again seems to influence the virulence of the *Bacillus typhosus*. It has been suggested too that relapses in enteric fever may be due to a secondary infection by the products of the *Bacillus Coli*. In regard to this may be taken the statement in Muir and Ritchie's Manual of Bacteriology that while the *Bacillus Coli* is the chief organism in the small intestine in normal condition, in typhoid fever and other pathological/

pathological conditions affecting the intestines, it is relatively and absolutely enormously increased in the large intestine, where it may sometimes be almost the only bacillus present.

Against the use of antiseptics it has been urged that the bacilli multiply and produce their toxins in the intestinal wall, glands and spleen where no treatment directed against them can be of any avail.

It is interesting to note the views of some recent writers on the subject of intestinal antiseptics in enteric fever.

Dreschfeld in Clifford Allbutt's System of Medicine says-  
"The object of intestinal antiseptics is not so much to check the action of the typhoid bacilli which have already **passed the intestines** and reached internal organs as to act on any toxins as yet unabsorbed and particularly to check fermentation and the action of the numerous micro-organisms found in the alimentary canal, the growth and development of which are favoured by the presence of the typhoid bacillus and the products of which may be absorbed through the ulcerated surface of the intestine."

Mitchell Bruce in Principles of Treatment, says:-  
"There is however a certain amount of evidence in favour of the view that disinfectants admitted into the bowel including mercurials, turpentine and other essential oils, salol, beta/

beta naphthol, chlorine and phenol, do actually reduce the severity of the local symptoms and signs, and improve the general condition to such a degree and in such a manner as might be accounted for in this way.

These drugs have been recommended on the principle of dealing with the typhoid bacillus both in situ and after absorption into the viscera, neither of which ideas will stand close examination; with their toxins locally, which is more intelligible; with the septic organisms which accompany them, also a more rational suggestion; and with the agents of putrefaction in the bowel, often associated with incorrect feeding, which they are perfectly calculated to control.

**Burney Yeo in the British Medical Journal Nov.4.1899,** put forward these views:- "It is universally admitted that these septic and putrefactive processes, occurring within the alimentary canal are dependent on bacterial agencies, and let me here say we must not confuse the medical conception of antiseptis with the surgical one of asepsis. The medical idea is that of antagonising an existing process, of limiting and diminishing its morbid energy, and in conception and in action it is relative rather than absolute. The surgical idea is absolute - the surgeon must have his wound/

wound absolutely aseptic. Some of the arguments which have been advanced in opposition to the medical idea of antiseptis have been founded on this mistaken and limited view. In medicine if we can diminish the virulence of a process and so gain time for the conservative forces of the organism to do their work, that is by no means a small thing to do. Again the medical conception of antiseptis has been misrepresented as necessarily involving a bactericidal action. Bactericidal it may be in some instances, but this idea is not necessarily involved in that of intestinal antiseptis."

One who falls into the mistake of regarding medical antiseptis as meaning absolute sterilisation is Dr. Metchnikoff who in his address on the Flora of the Human Body (22nd. April 1901) said:- "It is practically impossible to sterilise by any antiseptic means the intestinal canal. Intestinal antiseptics are not only useless but are positively harmful in lowering the resisting activity of the living cells. Mechanical means of disinfection give the most hope, lavage with sterile in different fluids and in the case of the intestine the use of medicaments which produce frequent and abundant evacuations together with the employment of a milk diet are the most promising method."

However/

However, in the use of intestinal antiseptics at this stage of our knowledge it is evident that too much is expected if absolute Sterilisation is sought. It does not seem to me that absolute Sterilisation is even necessary. To diminish putrefactive processes or to go further, to influence the production or absorption of toxins would appear to be a great step in the direction of diminishing the severity of the disease, without it being considered necessary to make a direct attack on the specific organisms of the disease. The personal equation of the patient must always be kept in view.

\*

CALOMEL.

Dreschfeld states:- "Of all the intestinal antiseptics calomel would appear to be of most value. It possesses high antiseptic properties. It has been shown that it kills bacteria and prevents butyric acid fermentation and prevents the formation of products of decomposition, usually found in the intestinal canal, and that it does not interfere with the action of the unorganised ferments of the Saliva, gastric and pancreatic juices.

Taking Dr. Metchnikoff's view of intestinal antiseptics would lead one to think that calomel, a drug which was so much used by the older physicians, would prove useful in the treatment of enteric fever, not so much for its bactericidal properties, which however might be of some value, but from the fact that its action would be to clear the intestine of the products of decomposition, which in a diseased condition would naturally be excessive. Against this view however, may be placed that of many physicians who hold that diarrhea in enteric fever is a thing to be avoided, indeed there is no question but that the milder cases of enteric fever are generally characterised by an absence of diarrhea.

In order to secure the full antiseptic value calomel was/

was used in small doses. It was found that a suitable dose was put up by Parke Davis & Co. in tabloids, combined with other antiseptics. These were greatly recommended by an American physician, Woodbridge.

Tabloid No.1 contained:-

|                    |             |
|--------------------|-------------|
| Mercurous Chloride | grain 1/16. |
| Podophyllum Resin  | " 1/960.    |
| Guaiacol Carbonate | " 1/16.     |
| Menthol            | " 1/16.     |
| Eucalyptol         | q.s.        |

Tabloid No.2 contained:-

|                    |             |
|--------------------|-------------|
| Mercurous Chloride | grain 1/16. |
| Podophyllum Resin  | " 1/960.    |
| Guaiacol Carbonate | " 1/4.      |
| <b>Menthol</b>     | " 1/16.     |
| Thymol             | " 1/16.     |
| Eucalyptol         | q.s.        |

Capsules No.3 contained:-

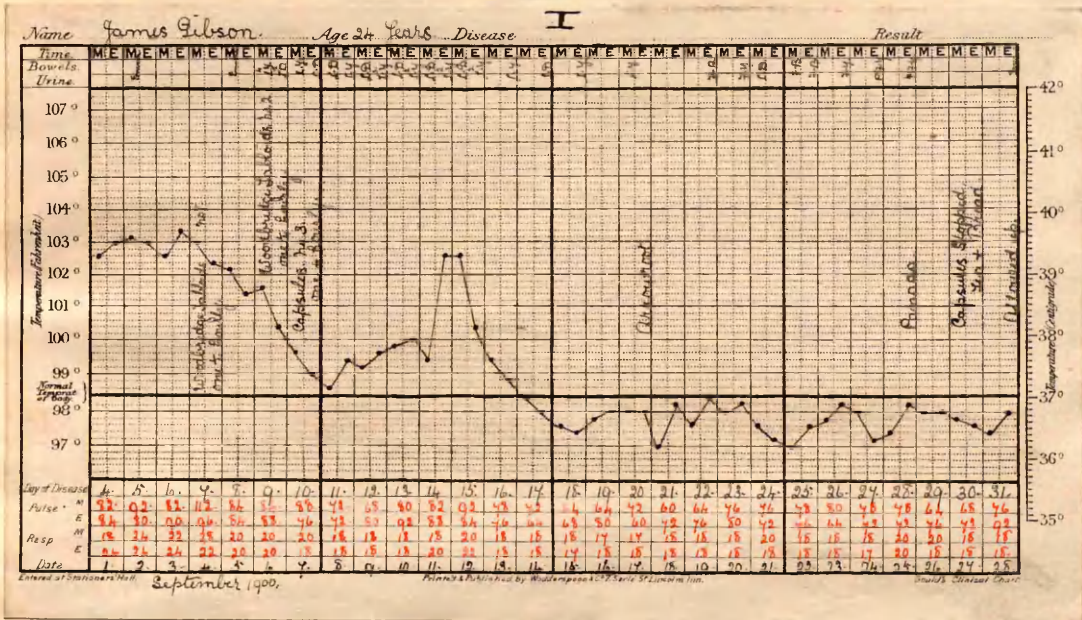
|                    |           |
|--------------------|-----------|
| Guaiacol Carbonate | grains 3. |
| Thymol             | " 1.      |
| Menthol            | " 1/2     |
| Eucalyptol         | minims V. |

Mode of Administration.

The first tabloid was given every fifteen minutes, whenever the patient was awake, for forty eight hours, then the second tabloid every fifteen minutes for forty eight hours and afterwards the capsules thrice daily until the temperature became normal. As a rule about two grains of calomel were taken daily by each patient. Occasionally however, patients got calomel for longer periods than this without any bad effect. The following are notes of twenty six cases treated in this way.



## Case 1.



James G., aged 24.

Admitted 1 September, 1900.

History. Illness began 3 days ago.

Sickness vomiting, abdominal pain & diarrhea.

Confined to bed since yesterday.

On Admission.

Temperature 102.6°F. Pulse 82. Respirations 18.

Tongue dry brown and glazed in centre.

Abdomen full and severe pain complained of in region of umbilicus, this pain being relieved by pressure.

Liver normal. Spleen slightly enlarged.

Heart/

Heart and Lungs normal.

Bowels constipated.

2. Sept.

(Fifth day of illness)

Temperature 103.2° in morning. 103° in evening.

Still complaining of abdominal pain. Was restless and delirious last night. Bowels have not moved since admission.

4th. Sept.

(Seventh day)

Temperature 103.4° last night, 103° this morning.

Rose spots appearing. Abdominal pain complained of but not so severe. Spleen large. Has been troubled with retention of urine and required catheter passes regularly. To-day began tabloids (Calomel gr.1/16 &c.) **one tabloid every fifteen minutes when awake.**

6. Sept.

(Eighth day)

Temperature 102.2° in morning, 101.4° in evening.

Constipation still present and again required enema in evening. Still very restless and semi-delirious at night.

8th. Sept.

(Ninth day)

Temperature 101.6° in morning, 100.4° in evening.

Had four loose yellow motions to-day. Rose spots still appearing/

appearing. To-day put on tabloids (No.2) one every fifteen minutes.

10th. Sept.

(Tenth day)

Temperature 99.6° in morning. 99° in evening.

To-day put on Capsules (No.3) in addition to tabloids.

Had three loose yellow motions to-day. Is feeling better, sleeping well at night, and tongue much cleaner.

11th. Sept.

(Eleventh day)

Temperature 98.6° in morning. 99.4° in evening.

Had two loose yellow motions. Tabloids (No.2) stopped.

12th. Sept.

(Twelfth day)

Temperature still rising again somewhat.

Widal's reaction obtained to-day. Had four loose yellow motions. To-day morbilliform eruption appeared on trunk & extremities, rash being papular & fairly bright. Face clear.

13th. Sept.

(Thirteenth day)

Temperature 99.8° in morning. 100° in evening.

Three loose yellow motions to-day. Rash more marked especially on extensor surfaces of arms & legs.

14th. Sept.

11th. Sept.

(Fourteenth day)

Temperature 99.4° in morning. 102.6° in evening.

Rash now faded, seen only on elbows & knees. This eruption was evidently an enema rash, due to absorption from the intestine.

14th. Sept.

(Seventeenth day)

Temperature 98.4° this morning. 98° in evening.

17th. Sept.

Temperature still keeping normal. Tongue clean.

Bowels moving regularly. Allowed arrowroot twice daily.

29th. Sept.

Allowed up.

Dismissed well, three weeks later.

Note.

This patient was very ill on admission, restless and delirious, and suffered from retention of urine for the first ten days after admission. From the seventh day of illness, on which day patient first got the tabloids containing Calomel, his temperature gradually fell, to the eleventh day of illness, when it was practically normal. Then the temperature again rose to 102.6° on the fourteenth and fifteenth days of illness, but again fell to normal on the seventeenth day and remained so.

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4. August, 1900.

Illness began 6 days ago. Feeling out of sorts and languid. No appetite. Has been in bed since onset. Bowels regular.

Temperature 102.4° Pulse 120. Respirations 32.  
Tongue dry, brown & glazed. Pulse soft and rapid.  
Abdomen normal in appearance and no pain on palpa-  
tion. Several rose spots seen on abdomen.  
Spleen enlarged but not palpable. Heart normal.  
Sibilant rhonchi heard over lungs, both back and  
front.

5th. Aug.

th. Aug.

(Eighth day)

Temperature  $101.6^{\circ}$  in morning.  $103^{\circ}$  in evening.

Looking very ill and is very restless. Has one loose greenish motion. Widal's reaction positive.

th. Aug.

(Ninth day)

Temperature  $102.6^{\circ}$  in morning.  $102.2^{\circ}$  in evening.

At 3 p.m. tabloids were given every fifteen minutes and continued till 8.30 p.m. by which time patient has had fifteen tabloids (nearly one grain of Calomel).

Treatment was then stopped as pulse was very weak and numbering 160 per minute.

th. Aug.

(Tenth day)

Temperature  $102.8^{\circ}$  in morning.  $103.2^{\circ}$  in evening.

Patient had four loose greenish yellow motions to-day.

Pulse still very weak. Patient refusing to drink and requiring nasal feeding. Spleen palpable. Rose spots still coming out.

th. Aug.

(Eleventh day)

Temperature  $103.8^{\circ}$  in morning.  $102.2^{\circ}$  in evening.

Had six loose motions to-day.

th. Aug./

10th. Aug.

(Twelfth day)

Temperature declining. Had nine loose motions to-day. Tongue dry in centre but red at edges and tip. Pulse soft & feeble. Abdomen lax and covered with faded rose spots. Spleen palpable. Patient now taking milk again.

11th. Aug.

(Thirteenth day)

Temperature at 6 p.m. last night was 100.4°

" " 10 p.m. " " " 98.4°

" " 2 a.m. this morning 99°

" " 6 a.m. " " 97°

" " 10 a.m. " " 97.4°

Patient much brighter. Abdomen slightly full.

Rose spots on abdomen & back still visible.

A few rales heard over both bases of lungs posteriorly.

Convalescence. Was rapid and uneventful and patient was dismissed well.

Note.

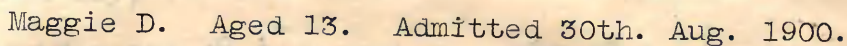
This patient was admitted with her brother, also very ill with enteric fever. The brother died in another ward about a week after admission. Treatment was stopped after patient had taken fifteen tabloids as her condition appeared hopeless. The/

The case was further complicated by having to resort to forced feeding by the nose.

According to the chart the temperature fell from 103.80 at 6 a.m. on the eleventh day of illness to 98.4° at 10 p.m. on the twelfth day. I may mention however, two circumstances which militate somewhat against much stress being laid on this case, in the first place, as already mentioned, treatment was only partially carried out, and in the second place cases ending abruptly like this one have been frequently noticed in enteric fever in children.

