Typhoid Fever

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ten years for

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April 1899 =
The material for this Thesis has been obtained from these sources.

The early part is written from information obtained by reading.

The second, in Clinical and Pathological part is the result of my own personal experience with the assistance of the staff of the Middlesex Hospital for a period of fifteen years. Any remarks and observations made from fact obtained direct from each individual case.

This Thesis has been written and reviewed entirely by myself.

Thomson H. Anderson.

April 1895
Definition of Typhoid Fever.

Typhoid Fever is an acute infectious disease caused by a specific microorganism occurring endemic or epidemically characterized by a gradual onset and marked by a feverish coma lasting usually three or four weeks, with jaundice, intestinal symptoms associated frequently with an enlarged spleen and a rose-colored mucous membrane. Symptoms extend most frequently from the abdomen and often with symptoms referred to the Peritonitis system. Anatomically it is characterized by lesions of the intestinal tract with enlargement of the mesenteric glands and almost of the spleen.

— History —

This fever was first described in China to the Greeks, Hippocrates, about B.C. 400; also of an educational form characterized by diarrhea lasting 7 to 10 days, abdominal pain, epigastric aching, and convulsions with much perspiration. Later described a disease of the intestine under the name Hemorrhiae. In 612 B.C. in China, a. V. was known as a disease of the body, under the name Hemorrhiae. In the early part of the eighteenth century, a disease of the kidney, under the name Hemorrhiae, was described. Typhoid Fever, the symptoms being abdominal pain with tenderness, vomiting, fever, diarrhea, and sometimes skin rash, itch, and a marked diathesis. The cure writers have been described as an illness, but it is now known by the name of Typhoid Fever, or some time as the first to describe the anatomical character of the disease (1729), Manneghman and J. M. of Brussels, 1818.
showed that the most flat changes peculiar to this disease were situated in the solitary and agminated glands of the pleasure. He was also the first to maintain that this disease depended on the action of a poison = Trocmee. This was the work of Broton, one of the pupils of Brotonne in Paris. Clair, described the changes taking place in the glands in 1826 and in his lecture terms the disease "Dactylineuria".

In 1829 Louis published his work in this disease under the name "Fever Zyphoid", and by this work he did much to determine the points of distinction between Zyphoid and Zyphous Fever; but these two diseases were constantly confounded until 1837 when Gerhard of Philadelphia established the separate existence of Zyphoid Fever and although Sir R. Stewert, who studied Fever in the Langue Fort Hospital, published in 1840 his researches on Fever and pointed out the leading distinctions between Zyphoid and Zyphous it was not until 1844 when James published his lecture on the identity or non-identity of Zyphoid and Zyphous Fever in 1849-50 that the difference between these two fevers was established beyond all doubt; for as James himself writes after referring to the writing of Gerhard, Stewert, Vallet, Louis and Bartlett: "... but not understanding their researches the question of
the specific difference of Typhoid and Typhus. Fever was considered by some of those who had most closely criticised the papers referred to as settled or likely ultimately to be settled in the negative. He therefore as he says considered it was necessary to begin de novo and to consult only the voice of nature. This he did, and the whole profession reaps the benefit of his brilliant interpretation.

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Geographical Distribution

Typhoid Fever prevails all over the globe. It is endemic in Great Britain but it apparently most common in England and in Scotland it is less frequent than in Ireland. In England it is frequent in the country villages and districts. Unlike in France it is almost unknown. In Reading for instance it is not common yet in the hospital we are seldom without several cases which come in from the country districts. In Europe it prevails in all countries but speaking from my own experience it could appear to be more common in Switzerland especially at Basle than in Berlin or Vienna. In America it is common and in India it is the dread of all young Nitens.
As far back as 1518, Paracelsus maintained that typhoid fever depended on the action of a poison which was communicable from the sick to the healthy; since that time, and more especially since typhoid fever has been recognized as a specific disease, its etiology has been the subject of much investigation and many theories. With the development of the science of Bacteriology, the specific or etiologic cause of typhoid fever has been made known to us.

In 1871, Robert Koch in examining the gums from some abscesses formed during the course of an attack of typhoid found some micro-organisms which he considered to be specific. While examining some of the lesions from a case of typhoid found several varieties of micro-organisms but it was Eberth who in 1880 first accurately described the specific organism now called after his name. I must also add that shortly after the announcement of the discovery of Eberth in the British Medical Journal, Counts of Mancuso described and figured the same organism.