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Illness began 7 days ago. Shivering, headache, epistaxis.  
No other symptoms. Bowels constipated.

Temperature 104.2° Pulse 120. Respirations 28.  
Tongue coated with thick white fur. Pulse soft.  
Abdomen flat and slightly retracted. No pain complained  
of and no pain on palpation. Liver normal.  
Spleen only slightly enlarged. No rose spots seen.  
Heart normal. Lungs, some bronchitis present.  
Bowels constipated. Urine clear.

(Ninth day)

Temperature 102.20 in morning. 104<sup>0</sup> in evening.

Widal's reaction positive. Bowels have not moved to-day. Tabloids (No.1) begun.

1. Sept.

(Tenth day)

Temperature  $102.8^{\circ}$  in morning.  $103.2^{\circ}$  in evening.

Had enema to-day.

2. Sept.

(Eleventh day)

Temperature  $102^{\circ}$  in morning.  $101^{\circ}$  in evening.

Had three loose motions to-day. Tabloid (No.1) stopped and tabloid (No.2) given instead every fifteen minutes.

3rd. Sept.

(Twelfth day)

Temperature  $101.4^{\circ}$  in morning.  $102.2^{\circ}$  in evening.

Again three loose motions to-day.

5th. Sept.

(Fourteenth day)

Temperature  $98.4^{\circ}$  this morning.  $100^{\circ}$  in evening.

Had two motions to-day. Patient looking brighter & tongue cleaning. Yesterday tabloids stopped & capsules begun.

8th. Sept.

(Seventeenth day)

Temperature normal both morning & evening to-day.

Bowels moved to-day but had not moved during the two previous days.

Patient/

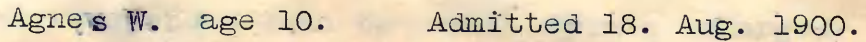
Patient made an uninterrupted convalescence and was dismissed well.

Note.

This patient's temperature first became normal on the morning of the fourteenth day. For the next three days it was slightly elevated in the evenings only, being normal in the mornings, but finally settled to normal on the seventeenth day and remained so.

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Illness began 5 days ago with headache, loss of appetite and diarrhea. Has been confined to bed since onset.

Temperature 103.8° Pulse 120. Respirations 32.  
Tongue coated down both sides of dorsum but red at edges  
and tip. Abdomen fairly normal in appearance.  
No pain is complained of and no pain on palpation.  
No rose spots. Spleen not definitely enlarged.  
Heart normal. Lungs - some bronchitis present.

(Seventh day)

Temperature 101.4° in morning. 103.4° in evening.

Widal's reaction positive. Tabloid (No.1) begun; one every/

every fifteen minutes. Bowels did not move yesterday but have moved three times this evening.

20th. Aug.

(Eighth day)

Temperature  $100.4^{\circ}$  in morning.  $101.4^{\circ}$  in evening.

Six loose motions to-day. Tabloids (No.1) stopped and No.2 given instead.

21st. Aug.

(Ninth day)

Temperature  $101^{\circ}$  in morning.  $100.2^{\circ}$  in evening.

Five loose motions to-day. Tabloids stopped and Capsules begun.

Several rose spots seen to-day. Spleen enlarged.

26th. Aug.

(Fourteenth day)

Temperature  $99^{\circ}$  in morning.  $98.6^{\circ}$  in evening.

Tongue cleaning.

Patient's temperature remained normal and convalescence was uneventful.

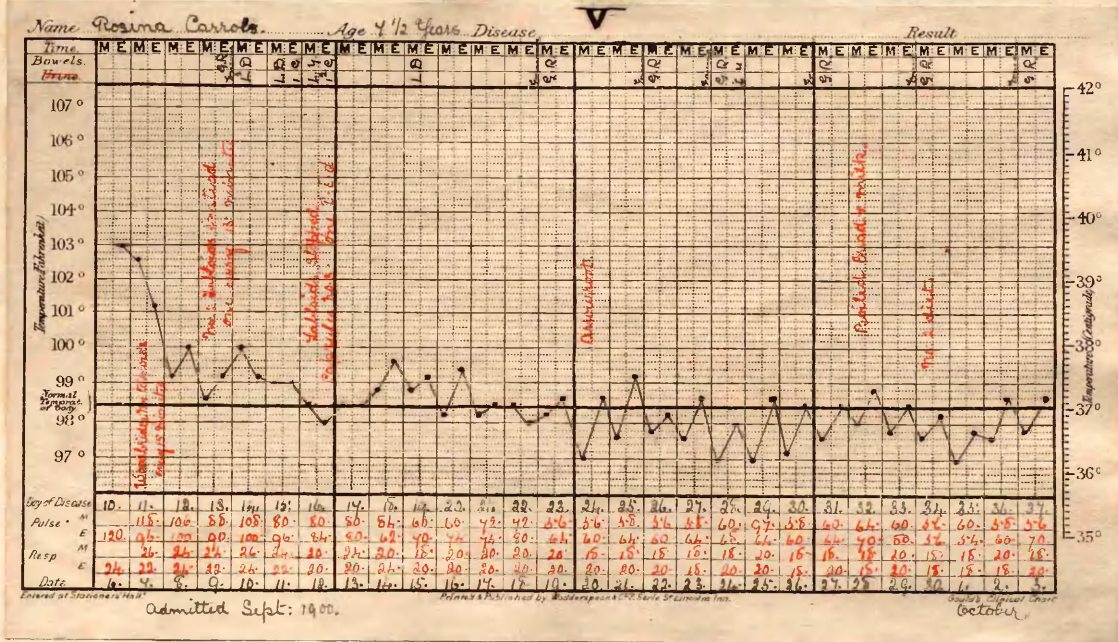
Note.

The tabloids containing Calomel were only given for two days in this case, as the bowels became very loose. As will be seen from the Chart the temperature became normal on the fourteenth day.

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## Case V.



Rosina C. Age 7. Admitted 6th. Sept. 1900.

History.

Illness began nine days ago. Patient complained of pains in neck, headache and abdominal pain.

Bowels constipated. Has been in bed for past five days.

Her father died of Enteric Fever two weeks ago.

On Admission.

Temperature 103° Pulse 120. Respirations 24.

Tongue coated with thick white fur. Abdomen full but no pain elicited on palpation. No rose spots.

Spleen enlarged. Liver normal. Heart normal.

Over both Lungs evidences of bronchitis heard.

Bowels constipated.

7th. Sept./

7th. Sept.

(Eleventh day)

Temperature  $102.6^{\circ}$  in morning.  $101.2^{\circ}$  in evening.

Widal's reaction positive. Abdomen still full,

Spleen large. Tabloid (No.1) every fifteen minutes begun.

8th. Sept.

(Twelfth day)

Temperature  $99.2^{\circ}$  in morning.  $100^{\circ}$  in evening.

Bowels have not moved since admission.

9th. Sept.

(Thirteenth day)

Temperature  $98.6^{\circ}$  in morning.  $99.2^{\circ}$  in evening.

Tabloid (No.1) stopped and No.2 given instead.

Had enema to-day.

12th. Sept.

(Sixteenth day)

Temperature normal both morning & evening.

Bowels moved twice yesterday and three times to-day.

Tabloids stopped and Capsules begun.

Patient made a good recovery and was dismissed well.

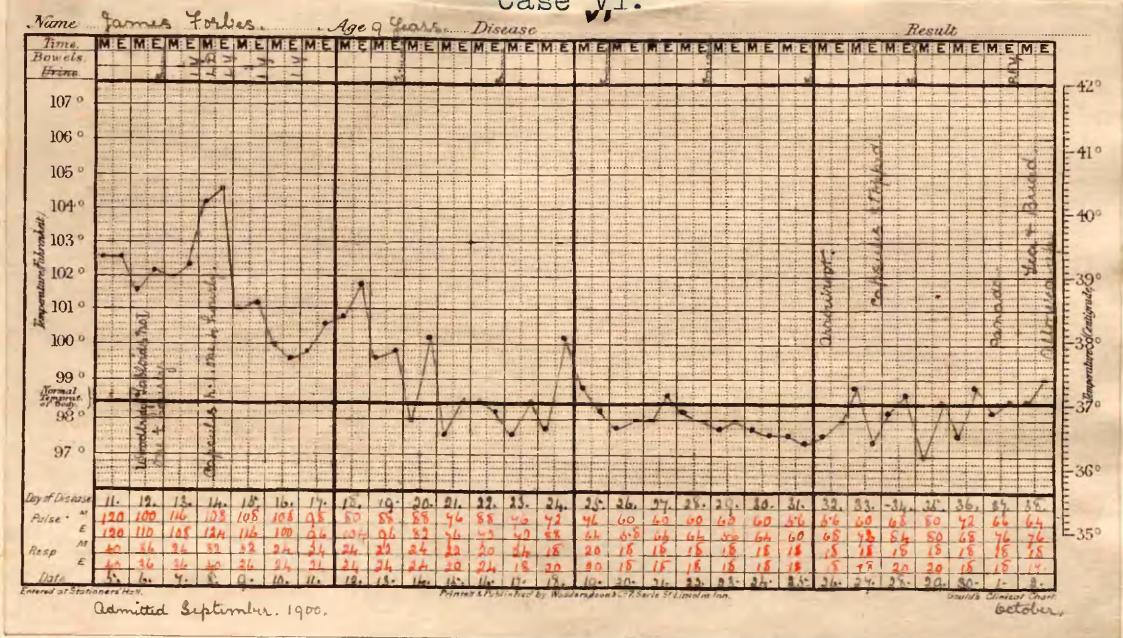
Note.

The decline in the temperature was very marked in this case, from  $102.6^{\circ}$  on the morning of the 11th. day to  $99.2^{\circ}$  on the morning of the 12th. day.

The temperature practically became normal on the 16th. day.



## Case VI.



James F. Aged 9. Admitted 5th. Sept. 1900.

History.

Illness began 10 days ago with cough and abdominal pain. Patient has been confined to bed for past seven days.

On Admission.

Temperature  $102.6^{\circ}$  Pulse 120. Respirations 40.

Tongue dry and brown in centre; moist at edges.

Abdomen full but not distended and generalized tenderness on palpation. Several rose spots seen on abdomen.

Liver normal. Spleen enlarged & palpable on deep inspiration.

Heart and Lungs normal. Bowels constipated.

Urine shows a haze of albumen.

6th. Sept.

(Twelfth day)

Temperature  $101.6^{\circ}$  in morning.  $102.2^{\circ}$  in evening.

Widal's/



Widal's reaction positive. Tabloid No.1 every fifteen minutes. Bowels have not moved since admission and patient had enema to-day.

8th. Sept.

(Fourteenth day)

Temperature 104.2° this morning. 104.6° at night.

Rose spots still appearing. Bowels have moved twice yesterday and twice to-day. Tabloid No.1 stopped and Capsules given instead.

14th. Sept.

(Twentieth day)

Temperature reached normal this morning. It was however 100.2° in evening.

15th. Sept.

(Twenty first day)

Temperature normal both morning and evening.

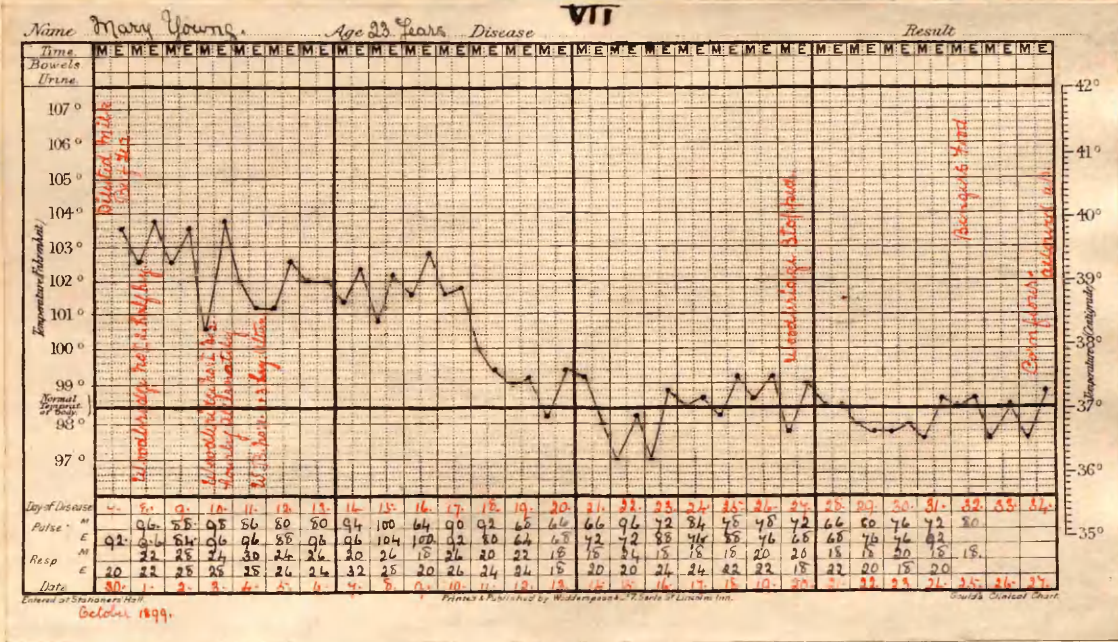
Convalescence uninterrupted and patient dismissed well.

Note.

This was a well marked case of enteric fever. Tabloids No.2 were not given on the fourteenth day as the morning temperature was 104.2°. The Capsules were however given instead. The temperature settled to normal on the twenty first day.

---

## Case VII.



Mary Y. Aged 23. Admitted 30th. Sept. 1899.

History.

Illness began six days ago with severe headache, sickness and anorexia. Diarrhea for last 5 days. Has been in bed since onset of illness.

On Admission.

Temperature  $103.6^{\circ}$  Pulse 92. Respirations 20.

Patient is flushed. Tongue furred. Abdomen distended and painful on palpation. Gurgling elicited in right iliac fossa. Liver normal. Spleen slightly enlarged. Heart - a ventricular systolic murmur present, best heard at apex. Lungs clear.

Urine shows a trace of albumen

1st. Oct.

(Eighth day)

Temperature  $102.6^{\circ}$  in morning.  $103.8^{\circ}$  in evening.

Tabloid/

Tabloid No.1 given two tabloids every half hour.

Had five loose motions in evening.

2nd. Oct.

(Ninth day)

Temperature  $102.6^{\circ}$  in morning.  $103.6^{\circ}$  in evening.

Spleen enlarged. Rose spots appearing.

Had eleven loose motions to-day. No complaint of abdominal pain. She sleeps well although she talks in her sleep, but when awake she is quite sensible.

3rd. Oct.

(Tenth day)

Temperature  $100.6^{\circ}$  in morning.  $103.8^{\circ}$  in evening.

Had ten loose motions to-day. On account of the diarrhea one tabloid of No.1 and one tabloid of No.2 given each hour alternately.

4th. Oct.

(Eleventh day)

Temperature  $102^{\circ}$  in morning.  $101.2^{\circ}$  in evening.

Bowels still very loose. A tabloid of No.1, a tabloid of No.2 and a capsule given alternately every hour.

12th. Oct.

(Twentieth day)

Temperature normal in morning.  $99.4^{\circ}$  in evening.

Bowels have been regular for past three days and patient is still getting the tabloids.

23rd. Dec./

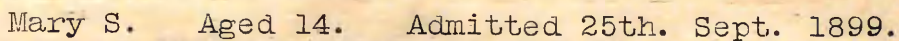
23rd. Dec. Patient was dismissed well.

Note.

In this case although the only difference was that two tabloids were given together every half hour (calomel gr.1/8) instead of one tabloid every fifteen minutes, excessive diarrhea was produced, the motion on the ninth, tenth, eleventh and twelfth days averaging ten per day. From this time the bowels became regular although the tabloids were given every hour when the patient was awake, till the twenty seventh day of illness, without producing any ill effects.

---





Illness began 10 days ago with headache, pain in back, sickness, and vomiting. Complains of severe pain on right side.

Temperature 102.4° Pulse 136. R. 28.

Tongue coated and dry. Fauces congested. Swelling  
and tenderness of right parotid noticed.

Abdominal walls relaxed. Some tenderness complained of in right iliac fossa. No tenderness elicited in any other region. Liver dulness normal. Spleen enlarged but not palpable. Rose spots on abdomen and back. Heart and Lungs normal. Constipation present.

26th. Sept. /

26th. Sept.

(Twelfth day)

Temperature  $101^{\circ}$  in morning.  $102.4^{\circ}$  in evening.

Tabloid (No.1) four given every hour.

27th. Sept.

(Thirteenth day)

Temperature  $102^{\circ}$  in morning.  $103^{\circ}$  in evening.

Widal's reaction positive. Rose spots still appearing.

Spleen large. Given 4 tabloids of No.2 every hour in addition to No.1 tabloids. Had three loose motions in evening after increase in number of tabloids.

28th. Sept.

(Fourteenth day)

Temperature  $102^{\circ}$  in morning.  $103.8^{\circ}$  in evening.

Tabloids stopped after twelve hours as motions contained a trace of blood. Three loose motions to-day.

Capsules begun.

4th. Oct.

(Twentieth day)

Temperature reached normal to-day. Bowels have been regular for past few days.

22nd. Nov.

Dismissed well.

Note.

In this case, on the twelfth day, four tabloids or calomel gr.  $\frac{1}{4}$  were given every hour, and on the thirteenth day eight tabloids or calomel gr.  $\frac{1}{2}$  every hour but this was stopped after twelve hours as a trace of blood was noticed in the motions.

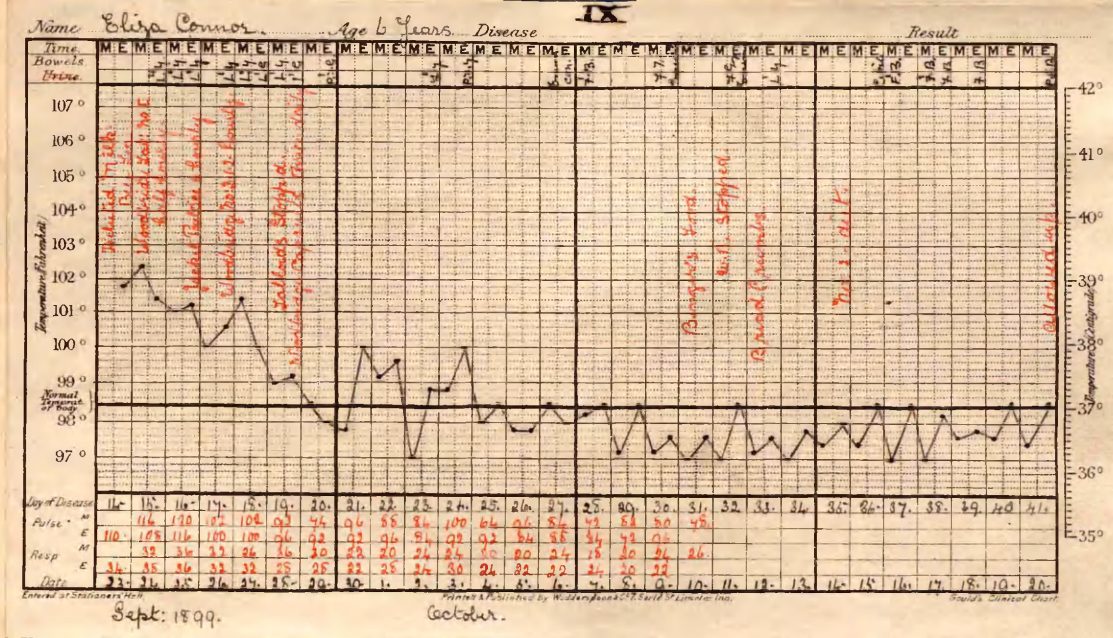
(41)

Temperature became normal on the twentieth day.

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## Case IX.



Eliza C. Admitted 23rd. Sept. 1899.

History.

Illness began 13 days ago with headache, great thirst and pain in abdomen. Diarrhea present during first week of illness. Loss of appetite also complained of. Has been confined to bed since beginning of illness.

On Admission.

Temperature 101.8° Pulse 110. Respirations 34.

Tongue furred. Pupils medium equal and normal.

Abdomen somewhat distended and one rose spot on surface.

Pain complained of in epigastric region. Heart normal.

Lungs show evidence of some bronchitis. Urine contains a trace of albumen.

24th. Sept.

(Fifteenth day)

Temperature 102.4/



Temperature 102.4° in morning. 101.4° in evening.  
Tabloid No.1 given one every half hour. In evening  
had four loose motions.

25th. Sept.

(Sixteenth day)

Temperature 101° in morning. 101.2° in evening.  
Bronchitis more marked and patient requiring poulticing  
Tabloids still being given. Had two loose motions to-  
day.

26th. Sept.

(Seventeenth day)

Temperature 100° in morning. 100.6° in evening.  
Given capsules in addition to-day. Had only one motion.  
Spleen palpable below costal margin.

28th. Sept.

(Nineteenth day)

Temperature 99° in morning. 99.2° in evening.  
Tabloids stopped to-day. Lungs clearing up.  
Had two loose motions yesterday and to-day.

29th. Sept.

(Twentieth day)

Temperature normal both morning and evening.

11th. Nov.

Dismissed. Well.

Note.

This patient had one tabloid every half hour from  
the fifteenth day of illness to the nineteenth with  
the/

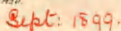
the effect of giving two loose motions per day.

The temperature became normal on the twentieth day although it was febrile again for the two following days.

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Case X.

五



October

Admitted 21. Sept. 1899.

## History.

Illness began 12 days ago with headache, shivering, pain in abdomen, sickness, vomiting and loss of appetite. Constipation present. Has been confined to bed for last five days.

On Admission.

Temperature 101.8° Pulse 110. Respirations 28.  
Tongue furred. Pupils normal. Abdomen distended,  
but not painful to palpation. Spleen enlarged.  
Several rose spots on abdomen. Heart & Lungs normal.  
Urine contains a trace of albumen.

23rd. Sept.

(Fifteenth day)

Temperature  $103^{\circ}$  in morning.  $102.6^{\circ}$  in evening.

Bronchitis sounds heard over anterior aspect of chest.

One/

One tabloid (No.1) begun every half hour. Bowels have not moved since admission.

25th. Sept.

(Seventeenth day)

Temperature  $100^{\circ}$  in morning.  $103.2^{\circ}$  in evening.

Capsules given one every two hours. . Four loose motions to-day. Chest much clearer.

27th. Sept.

(Nineteenth day)

Temperature  $100.6^{\circ}$  in morning.  $101.4^{\circ}$  in evening.

Five loose motions to-day. Tabloids stopped.

29th. Sept.

(Twenty first day)

Temperature normal both morning and evening.

14th. Oct.

After temperature had been normal for eight days it again rose and continued so for seven days, reaching one evening  $103.4^{\circ}$  without anything to account for it. It has to-day become normal again.

29th. Nov.

Dismissed well.

Note.

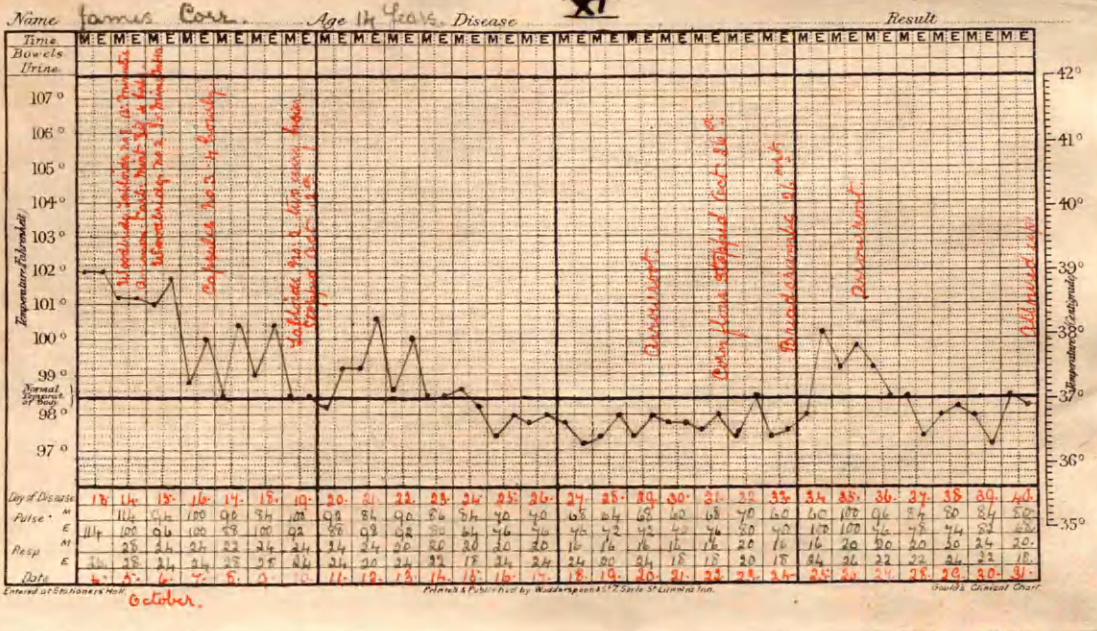
This patient had one tabloid every half hour from the fifteenth to the nineteenth day of illness with the effect of causing four loose motions per day. Her temperature became normal on the twenty first day but after eight days of convalescence showed a secondary rise, lasting seven days.

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Case X1.

XI



James C.      Aged 14.      Admitted 4th. Oct. 1900.

## History.

Illness began twelve days ago with sickness and vomiting. Complained of headache and pain in back. Loss of appetite. Has been in bed for the last 10 days.

On Admission.

Temperature 102° Pulse 114. Respirations 26.

Tongue coated and dry. Abdomen lax and easily palpable.

No tenderness on palpation. Pain complained of in region of umbilicus. Liver normal. Spleen enlarged.

No rose spots. Heart sounds normal. Lungs contain numerous sibilant rhonchi.

5th. Oct.

(Fourteenth day)

Temperature  $101.2^{\circ}$  in morning.  $101.2^{\circ}$  in evening.

One/

One tabloid (No.1) given every fifteen minutes.

6th. Oct.

(Fifteenth day)

Temperature  $101^{\circ}$  in morning.  $101.8^{\circ}$  in evening.

One tabloid of No.1 and one of No.2 given every 15 minutes. Bowels moved five times to-day.

7th. Oct.

(Sixteenth day)

Temperature  $98.8^{\circ}$  in morning.  $100^{\circ}$  in evening.

Capsules begun. One loose motion to-day.

10th. Oct.

(Nineteenth day)

Temperature normal both morning and evening.

Patient required enema to-day. Tabloid (No.1) stopped and No.2 given every hour.

14th. Oct.

(Twenty third day)

Temperature normal again.

Tongue clean. Marked constipation present.

25th. Nov.

Dismissed well.

Note.

In this case patient got the tabloids from the fourteenth to the twenty first day of illness and for four of these days was receiving Calomel gr.  $\frac{1}{2}$  each hour without effect in causing diarrhea.

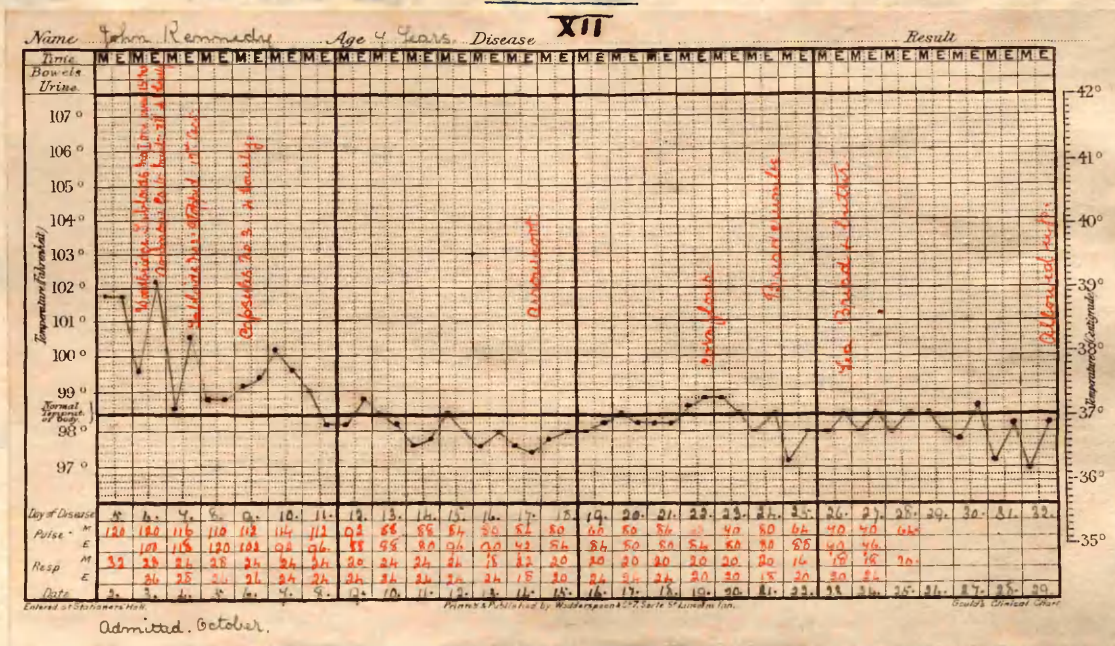
There/

There was however, a marked decline of temperature on the sixteenth day as compared with the previous three days, a decline amounting to nearly  $2^{\circ}$ .