Eberth's Bacillus is now regarded by most Pathologists and
Clinicians as the exciting cause of Typhoid Fever, indeed, it may be claimed that the prevailing theory of Typhoid Fever is that the Typhoid Bacillus having obtained entrance within the intestinal canal effects a lodgment within its walls, elaborates poison which, becoming absorbed into the system produce the systemic disturbances which characterize Typhoid Fever, and that these bacilli as themselves produce a toxicity which becomes the exciting cause of the characteristic intestinal lesions.

Character 2. of the Typhoid Bacillus.

The Bacilli are short, somewhat thick rods, usually distinctly rounded at the ends, in one of which and sometimes in both, can be seen a glistening rod body. These Bacilli are usually found in clustering, and one of the characteristics of this Bacilli is its motility.

The Bacilli fulfill the requirement of Koch's Law. They are constantly present in the organs of persons who have died of Typhoid. They grow outside the body and when inoculated into animals lesions like those of Typhoid are produced.
In a patient suffering from typhoid fever, the typhoid bacilli may be found in the

(1) Feet - As regard their presence in the feet, there could seem the true difference of
opinion - for while some writers assert that they are constantly found, and that beef
states that lacerum found in ninety out of ninety cases examined, Professor Bright
in his writing in the Lancet states "typhoid bacilli are generally absent from the feet,"
who found in the feet, they are said not the
process till after the ninth day but they have
been found from nine to fifteen days after the
Luculent fever become apparent.

(2) Blood. The bacilli are said to be rarely
found in the blood - and nearly all writers
are agreed on that point.

In blood drawn from the typhoid they have
been found.

(3) Urine. Never been agreed upon. Yet
the bacilli are found in the urine. Prof.
Bright found them present in the urine of
patients suffering from typhoid.
In the urine, they have been found as early
as the third day, and as late as the twenty
first day.
(4). In the opinion, in cases when the patient have had Pneumonia.

It is also stated that the bacillus has frequently been found in the feces after cholecystitis or premature death in patients suffering form Typhoid.

The bacillus has frequently been found in abscess formed during the course of Typhoid fever or also in abscess formed during convalescence.

Inside the Body the bacilli apparently live for many years. One case is recorded of Typhoid cholecystitis fourteen years after the attack of Typhoid Fever the bacillus was found.

After death the bacilli have been found in the lymphatic tissues of the intestine, in the mesenteric glands, the spleen, liver, bile, kidneys, biliary glands and the red spots.

These bacilli are capable of being cultivated outside the body and may develop readily in both milk and water. Their vitality outside the body varies from about one to eight years.
Before leaving this part of the subject one thing
must be made of the fact that Professor Bright
has enunciated a theory that Typhoid Fever is
a "Blood Infection", and not an intestinal
infection proper." "While there is much to
say for this theory the evidence is not I think
disputable to establish the theory. Than before
mentioned I think it is eventually from here
the fact of the case the immediate origin
came will still rest -- The Typhoid Bacillus,
and it is now necessary to consider

First: How does the Typhoid Bacillus leave the
affected person? Ever since the days of
Budd this disease has been considered the
characterised by the study of a previous case
of Typhoid Fever, and since the days of
Bacteriological investigation it has
been, chiefly through this study that the
Bacillus leaves the body -- it is I think also
proved that it can be carried out through
the urine -- no evidence yet appears to it
of the Typhoid Bacillus leaving the body through
the mouth of the affected patient --

Secondly, we have to consider how the Typhoid
Bacillus enters the body of a previously
healthy person --

Thirdly I think no doubt but that the main
The Digestive Tract - S. Dr. shield quotes

Chambers as mentioning that in a case

reported by Kelso, of a man dying on the second
day of the disease, millions of the typhoid bacilli
were found in the bowels, stomach, and
muscular coat of the intestines.

Another fact is the respiratory tract.

It is evident that typhoid bacilli may find
their way into the air and may then enter through
the respiratory tract - and as has been pointed
out that whilst the typhoid bacilli may enter
in the first case by the respiratory tract yet they
may become arrested in the pharynx and go
down the digestive tract.

Thirdly, we have to consider how the typhoid
bacillus may be conveyed, in fact we
have to study the ways of infection.