---



## Case Xll.



John C. Aged 7. Admitted 2. Oct. 1899.

History. Illness began 4 days ago with abdominal pain and diarrhea. Has been in bed since onset.

On Admission. Temperature 101.8° Pulse 120. Respirations 32. Tongue coated down dorsum. Abdomen fairly normal in appearance. No tenderness elicited. Spleen slightly enlarged. No rose spots seen. Cardiac sounds normal. Sibilant rhonchi heard over both lungs. Urine clear.

3rd. Oct. (Sixth day)  
Temperature 99.6° in morning. 102.2° in evening.  
Tabloid (No. 1) one every fifteen minutes. Bowels have not moved since admission.

4th. Oct.



4th. Oct.

(Seventh day)

Temperature 98.6° in morning. 100.6° in evening.

Two loose motions to-day. Tabloid No.2 given every 15 minutes and No.1 stopped.

8th. Oct.

(Eleventh day)

Temperature 99° in morning. 98.2° in evening.

25th. Nov.

Patient dismissed well.

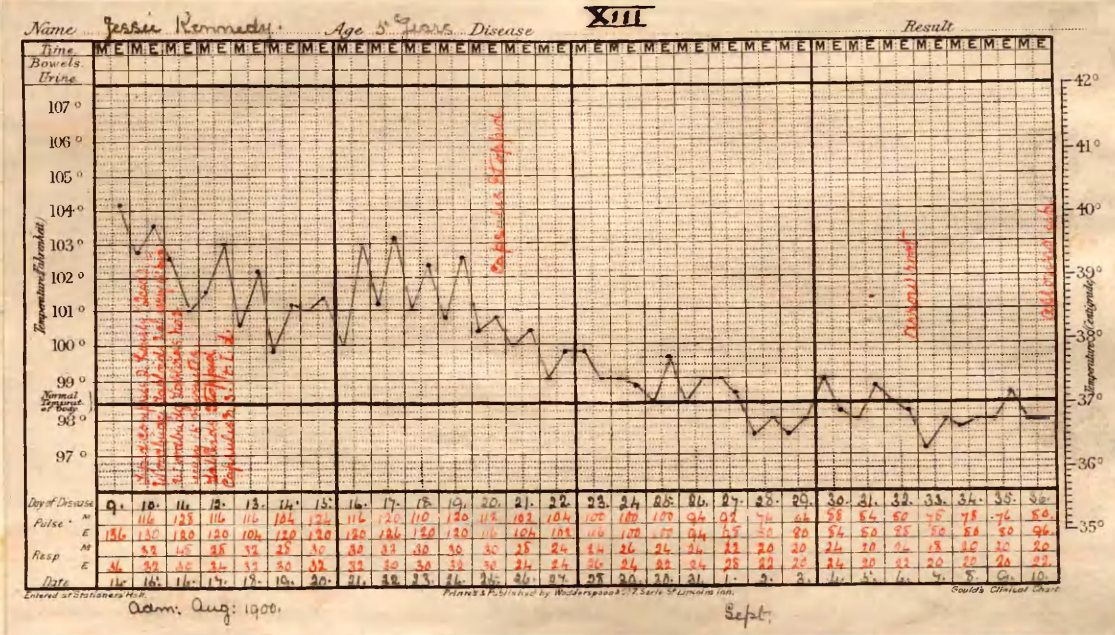
Note.

In this case the tabloids were given from the 6th. to the 15th. day of illness.

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Case XIII.

### XIII



Jessie K.      Aged 5.      Admitted 14. Aug. 1900.

History.

Illness began 8 days ago with shivering, headache, sickness, vomiting, pain in back and abdomen.

Has been confined to bed since onset of illness.

On Admission.

Temperature 103.8°      Pulse 126.      Respirations 42.

Tongue coated down both sides of dorsum but red at edges.

Abdomen is normal in appearance. No pain complained of and no pain on palpation. Spleen is enlarged but not palpable. No rose spots. Cardiac sounds normal.

At base of right lung an occasional sibilant rhonchus is heard. Patient has passed a typical loose yellow motion since admission.

15th. Aug. /

15th. Aug.

(Tenth day)

Temperature  $102.8^{\circ}$  in morning.  $103.6^{\circ}$  in evening.  
Widal's reaction positive. Tabloids (No.1) every  
fifteen minutes. Has three loose motions to-day.

16th. Aug.

(Eleventh day)

Temperature  $102.6^{\circ}$  in morning.  $101^{\circ}$  in evening.  
Tabloids (No.2) given instead of No.1. Has three  
loose motions to-day.

17th. Aug.

(Twelfth day)

Temperature  $101.6^{\circ}$  in morning.  $103^{\circ}$  in evening.  
Tabloids stopped. Capsules given thrice day.  
Tongue dry and glazed. Abdomen somewhat full.  
Had five loose motions to-day.

30th. Aug.

(Twenty fifth day)

Temperature normal this morning,  
Convalescence was uninterrupted and patient dismissed  
well.

Note.

This case was a fairly severe one, being marked  
throughout by a tendency to diarrhea, there being  
as a rule four loose motions per day. The tab-  
loids were however, only given for two days.

---





Illness began 9 days ago with shivering, headache and pain in abdomen. Diarrhea has been present up to day of admission, and loss of appetite. She has been confined to bed since beginning of illness.

Temperature 100.6° Pulse 104. Respirations 38.

Tongue coated. Lips ulcerated. Pupils equal medium and normal. Abdomen slightly distended.

Patient states that there is pain in left iliac fossa. In right hypochondrium there is a distinct rose spot. Spleen is enlarged margin being felt below costal arch. Liver normal. Heart sounds clear. Bronchitis sounds heard over bases of both lungs posteriorly.

Urine shows trace of albumen.

24th. Sept. /

24th. Sept.

(Eleventh day)

Temperature  $99.6^{\circ}$  in morning.  $101.2^{\circ}$  in evening.

Bowels have not moved since admission.

25th. Sept.

(Twelfth day)

Temperature  $99.2^{\circ}$  in morning.  $99^{\circ}$  in evening.

Tabloid No.1 given every half hour to-day.

26th. Sept.

(Thirteenth day)

Temperature normal both morning & evening.

Both No.1 and No.2 tabloids given half hourly.

Bowels moved once to-day.

11th. Nov.

Dismissed well.

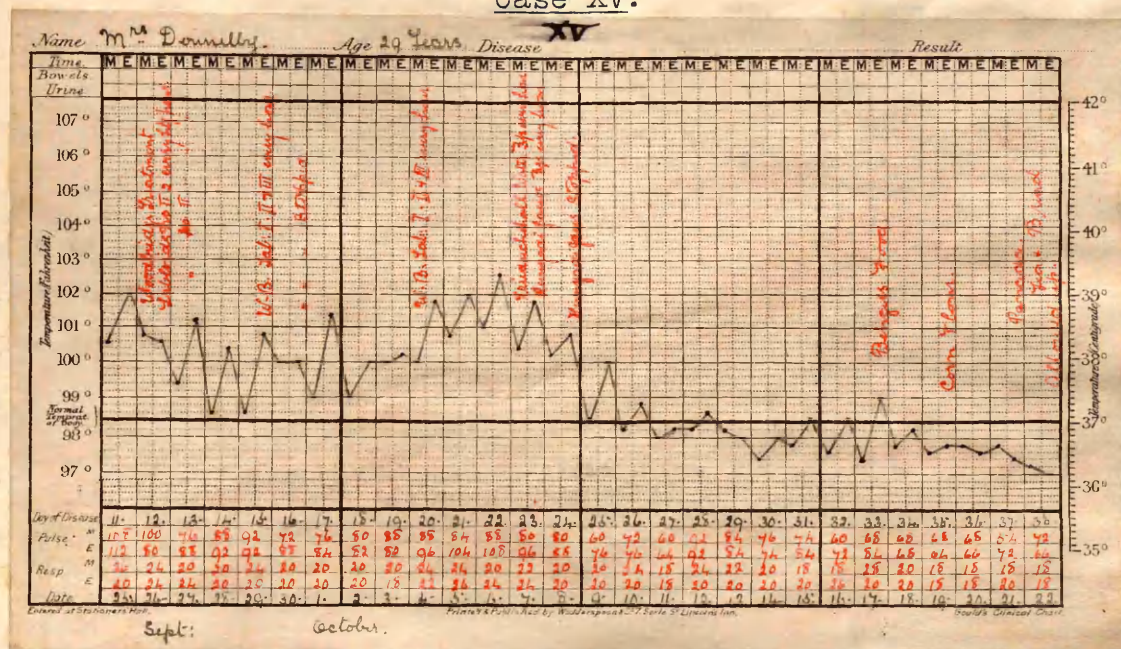
Note.

This was a very mild case and scarcely required treatment.

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## Case XV.



Mrs. D. Aged 29. Admitted 25. Sept. 1899.

History. Illness began 10 days ago with shivering and pain in back. Has had diarrhea for last four days.

On Admission. Temperature  $100.6^{\circ}$  Pulse 108. Respirations 26. Tongue coated. Abdomen lax & easily palpable. Several rose spots seen on abdomen. Spleen enlarged but not palpable. Heart and Lungs normal.

26th. Sept. (Twelfth day)  
Temperature  $100.8^{\circ}$  in morning.  $100.6^{\circ}$  in evening.  
Tabloid (No.1) two every half hour. Bowels moved five times to-day.

27th. Sept. (Thirteenth day)  
Temperature/

Temperature  $99.4^{\circ}$  in morning.  $101.2^{\circ}$  in evening.  
Tabloids No.2 given every half hour instead of No.1.  
Bowels only moved once to-day.

29th. Sept.

(Fifteenth day)

Temperature  $98.6^{\circ}$  in morning.  $100.4^{\circ}$  in evening.  
No.1, No.2, and No.3, one each hour alternately.  
Bowels moved three times to-day.

30th. Sept.

(Sixteenth day)

Temperature  $100^{\circ}$  in morning.  $100^{\circ}$  in evening.  
Tabloids stopped to-day.

4th. Oct.

(Twentieth day)

Temperature  $100^{\circ}$  in morning.  $101.8^{\circ}$  in evening.  
Tabloids & capsules given each hour alternately.

9th. Oct.

(Twenty fifth day)

Temperature normal this morning.  $100^{\circ}$  in evening.  
Tabloids stopped yesterday.

10th. Oct.

(Twenty sixth day)

Temperature normal both morning & evening.  
Convalescence uninterrupted and patient dismissed well.

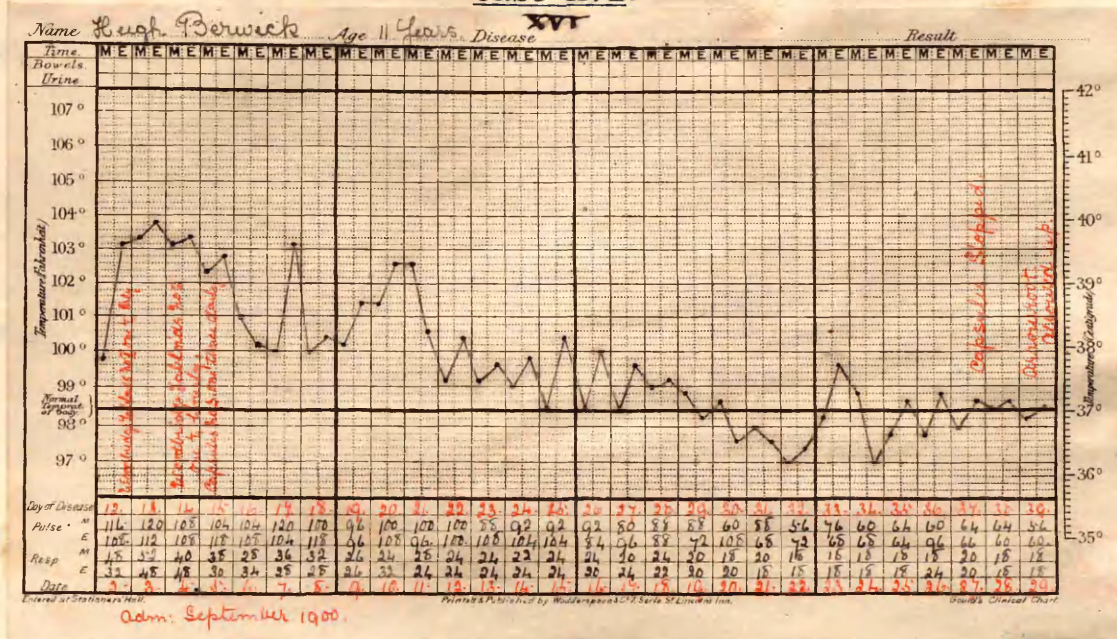
Note.

In this case the tabloids containing Calomel were given from the twelfth to the sixteenth days of illness, and then from the twentieth to the twenty fourth day/

twenty fourth day, as there was a recrudescence in temperature. The temperature however, never rose to any height. The tongue kept fairly clean and the bowels acted regularly.

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Hugh B.    Aged 11 years.    Admitted 2. Sept. 1900.

History.

Illness began 11 days ago with headache and abdominal pain. Has been confined to bed for last seven days.

On Admission.

Temperature 99.8° Pulse 116. Respirations 48.  
Tongue dry, brown and glazed in centre, moist at sides.  
Abdomen full and distended and tympanitic all over.  
No abdominal pain complained of. Spleen enlarged and palpable below costal margin. Heart normal.  
Lungs - some bronchitis present.

3rd. Sept.

(Thirteenth day)

Temperature 103.4° in morning. 103.8° in evening.  
Was put on Tabloid No.1 one every fifteen minutes last  
night. Bowels constipated & required enema.

4th. Sept. /

4th. Sept.

(Fourteenth day)

Temperature  $103.2^{\circ}$  in morning.  $103.4^{\circ}$  in evening.

Tabloid No.2 given every fifteen minutes. Bowels moved twice to-day.

5th. Sept.

(Fifteenth day)

Temperature  $102.4^{\circ}$  in morning.  $102.8^{\circ}$  in evening.