- Ways of infection -

In considering this point mention must
first be made of

Personal contact with those suffering from
typhoid fever and I consider this first
because it appears to fall more within the
province of a Hospital Physician than the other day, which will be speedily removed with the Medical Officer of Health since being Physician of the Royal Berkswein Hospital for those have come under very observatin then persons in direct contact with those suffering from Leprosy fever have themselves become affected.

[1] Nurse M. was in special charge of a very severe case of Leprosy, under my care. From first presentation of the back on the thirty second day - ten days later the same fell ill, she did not complain to the Motion till eight days later when owing to severe headache with pains in the back and abdomen she could no longer perform her duties. This nurse had a severe attack with a relapse, but subsequently made a good recovery.

[2] Mrs. W. - mother of the patient from whom nurse M. became infected. Her son came in poor order and died not live at home but fell ill he came home - his brother moved him at his own home for about two days. Before his admission to Hospital she visited him frequently at the Hospital and from days before he died to she can herself admitted suffering from Leprosy fever, no other member of the family suffered from
Lymphoid fever and on enquiry it was found that no one living in her street or district had the disease.

(31). From H. Car running a case of Lymphoid Fever in the country. She was only fourteen days in camp of the case one month later she was admitted to hospital under my care with well marked symptoms of Lymphoid. As far as we could ascertain there was every reason to believe that she contracted her disease from the patient.

(41). From X. Car running a severe case of Lymphoid under my care in the hospital. The patient died and four days later the men had Lymphoid Fever.

(5). A man aged 27. He lives in Reading but shortly before Christmas he visited his father at Leeds. He was ill with Lymphoid. His man sat up three nights with his father and did all the nursing himself during this time. Early in January he returned to Reading and on the 18th with he was admitted to hospital under my care with well marked Lymphoid and numerous typical spots on the abdomen. Campbell's sign made it almost certain. Her father was infected through his father.
I can now mention a sixth case of a man in hospital who took the infection. Amongst a very
seven cases of typhoid in the ward there were seven men in a cell. The ward in which these cases occurred
was in the same block of the hospital, where the typhoid cases were also丛林. The men in the cell were
infected from personal contact with a patient. They were inspected daily by taking their temperature
and keeping them under observation. The ward was self-inspecting and the patients were told to
keep their faces clean. The cell consisted of two cells, 

Munro writes that five of the patients from
of the London Fever Hospital who were in communication
with the typhoid cases, as well as the patients who were
in the same ward, were also infected. The ward was
known to have been visited by typhoid patients. And the
patients in the ward were visited by the ward
attendants. The ward
and the nurses. The ward
attendants also visited
the other wards in the hospital, and
the other cases of typhoid were
attacked about as frequently as the immediate
attendants themselves. This known was
certainly not the case in the Royal Berkshire
Hospital, as no other persons in the ward
were in direct and immediate contact with the patients.
Suffering from dysentery fever, and be it observed that it was only those nurses in special charge of the cases that became infected; neither the bitten, burnt, or prostitution, nor any other cases in the same ward, had dysentery fever. Neither did any patient and the case was seen in the general wards.

Other ways of infection, include:

(1) Bacteria. Bacteria usually become infected from having been through already infected earth. The investigating committee of the Clinical Society stated, that infection by this mode is due to "bacteria of the atmosphere." As the patient directly or indirectly by contact from contaminated water should be kept in the habit of recognizing dysentery fever. Outbreaks of the disease are said to depend on visited water and especially by William Budd.

During recent years, a large number of articles of dysentery have been shown to have depended upon the water supply. Maidstone being amongst the worst.

(2) Milk. The introduction of the dysentery bacillus into the human body. The means by which milk could appear to be due to the washing of milk cans and other
dairy uterine with specifically isolated cattie. or, the distilling of milk with
isolated butter. The delivery of Typhoid
being differentiated by milk can first pointed
out in 1856 by Dr. Michael Taylor. and in
1870 a very epidemic outbreak due to milk
occurred at Rigny, also it can prove that
contaminated milk can lead for coughing
the dairy utensils.
Dr. F. F. Allen, Medical Officer of Health to
Pietermaritzburg, has made careful
investigation on the subject of the
belief that Typhoid Fever (the Typhoid Bacillus
may be introduced into milk) may be caused
in man by the milk of one suffering from
a similar illness.

3. Butter: If this has been made from milk
infected in any way it is obvious that
this may be a means of spreading
the Typhoid Bacillus and it has
been shown that this Bacillus will
grow in butter.