Tabloids **stopped**. Capsules given instead.

19th. Sept.

(Twenty ninth day)

Temperature reached normal to-day, although for the past seven days it has been only slightly elevated, usually normal in morning and about  $100^{\circ}$  in evening. Constipation has been marked & patient required regular enemata.

Note.

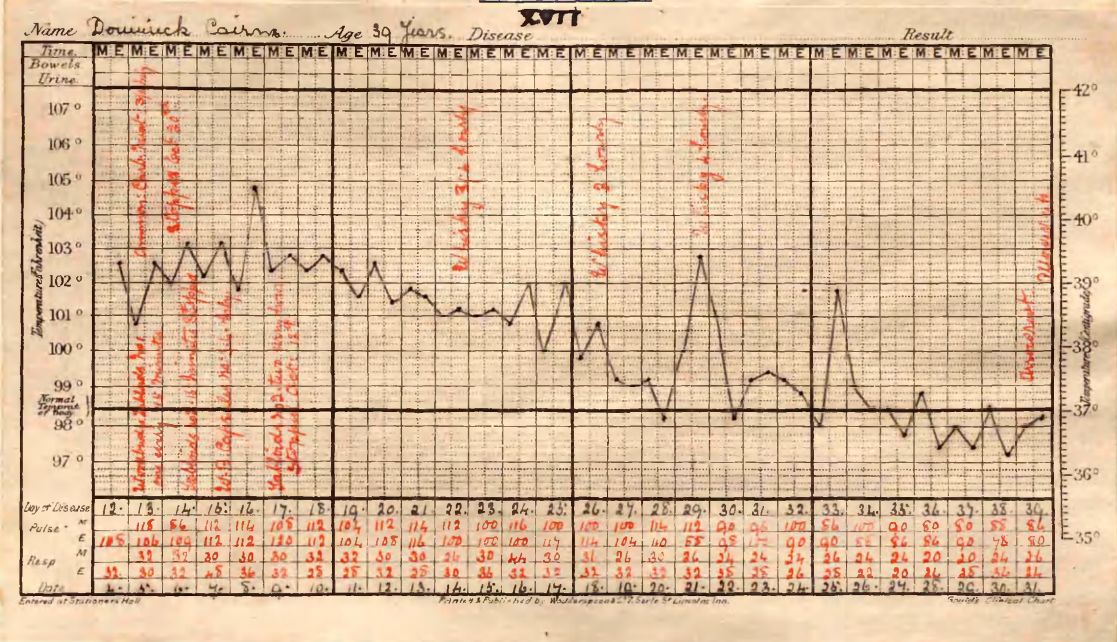
In this case it may be noticed that the temperature declined from the fourteenth to the sixteenth day, while the tabloids were being given, and that the fresh rise in patient's temperature was accompanied by constipation.

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(61)

## Case XVII.



Dominic C. Aged 39. Admitted 4. Oct. 1899.

History.

Illness began 11 days ago with headache and feeling out of sorts. No abdominal pain complained of.

Bowels have been regular.

On Admission.

Temperature 102.6° Pulse 108. Respirations 32. Tongue coated in centre but clean at edges and tip. Face somewhat dusky and cyanosed and respirations wheezing. Abdomen full. No pain elicited on palpation. Pain complained of at umbilicus. Liver normal. Spleen enlarged. No rose spots seen. Heart normal. Bronchitis present.

5th. Oct.

(Thirteenth day)

Temperature 100.8° in morning. 102.6° in evening.

One/

(62)

One tabloid (No.1) given every fifteen minutes.

Bowels have not moved since admission. Cough severe.

6th. Oct.

(Fourteenth day)

Temperature  $102^{\circ}$  in morning.  $103.2^{\circ}$  in evening.

Tabloid (No.2) given every fifteen minutes.

Bowels moved once to-day.

7th. Oct.

(Fifteenth day)

Temperature  $102.2^{\circ}$  in morning.  $103.2^{\circ}$  in evening.

Capsules given to-day in addition to tabloids. Bowels moved three times to-day. Bronchitis is still very severe.

9th. Oct.

(Seventeenth day)

Temperature  $102.4^{\circ}$  in morning.  $102.8^{\circ}$  in evening.

Two tabloids of No.2 to be given every hour. Has had two loose motions to-day.

12th. Oct.

(Twentieth day)

Temperature  $102.6^{\circ}$  in morning.  $101.4^{\circ}$  in evening.

Tabloids stopped. Patient much better generally, chest clearing and tongue clean and moist.

20th. Oct.

(Twenty eighth day)

Temperature normal to-day. Chest quite clear.

9th. Dec.

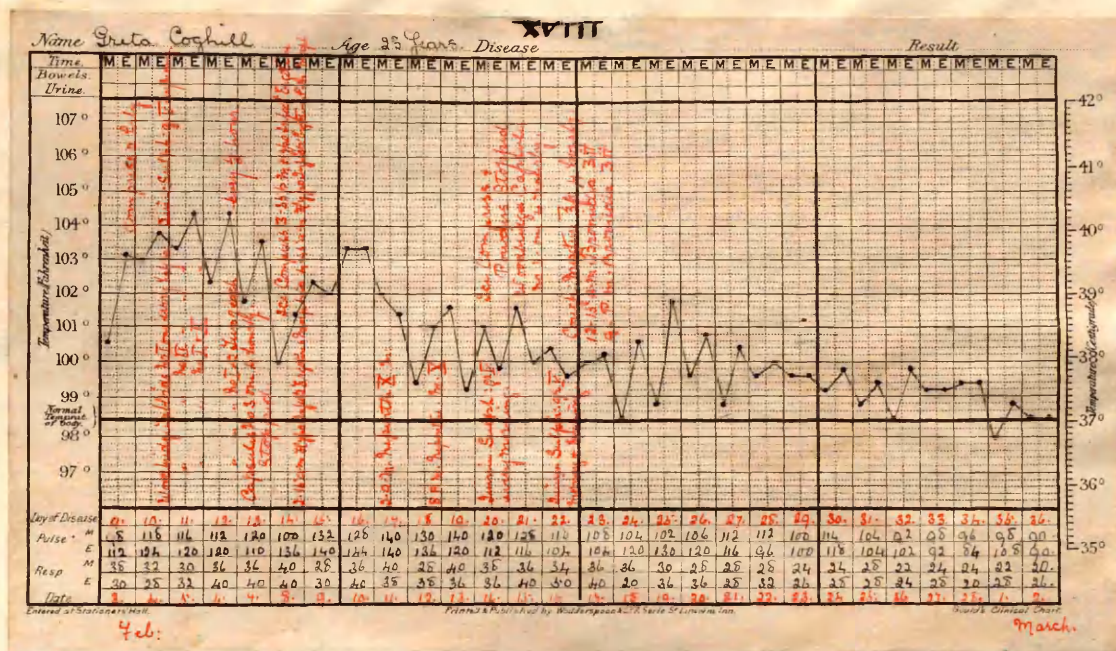
Dismissed well.

Note.

This case was much protracted by the severe bronchitis which accompanied the attack of enteric fever. The tabloids were given altogether from the thirteenth to the sixteenth day. The temperature reached normal on the twenty-eighth day, but on two subsequent occasions- the twenty-ninth and thirty-third day - there was an elevation of the evening temperature only, without anything to account for it.

---





Greta Coghill, aged 23. Admitted 3. Feby. 1900.

### History.

Illness began 9 nine days ago with shivering, headache and sickness and pain in left side. Has been confined to bed for past eight days. Has a sister in the same ward with enteric fever.

On Admission. Temperature 100.6° Pulse 98. Respirations 28.

Tongue coated on dorsum but red at edges and tip. Abdomen rigid. Pain complained of in region of umbilicus but no tenderness elicited on palpation. Spleen enlarged but not palpable. Heart normal.

Lungs - moist sounds heard at both bases but percussion clear. Burns from poulticing at home across back at level of inferior angles of Scapulae.

Urine normal.

4th. Feby. /

4th. Feby.

(Tenth day)

Temperature  $103^{\circ}$  in morning.  $103.8^{\circ}$  in evening.

Constipation since admission and required enema.

One tabloid (No.1) given every half hour.

5th. Feby.

(Eleventh day)

Temperature  $103.4^{\circ}$  in morning.  $104.4^{\circ}$  in evening.

Tabloid (No.2) given and in evening, one each of No.1 and No.2 every half hour. Bowels have only moved once to-day.

6th. Feby.

(Twelfth day)

Temperature  $102.4^{\circ}$  in morning.  $104.4^{\circ}$  in evening.

Is getting quinine Sulphate gr.V every morning to reduce the temperature. As bowels only moved once to-day is to have two tabloids of No.1 and No.2 every half hour.

7th. Feby.

(Thirteenth day)

Temperature  $101.8^{\circ}$  in morning.  $103.6^{\circ}$  in evening.

Has had six loose motions to-day. Tabloids stopped, and patient put on Capsules instead. Abdomen somewhat rigid and distended. No pain complained of. Spleen enlarged but not palpable. Is sleeping well at night.

8th. Feby.

(Fourteenth day)

Temperature/



Temperature  $100^{\circ}$  in morning.  $101.4^{\circ}$  in evening.

Patient had a haemorrhagic motion at 1 a.m. this morning.

Hypodermic injections of ergotin citrate and morphine given. Had altogether four haemorrhagic motions, the last at 4 a.m.

9th. Feby.

(Fifteenth day)

Temperature  $102.4^{\circ}$  this morning.  $102^{\circ}$  in evening.

Had haemorrhagic motions at 9 p.m. and 11.30 p.m. last night and 3.30 a.m. this morning. Pulse very weak and patient requiring stimulants.

10th. Feby.

(Sixteenth day)

Temperature  $103.4^{\circ}$  in morning.  $103.4^{\circ}$  in evening.

Has been very quiet all day. At 10.45 p.m. had slight haemorrhagic motion.

11th. Feby.

(Seventeenth day)

Temperature  $102^{\circ}$  in morning.  $101.4^{\circ}$  in evening.

Had haemorrhagic motions at 4 a.m. 10 a.m. and 11.50 a.m. to-day. Severe bronchitis is present.

14th. Feby.

(Twentieth day)

Temperature  $101^{\circ}$  in morning.  $99.8^{\circ}$  in evening.

Has had no haemorrhagic motion since last noted. Has however, had several partly formed dark motions.

Altogether/

Altogether her condition is much improved.

16th. Feby.

(Twenty second day)

Temperature  $100.4^{\circ}$  in morning.  $99.6^{\circ}$  in evening.

Brónchitis still present.

1st. March.

(Thirty fifth day)

Temperature normal to-day.

Chest clear. Patient has an eruption of boils, principally on buttocks but also seen on trunk and extremities.

Patient had afterwards an attack of catarrhal jaundice but was ultimately dismissed well.

Note.

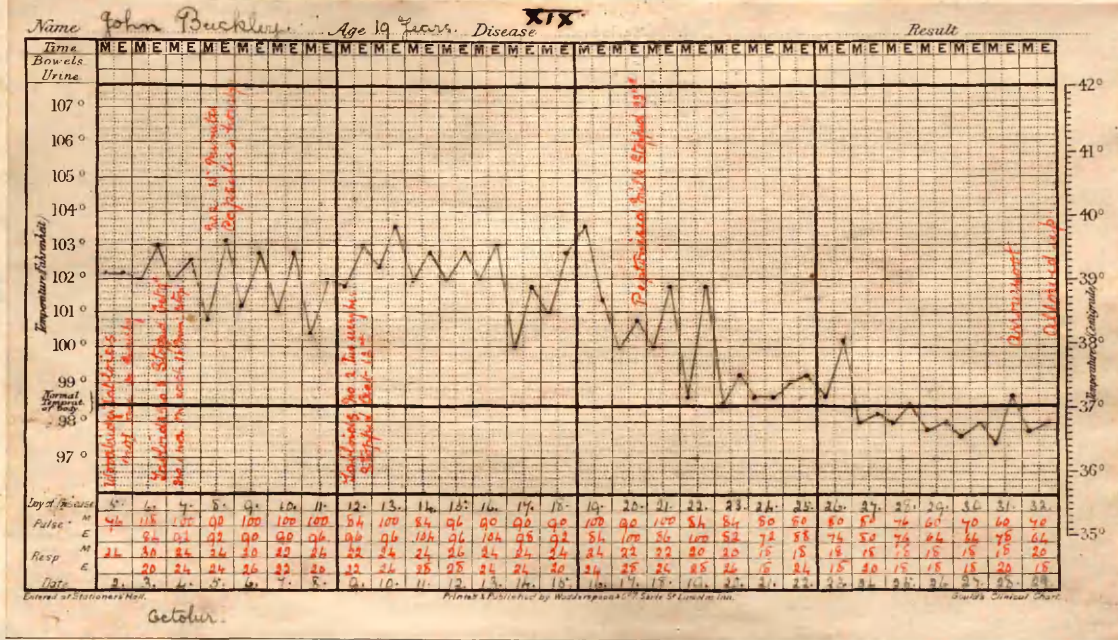
In this case the patient was given the tabloids from the tenth to the thirteenth day of illness.

On the thirteenth day she was getting gr.  $\frac{1}{2}$  Calomel every hour she was awake, so that she got about 5 grains of Calomel in small doses on the thirteenth day of illness. On the fourteenth day haemorrhage occurred, possibly due to the treatment adopted. It will be noticed that the temperature fell at once nearly  $3\frac{1}{2}$  degrees on the occurrence of haemorrhage. The treatment was in this case pushed as the Calomel appeared to have no effect in causing diarrhea. The temperature was kept up at the/

the end of attack of enteric fever by the occurrence of boils on buttocks &c. and during convalescence patient suffered from an attack of catarrhal jaundice.

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## Case XLX.



John Buckley. Aged 19. Admitted 2. Oct. 1900.

History.

Illness began 4 days ago with sickness, vomiting, headache and pains in back. Has been in bed since onset of illness.

On admission.

Temperature 102.2° Pulse 76. Respirations 24. Tongue coated on dorsum. Abdomen tense and rigid. Pain complained of in epigastric region. No tenderness elicited on palpation. No rose spots. Liver and spleen normal. Cardiac sounds normal. Lungs clear.

3rd. Oct.

(Sixth day)

Temperature 102° in morning. 103° in evening.

Tabloid No.1 given every fifteen minutes.

Constipation since admission.

4th. Oct./

4th. Oct.

(Seventh day)

Temperature  $102^{\circ}$  in morning.  $102.6^{\circ}$  in evening.

Tabloid No.2 given every fifteen minutes. Three loose motions to-day.

4th. Oct.

(Eighth day)

Temperature  $100.8^{\circ}$  in morning.  $103.2^{\circ}$  in evening.

Tabloids of No.1 and No.2 given every 15 minutes.

Five loose motions to-day. Abdomen still full and spleen large.

4th. Oct.

(Ninth day)

Temperature  $101.2^{\circ}$  in morning.  $102.8^{\circ}$  in evening.

Four loose motions to-day. Tabloid No.2 alone given every fifteen minutes. Capsules every four hours.

4th. Oct.

(Eleventh day)

Temperature  $100.4^{\circ}$  in morning.  $102^{\circ}$  in evening.

Six loose motions to-day. Tabloids stopped.

4th. Oct.

(Twelfth day)

Temperature  $101.8^{\circ}$  in morning.  $103^{\circ}$  in evening.

Four loose motions to-day. Two tabloids of No.2 given every hour. Spleen enlarged. No rose spots seen.

4th. Oct.

(Fifteenth day)

Temperature/



Temperature  $102^{\circ}$  in morning.  $102.8^{\circ}$  in evening.

Six loose motions to-day. Tabloids stopped.

20th. Oct. (Twenty second day)

Temperature normal to-day.

16th. Dec. Dismissed well.

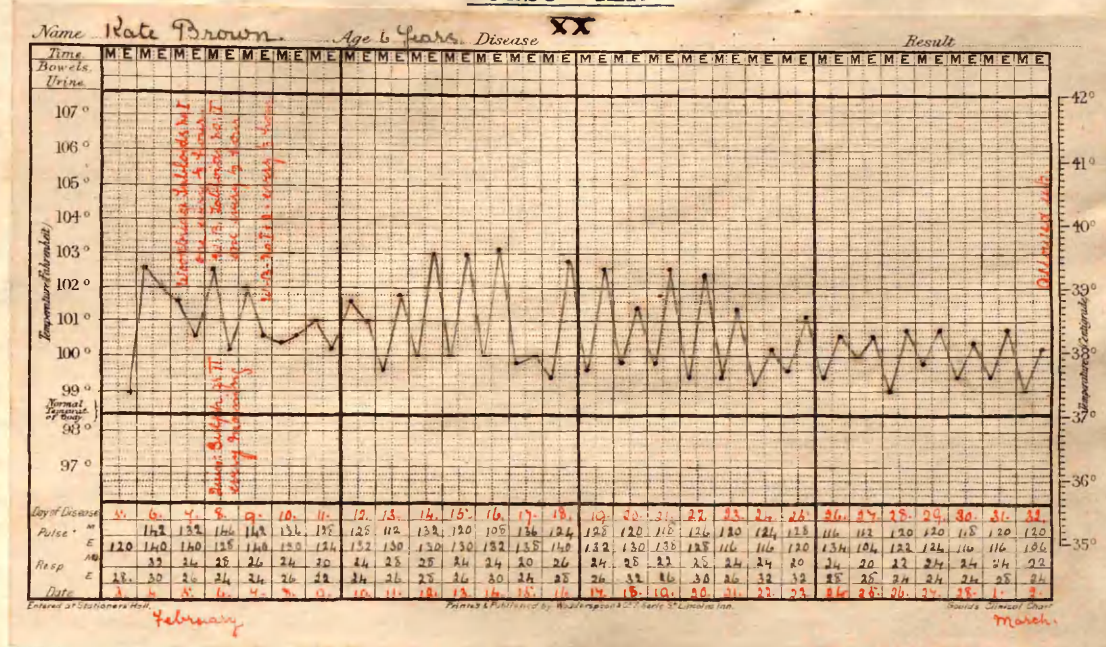
Note.

This patient received the tabloids from the sixth to the fifteenth day of illness, and on the eighth day of illness was receiving Calomel gr.  $\frac{1}{2}$  every hour when awake.

Diarrhea was a marked feature of the case about four loose motions per day. Notwithstanding this the temperature remained steady, about  $102^{\circ}$  for a fortnight, from the fifth to the nineteenth day of illness.

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## Case XX.



Kate B. Aged 6. Admitted 3. Feby. 1900.

History. Illness began four days ago with sickness, vomiting, headache and diarrhea. Has been in bed since onset of illness.

On Admission. Temperature 99° Pulse 120. Respirations 28. Tongue brown & fissured in centre, coated at sides and red at edges. Abdomen distended and rigid. Abdominal pain complained of but not definitely localised. Liver normal. Spleen not enlarged. No rose spots. Heart and Lungs normal. Urine clear.

5th. Feby. (Seventh day) Temperature 101.6° in morning. 100.6° in evening. Tabloids (No.1) given every half hour. Bowels have not moved since admission and required enema.

6th. Feby.

(Eighth day)

Temperature  $102.6^{\circ}$  in morning.  $100.2^{\circ}$  in evening.

Tabloid (No.2) given every half hour. One loose motion today.

7th. Feby.

(Ninth day)

Temperature  $102^{\circ}$  in morning.  $100.6^{\circ}$  in evening.

Four loose motions to-day. Sibilant rhonchi heard over both lungs but bases clear. No distension of abdomen. Spleen enlarged.

Both No.1 & No.2 given every half hour.

8th. Feby.

(Tenth day)

Temperature  $100.4^{\circ}$  in morning.  $100.6^{\circ}$  in evening.

Three loose motions to-day. Tabloids stopped and patient put on Capsules. Patient has discharged from both ears.

4th. March.

(Thirty fourth day)

Temperature normal to-day.

2nd. May.

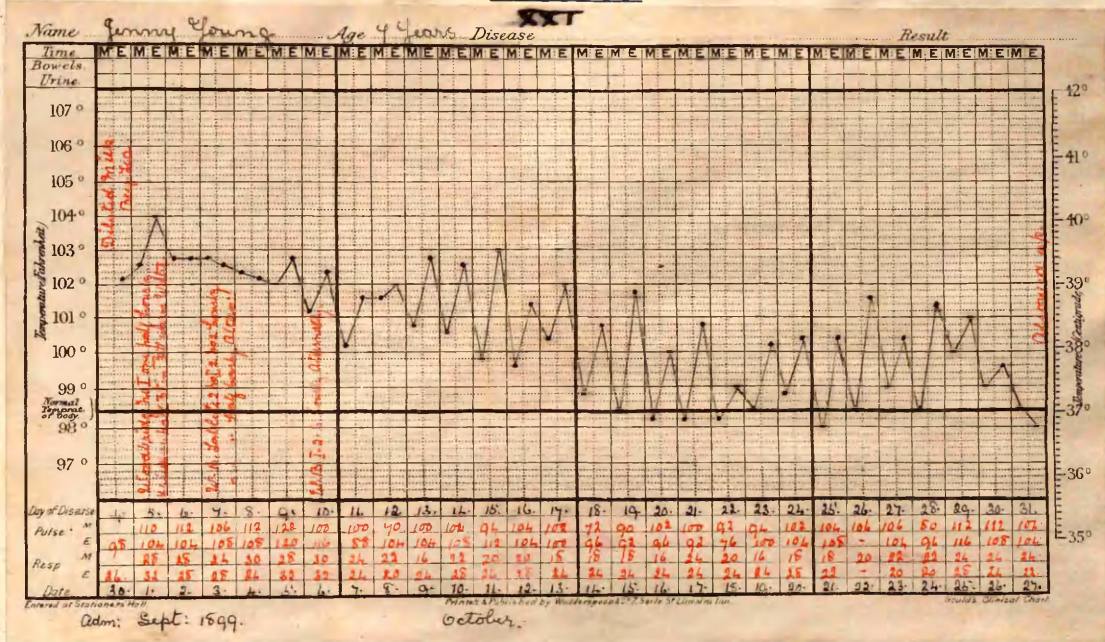
Dismissed well.

Note.

This was one of the cases which gave a negative Widal's reaction with 1 in 50. Patient had a profuse discharge from both ears which kept up the temperature for a considerable time.



(74)

Case XXI.

Jenny Y. Aged 7. Admitted 30. Sept. 1899.

History.

Illness began 3 days ago with pain in the back, loss of appetite, shivering, sickness, vomiting and diarrhea. Has been confined to bed since onset of illness.

On Admission.

Temperature 102.2° Pulse 98. Respirations 26.

Face flushed. Tongue covered with white fur.

Abdomen distended and painful on palpation. Spleen enlarged. Gurgling in Right iliac fossa. No rose spots seen. Heart & Lungs normal. Urine normal.

1st. Oct.

(Fifth day)

Temperature 102.6° in morning. 104° in evening.

Constipation since admission. Tabloid (No.1) given every/

every half hour.

3rd. Oct.

(Seventh day)

Temperature  $102.8^{\circ}$  in morning.  $102.6^{\circ}$  in evening.

Two tabloids of No.1 and two of No.2 given every hour, alternately.

Two loose motions to-day.

6th. Oct.

(Tenth day)

Temperature  $101.2^{\circ}$  in morning.  $102.40$  in evening.

One of No.1, No.2 and No.3 given hourly alternately.

Four loose motions to-day. Rose spots appearing.

Spleen enlarged.

18th. Oct.

(Twenty second day)

Temperature  $98.2^{\circ}$  in morning.  $99^{\circ}$  in evening.

Bowels moving regularly. Treatment stopped.

23rd. Dec.

Dismissed well.

Note.

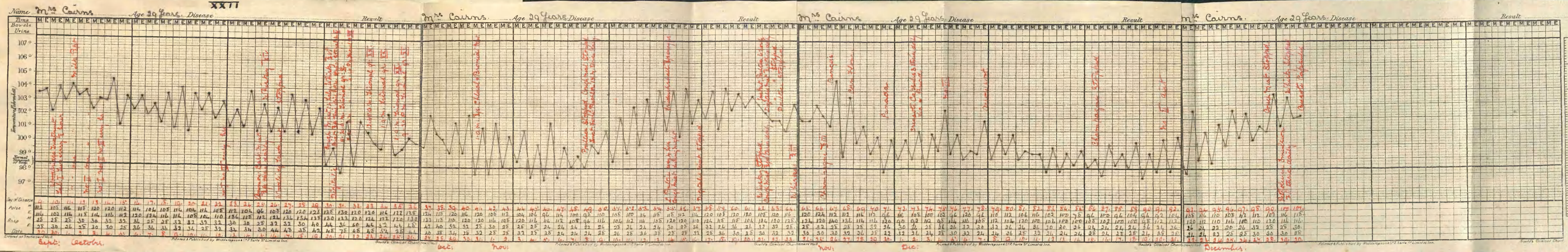
This patient received the tabloids of Calomel from the fifth to the twenty second day of illness. Temperature became normal on the 22nd. day, but afterwards was irregular for some eight days.

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Case XXII.

XXII



Mrs. C. aged 27. Admitted 29. Sept. 1899.

History. Illness began 8 days ago with loss of appetite, lassitude, headache and pain in back. No diarrhea. Has been in bed for last three days.

Admission. Temperature  $103.6^{\circ}$  Pulse 112. Respirations 28.

Patient flushed. Tongue dry and glazed.

Abdomen distended. Pain on pressure in right iliac region. No rose spots. No definite enlargement of spleen. Urine shows trace of albumen.

10th. Sept. (Tenth day)

Temperature  $102.2^{\circ}$  in morning.  $104^{\circ}$  in evening.

Two tabloids of No.1 given every half hour.

Was /



(77)

Was very restless last night. Had two loose motions to-day.

1st. Oct.

(Eleventh day)

Temperature  $103^{\circ}$  in morning.  $104.2^{\circ}$  in evening.

Had six loose motions to-day. One tabloid of No.1 to be given every half hour.

2nd. Oct.

(Twelfth day)

Temperature  $103.4^{\circ}$  in morning.  $103.8^{\circ}$  in evening.

Had eight loose motions to-day. Tabloid of No.2 to be given every half hour.

3rd. Oct.

(Thirteenth day)

Temperature  $102.4^{\circ}$  in morning.  $103.2^{\circ}$  in evening.

Tabloid (No.1), Tabloid No.2 and Capsules (No.3) to be given every hour alternately. Had seven loose motions to-day. Abdomen still full but no pain complained of. Spleen large.

16th. Oct.

(Twenty sixth day)

Temperature  $100.8^{\circ}$  in morning.  $102.6^{\circ}$  in evening.

Treatment stopped. Has been having, on an average about five loose motions per day. Numerous moist rales and rhonchi at both bases of lungs but no impairment of percussion note or bronchial breathing.

20th. Oct. /

20th. Oct.

(Thirtieth day)

Temperature normal to-day.

21st. Oct.

(Thirty first day)

Temperature  $98^{\circ}$  in morning.  $101.6^{\circ}$  in evening.

Attack of acute nephritis.

14th. Nov.

(Fifty fifth day)

Temperature  $101^{\circ}$  in morning.  $104^{\circ}$  in evening.

Considerable bronchitis and moist rales at both bases.

Deposit of albumen still present in urine.

2nd. Dec.

(Seventy third day)

Temperature  $99^{\circ}$  in morning.  $101^{\circ}$  in evening.

Sibilant rhonchi heard over both sides of chest in front.

Impaired percussion note at left apex.

10th. Dec.

(Seventy first day)

Temperature  $98.2^{\circ}$  in morning.  $100.4^{\circ}$  in evening.

At left apex percussion note quite flat and numerous moist rales are heard. Urine still contains a considerable quantity of albumen.

2nd. Jany.

(Eighty fifth day)

Patient feeling very weak. Signs of excavation at right apex now. Widal's reaction still present.

14th. Jany.

Dismissed.

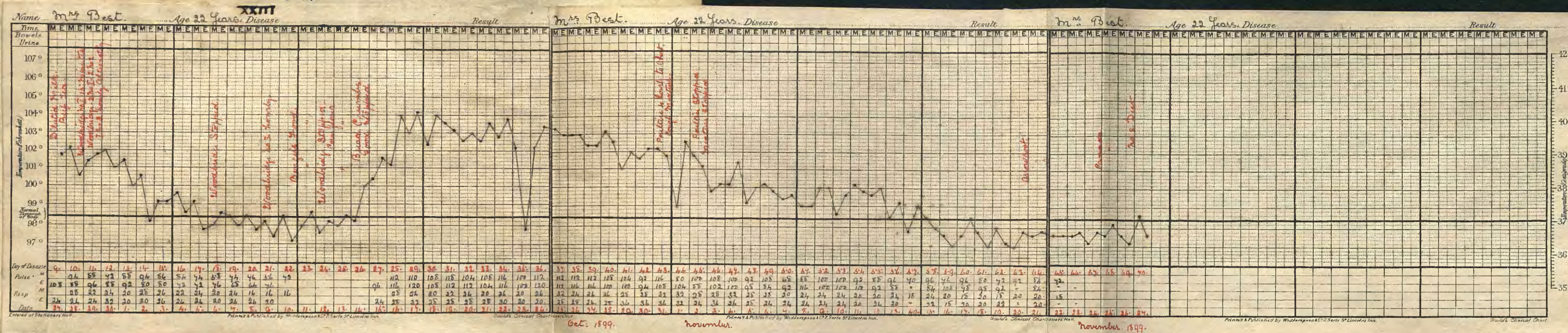
Note./

Note.

This patient received the tabloids containing Calomel from the tenth to the twenty sixth day of illness, although at no time was she getting more than Calomel gr.  $\frac{1}{4}$  per hour. However, there was marked diarrhea from the tenth to the thirtieth day of illness. This case was a severe one, complicated by the occurrence of nephritis and ended in the patient being dismissed with phthisis.

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Mrs. B. Admitted 27th. Sept. 1899.

History.

Illness began 8 days ago with shivering, headache, sickness, vomiting, loss of appetite and pains in limbs. Has had diarrhea since onset of illness. Epistaxis also at onset. Has been confined to bed since beginning of illness.

Admission.

Temperature 101.8° Pulse 108. Respirations 24. Tongue furred. Abdomen somewhat full. Liver normal. Spleen enlarged to percussion. No rose spots. No pain on palpation in iliac regions.

8th. Sept.

(Tenth day)

Temperature 102.2° in morning. 100.6° in evening. Tabloid (No.1) given every fifteen minutes.

10th. Sept./



30th. Sept.

(Twelfth day)

Temperature  $102^{\circ}$  in morning.  $101^{\circ}$  in evening.

Two tabloids of No.1 two of No.2 and Capsule No.3 given alternately and hourly. Patient had four loose motions yesterday.

6th. Oct.

(Eighteenth day)

Temperature normal to-day both morning and evening.

Bowels have been moving regularly on an average about two motions per day. Tabloids stopped.

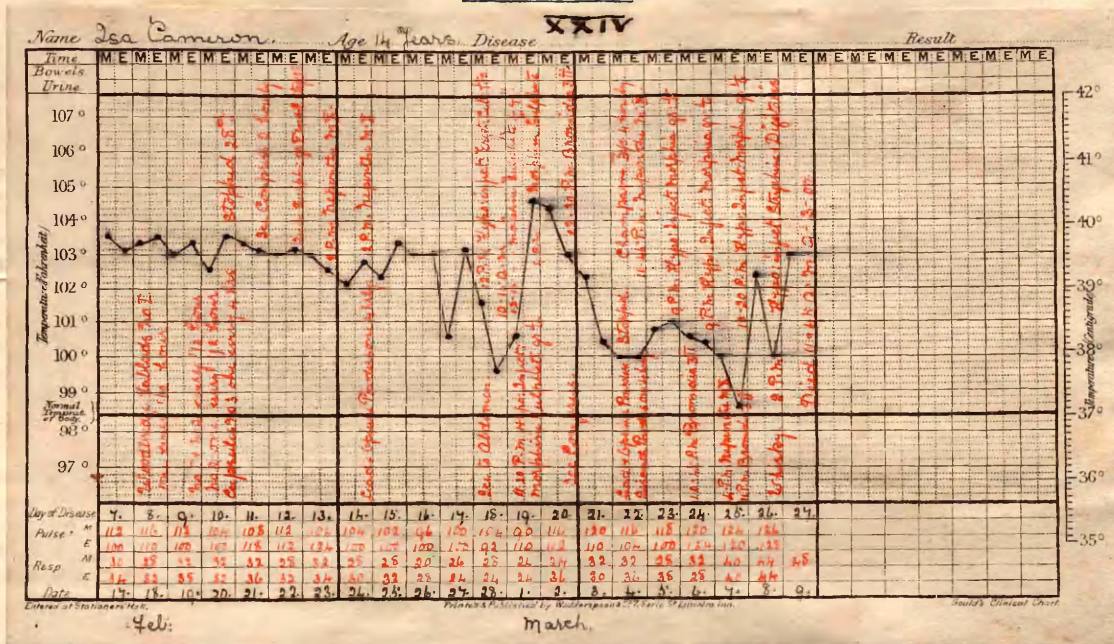
23rd. Dec.

Dismissed - Well.

Note.

This patient had the tabloids containing Calomel from the tenth to the sixteenth days of illness with the effect that the bowels moved regularly twice daily. From the tenth to the twelfth day patient had Calomel gr.  $\frac{1}{4}$  hourly when awake and from the twelfth to the eighteenth day Calomel gr.  $\frac{1}{8}$  for two hours and then an interval of an hour. Temperature became normal on the seventeenth day, but after an interval of eight days patient relapsed and the temperature was sustained from the twenty sixth to the fifty sixth day of illness.

## Case XXIV.



History. Illness began 6 days ago with sickness, vomiting, headache and diarrhea. Complained of pain in back and chest. Has been in bed since onset of illness.

On Admission. Temperature  $103.6^{\circ}$  Pulse 112. Respirations 30. Tongue coated on dorsum but red at edges and tip. Face shows dusky flush over both malar regions. Abdomen tense and rigid. No pain complained of and no pain on palpation. Fully a dozen rose spots on abdomen. Spleen enlarged but not palpable. First cardiac sound is weak. Numerous sibilant rhonchi heard over both lungs. Motion passed has typical appearance

18th. Feby./

18th. Feby.

(Eighth day)

Temperature  $103.4^{\circ}$  in morning.  $103.6^{\circ}$  in evening.

Tabloid No.1 given every half hour. Three loose motions afterwards.

19th. Feby.

(Ninth day)

Temperature  $103^{\circ}$  in morning.  $103.4^{\circ}$  in evening.

Both No.1 and No.2 given every half hour. Seven loose motions to-day.

20th. Feby.

(Tenth day)

Temperature  $102.6^{\circ}$  in morning.  $103.6^{\circ}$  in evening.

Tabloid No.2 given alone every half hour. Also given one Capsule every four hours. Patient had again seven loose motions to-day.

21st. Feby.

(Eleventh day)

Temperature  $103.4^{\circ}$  in morning.  $103.2^{\circ}$  in evening.

Tabloids stopped to-day on account of diarrhea.

24th. Feby.

(Fourteenth day)

Temperature  $102.2^{\circ}$  in morning.  $102.8^{\circ}$  in evening.

Diarrhea has been so troublesome as to require use of astringents.

28th. Feby.

(Eighteenth day)

Temperature  $101.6^{\circ}$  in morning.  $99.6^{\circ}$  in evening.

Had/

Had two haemorrhagic motions to-day containing 14 and 12 ounces of blood.

1st. March.

(Nineteenth day)

Temperature  $100.6^{\circ}$  in morning.  $104.6^{\circ}$  in evening.

Had another haemorrhagic motion to-day containing 21 ounces of blood.

6th. March.

(Twenty fourth day)

Temperature  $100.6^{\circ}$  in morning.  $100.4^{\circ}$  in evening.

Has had no more haemorrhage since last note.

Was very restless and delirious last night. For past three days has been retching and vomiting at intervals. Gradually growing weaker.

9th. March.

(Twenty seventh day)

Died.

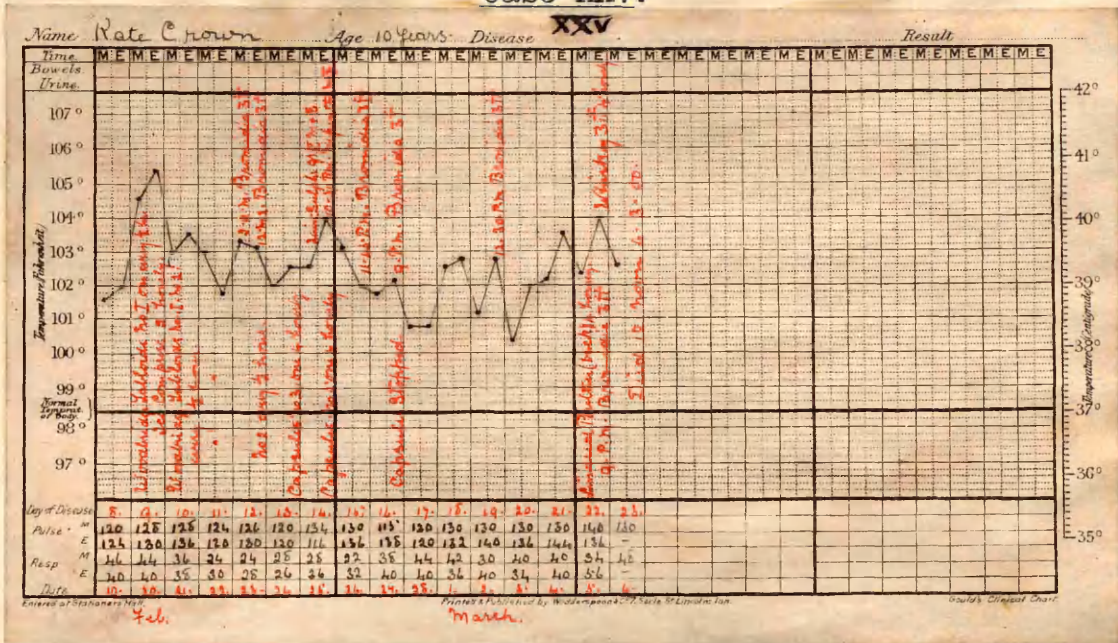
Note.

This patient received the tabloids containing Calomel from the eighth to the eleventh days of illness, with the effect of causing great diarrhea. Her temperature remained persistently high at about  $103^{\circ}$ . On the eighteenth & nineteenth days haemorrhage occurred and patient died eight days afterwards.

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## Case XXV.



Kate C. Aged 10. Admitted 19. Feby. 1900.

History.

Illness began 7 days ago with sore throat, sickness, vomiting and pain in the back. Has been confined to bed for the last five days.

On Admission.

Temperature  $101.6^{\circ}$  Pulse 120. Respirations 46. Tongue dry and fissured in centre, brownish fur at edges. Abdomen slightly distended. Patient complained of below umbilicus but no tenderness on palpation. Four rose spots seen on abdomen. Liver normal. Spleen felt on deep inspiration. Heart normal. Numerous sibilant rhonchi heard over both lungs. Urine shows haze of albumen.

20th. Feby. /



20th. Feby.

(Ninth day)

Temperature 104.6° in morning. 105.4° in evening.

One tabloid of No.1 given every half hour. Bowels constipated since admission and enema required.

21st. Feby.

(Tenth day)

Temperature 103° in morning. 103.6° in evening.

Both No.1 and No.2 given every half hour. One loose motion to-day.

23rd. Feby.

(Twelfth day)

Temperature 103.4° in\* morning. 103.2° in evening.

Tabloid No.2 to be given alone every half hour. Patient had three loose motions to-day.

24th. Feby.

(Thirteenth day)

Temperature 102° in morning. 102.6° in evening.

Tabloids stopped and Capsules given.

5th. March.

(Twenty second day)

Temperature 102.4° in morning. 104° in evening.

Temperature is rising again. Considerable cyanosis of extremities. Passive congestion of bases of both lungs. Pulse quick and feeble.

6th. March.

(Twenty third day)

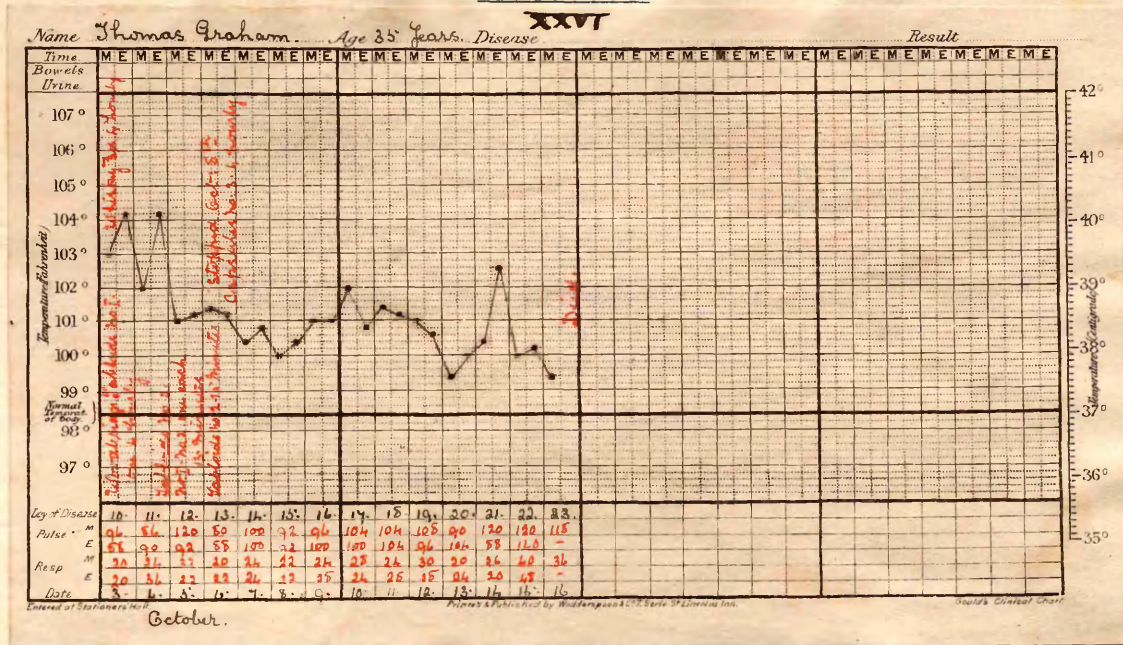
Died.

Note.

This was a severe case ending fatally on the twenty third day. The patient received the tabloids containing Calomel from the ninth to the thirteenth day of illness. The bowels moved fairly regularly with no tendency to diarrhea.

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## Case XXVI.



Thos. G. Aged 35. Admitted 3. Oct. 1899.

History.

Illness began 10 days ago with shivering, headache and pains in limbs. Has had diarrhea for last five days. Has been confined to bed for eight days.

On Admission.

Temperature 103° Pulse 96. Respirations 20.

Face dusky and beaded with perspiration.

Tongue coated. Abdomen full. No rigidity or tenderness. Spleen enlarged. No rose spots. Liver normal.

Cardiac sounds weak. Lungs clear. Widal's reaction positive. Bowels constipated and enema required.

Tabloids (No.1) one given every four hours.

4th. Oct.

(Eleventh day)

Temperature 102/

Temperature  $102^{\circ}$  in morning.  $104.2^{\circ}$  in evening.  
Tabloids (No.2) one every four hours. One loose  
motion to-day.

5th. Oct.

(Twelfth day)

Temperature  $101^{\circ}$  in morning.  $101.2^{\circ}$  in evening.  
One each of No.1 and No.2 given every fifteen minutes.  
Bowels have not moved to-day.

6th. Oct.

(Thirteenth day)

Temperature  $101.4^{\circ}$  in morning.  $101.2^{\circ}$  in evening.  
One tabloid of No.2 every fifteen minutes. Capsules  
to be given every four hours. Bowels have not moved  
to-day.

8th. Oct.

(Fifteenth day)

Temperature  $100^{\circ}$  in morning.  $100.4^{\circ}$  in evening.  
Bowels moved twice yesterday and once to-day.  
Tabloids stopped.

12th. Oct.

(Nineteenth day)

Temperature  $101^{\circ}$  in morning.  $100.6^{\circ}$  in evening.  
Patient looking very ill. Pulse weak & intermittent.

16th. Oct.

(Twenty third day)

Signs of cardiac failure intervened and patient died  
to-day.



Note.

This was a severe case with a fatal termination. The tabloids were given from the eleventh to the fifteenth day of illness and had little effect on the bowels. It will be noticed however, that the temperature dropped  $3^{\circ}$  the day after administration of Calomel was begun.

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### Results of Treatment by Calomel.

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It will be seen from the charts that of the twenty six cases treated, sixteen appeared to benefit by the treatment, and in ten of these the temperature fell to normal before the twenty first day. Most of the cases came under treatment early and it will be noticed that children did best with the treatment and that adults did not appear to do so well.

Case I. a man of 23, however, showed a very marked improvement with this treatment. The patient was so ill on admission that a doubtful prognosis was given, but it cannot be denied that the Calomel treatment had a marked effect on the course of his temperature, which began to decline at once and as soon as the bowels began to move. The effect was quite surprising. The patient's general condition at the same time became more hopeful, the disease milder and the temperature reached normal on the 17th. day of illness. Case III. also showed a marked improvement with the treatment, the temperature also settling to normal on the 17th. day.

The most striking point was the improvement in the tongue/

tongue and the condition of the abdomen. A full or tympanitic abdomen was never seen. The mental and nervous condition was in every case much improved. Improvement in the circulatory and respiratory system was not so marked.

Although Calomel was usually only given for four days it was found that it could be given for longer periods with benefit to the patient and without apparent ill-effects. In some cases it was found extremely difficult to get the bowels to act. Diarrhea after the Calomel was stopped, was unknown. The diarrhea caused by the treatment only became excessive in two cases, Case XXII. which ended in phthisis, and Case XXIV. where it was followed by haemorrhage on the 18th. and 19th. days of illness, and patient died on the 27th. day of illness.

The treatment by Calomel seemed in a large proportion of cases to have some effect in shortening the duration of the disease, and it appeared also to be effective in preventing complications during convalescence, all the successful cases making an uneventful recovery, with the exception of one which relapsed after an interval of eight days. This relapse would give/

give a percentage of 3.8 of the cases treated by Calomel, the percentage of relapses in the total number of cases (180) being also 3.8.

Haemorrhage occurred in two of the cases giving a percentage of 7.6 of the cases treated by Calomel, which is heavier than in the total number of cases treated where it was 5 per cent.

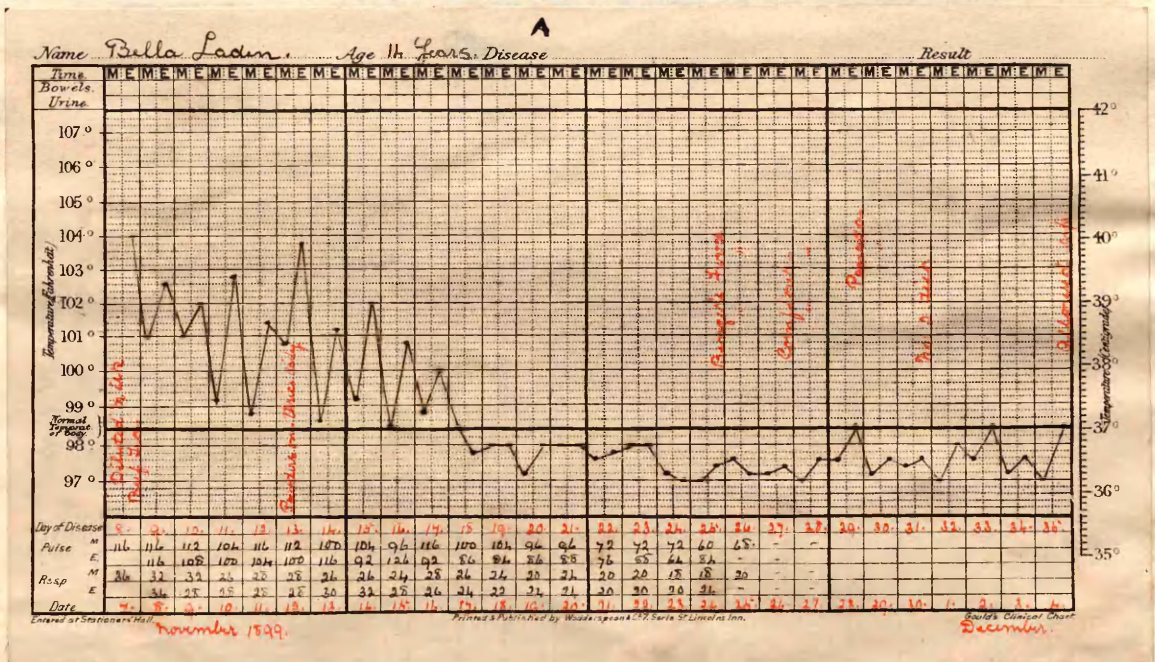
Death occurred in three cases out of the twenty six, giving a mortality of 11.5 per cent.

Taking into account the fact that improvement in adult cases of enteric fever was not so marked, I feel that the risks are so great that treatment by Calomel is unadvisable, at any rate after the twelfth day, and that milder measures in the way of antiseptic treatment are to be preferred.



## Alpha - naphthol.

This drug has been recommended by Maximovitch and Teissier as being less toxic than Beta naphthol, and I found it much more satisfactory than the treatment by Calomel. I gave it in 5 grain doses thrice daily, combined with 10 grains of Sodium Benzoate and 5 grains of Bismuth Salicylate. I append notes and charts of two of the cases treated by Alpha naphthol.



Bella L. Aged 14. Admitted 7. Nov. 1899.

History.

Illness began 7 days ago with headache, sickness, vomiting and abdominal pain. Bowels have been constipated. Has been confined to bed for last five days.

On Admission/

On Admission. Temperature  $104^{\circ}$  Pulse 116. Respirations 36.  
Face flushed. Tongue covered with white fur but red  
at edges. Abdomen full. No rose spots visible.  
No pain on palpation. No gurgling in right iliac  
fossa. Spleen enlarged. Heart and lungs normal.  
Urine clear.

12th. Nov. (Thirteenth day)  
Temperature  $100.8^{\circ}$  in morning.  $103.8^{\circ}$  in evening.  
Respiratory murmur roughened at both base. Bowels  
regular. Alpha naphthol powders begun to-day.

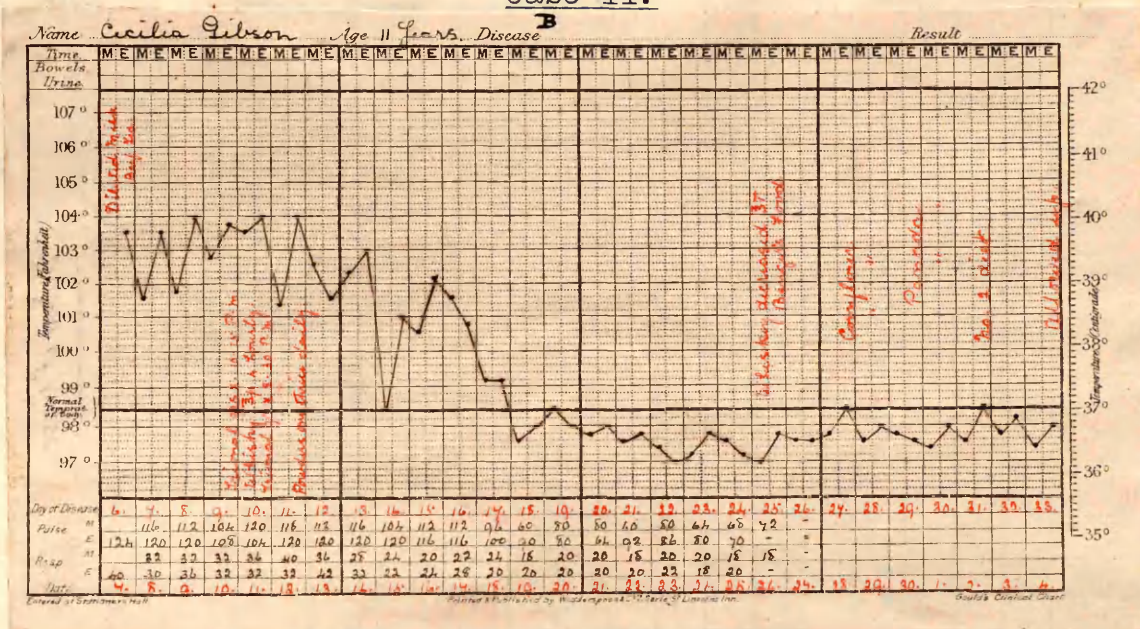
17th. Nov. (Eighteenth day)  
Temperature normal to-day.

30th. Dec. Dismissed well.

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## Case 11.



Cecilia G. Aged 11. Admitted 7. Nov. 1899.

History.

Illness began five days ago with general malaise.

Bowels have been constipated. Patient has been in bed since onset of illness.

On Admission.

Temperature  $103.6^{\circ}$  Pulse 124. Respirations 40.

Patient flushed. Tongue coated on dorsum.

Abdomen not distended. One distinct rose spot seen.

Spleen enlarged. Liver normal. Urine clear.

12th. Nov.

(Eleventh day)

Temperature  $101.4^{\circ}$  in morning.  $104^{\circ}$  in evening.

Has been restless and delirious at night. Alpha naphthol powders given to-day.

19th. Nov./

19th. Nov.

(Eighteenth day)

Temperature normal to-day.

30th. Dec.

Dismissed. Well.

This treatment was tried altogether in eight cases and proved very satisfactory. As a rule a diminution in temperature was at once noticed, the tongue became clean, the skin moist, cough, if present, easier, and altogether the patient was made more comfortable.

This action was probably not entirely due to Alpha Naphthol but in some measure to Sodium benzoate, not merely in its effect as an antipyretic but also in its remote local effects on the skin, kidneys and respiratory organs. The action of Alpha naphthol and bismuth salicylate would of course be directly on the intestine and its contents.

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Thymol.

This was used in sixteen cases. It was administered in the form of a pill containing 2 grains of thymol and given thrice daily. The results were not very satisfactory. Persistent high temperatures frequently required treatment by quinine, ice compresses and sponging. Tympanitis was well marked in one case. In two out of the sixteen cases treated relapses occurred, in each case after an interval of eight days.

Iodoform.

Iodoform has been strongly recommended in the treatment of enteric fever especially in cases where there is in addition pneumonia or much bronchitis. It was used in three cases, 1 grain being given in pill every four hours. Very little effect was seen from its use, although all the cases made a good recovery. The patients took it well and there was at no time any evidence of gastro-intestinal irritation.

Chlorine and Quinine.

These were tried in nineteen cases, according to Burney Yeo's Method, an ounce of the solution (containing 2 grains of quinine) being given every two, three or four hours as required. They frequently moderated the temperature/

temperature and improved the general condition. In some cases however, although the fever moderated, the case dragged on tediously and even recrudescence occurred. No relapses occurred among the cases treated in this way.

Chlorine alone in the same dose, flavoured with syrup of orange was tried in five cases but seemed to have little effect, at any rate in influencing the temperature so that in the mixture the quinine is probably the more active agent of the two.

#### Antiseptic Capsules.

Capsules containing Guaiacol Carbonate grs. lll. Thymol gr. l. Menthol gr.  $\frac{1}{2}$  and Eucalyptol m. V. were largely used in cases sent in during the third and fourth weeks of illness. They proved a safe form of administering antiseptics, but the results gave only moderate encouragement to persevere in their use.

Creasote salol and Beta naphthol, were used in occasional cases, but results were found to be inferior to Calomel and Alpha naphthol.

Summary of Results of Treatment.

Of 180 cases of enteric fever 88 cases were treated by these various antiseptic methods. The remaining 92 cases, from mildness or other causes were treated simply on the expectant plan, so that it would be useless to compare relatively the two methods or draw any conclusion. I may however, mention that of the 7 relapses 3 occurred among the 92 cases which were treated on expectant lines on account of their mildness.

Twenty seven deaths occurred giving a mortality of 15 per cent which is lower than the death rate in enteric fever in Belvidere Fever Hospital for the past thirteen years. However, even allowing that the mortality is only slightly diminished and the incidence of relapse obtained only equal to the lowest given by many writers, it can be easily seen that the patient generally is much benefited, the severity of the attack lessened, the duration of the temperature frequently shortened and the occurrence of Sequelae and Complications during convalescence diminished.

One result of the use of intestinal antiseptics is, I consider, of great importance, namely that in most cases it is possible to supplement the milk diet much earlier than usual. When the temperature reached normal/

normal arrowroot was given to most of the patients, beginning from the first to the fourth day of convalescence, according to the severity of the case. This was found to be easily assimilated and very grateful to the patient, and in no case where it was given was there any disturbance of temperature or tendency to relapse.

Regarding the value and use of the various intestinal antiseptics, Alpha naphthol combined with Sodium benzoate and bismuth salicylate was found practically to be of most use in my cases. If a case of enteric fever is seen early, treatment by frequent small doses of Calomel, to be stopped however on the twelfth day of illness, and this followed by the use of Alpha naphthol, would probably, according to my experience, be of some service, but I should hesitate to recommend the routine use of any antiseptic.

In conclusion I may say that it is my belief that the future treatment of enteric fever - for the next few years at least - will lie in the judicious use of intestinal antiseptics, combined however with hydrotherapy in severe cases with high temperature and nervous symptoms.

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