4. It has been proved that the Typhoid
Bacillus may find entrance into the body
by means of lemonade, ices and spirits
which have been prepared in distilled with
butter from a sewage contaminated well.
(5.) Water even has been known as the means of infection by means of water.

6. Fruit and vegetables through the intervention of flies one may act as carriers of the infectious particles.

(9.) Infection & epilepsy has been observed by William Broadnax — it is possible that often sick flies may also be the means of infection.

A few weeks ago four cases of Typhoid fever were admitted to hospital under my care. The first three had eaten crinkles; one of which had stated the face. All four cases are members of the same family, and all had eaten crinkles. The father and two boys, had taken two of these crinkles. The father only had a fever. The father had apparently a mild attack but died from peritonitis. One typical typhoid fever was found in the eleven one of which had peritonitis. One boy had a severe attack, with languid symptoms and delirium. The other two cases were mild. The Medical Officer of health can give me no clue as to the cause of the typhoid.

(2.) Infection & clothing — there may be a
source of polluting the water and cases are
recorded of females who were infected from
washing linen held by a typhoid patient.

9. Air of houses and drains — This may
undoubtedly be a source of infection —
especially if allowed to find its way into
drainage through defective house communi-
cation. Ten years back the drainage of Cavanham
a suburb of 2000 inhabitants was being
repaired — and several suspicions cases of typhoid
occurred — from I saw in consultation and
was in consultation myself — this disease
spread hardly ever occurs at Typhoid and
the only cause besides it could then be
attributed was by the air.

As we now believe much in the origin of
Typhoid the above get these are isolated
cases. Now we in almost thirteen districts in
France in 1886 perhaps it could be better to
say that we believe in the possibility of
the Bacillus Typhosus being under
certain conditions capable of taking up the
propagation of the Typhoid Bacillus — and in
this view Lane Klein supported by Pauw.

The most fundamental belief is that
Bacillus coli commences may be continued
under suitable circumstances into the Typhoid
...
feb. 15th - The following case is in this respect of interest.

A man aged 27, a carpenter, was employed by the Reading Corporation in the removal of pruriia meat. He stated that the smell was most unpleasant and attributed his illness to it. The smell - during the time that he could walk he could attack it. On returning and returning he played before his work. He was committed to hospital under my care for five days. Later with injection by phthisic system and intraperitoneum - on the 40th day of admission, he died from perforation. The typical lesions were found at the autopsy. No trace of tubercle could be found. The Medical Officer of Health was assisted me in this matter and traced no cause and informed me that he can only stand the 7th month and due to this unpleasant smell the man had to "die" - the disease came quickly. It is impossible to trace the infected meat and the skin on the face from a self in clothes that are phthisic and may be affected with addiction. But if让 friends can be put in the fabric and the circumstances of the bacteria of Typhoid...
The facts in connection with typhoid may now be alluded to - they are frequently met with in work here.

(1) The fact that typhoid frequently occurs in families when no other people in the same street or district are suffering from it, and this happens frequently at a time when typhoid is usually not prevalent.

Three such instances have come under my observation and at the present time I have two families in Hospital with Typhoid.

One family consists of a Father, Mother, and two children - one child is at home and not affected. The other family consists of a Mother and three children - the Father alone is suffering. The Medical Officer of Health can pin no cause for the disease and as to its incidence - the symptoms, rash to an typical and one member of each family has died - the autopsy showing typical lesions.

(2) The recurrence of typhoid in certain districts yearly every Autumn.

--- Immunity ---

Some people have a natural immunity from typhoid fever and it would appear that immunity may be acquired in only a few instances have patients ever had it.
second attack of Typhoid—such has never occurred in my experience but Dr. Dörfeld mentions that in over two hundred cases admitted to the Hamburg General Hospital only fourteen persons were affected twice and only one three times.

Having seen the way in which the Typhoid Bacillus may find its entrance into the Human Body we must now investigate as to the

- Months and Seasons -

of the year when the Typhoid Bacillus is most active in the production or causation of the disease.

From an analysis of seven-hundred-and-one cases of Typhoid fever one concludes that the Typhoid Bacillus is most active during the months of October, November and December and least active during the months of May, June and July but that it is active during each month of the year. On inspection of Chart B we will show the following:

<table>
<thead>
<tr>
<th>Month</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>60</td>
</tr>
<tr>
<td>Feb</td>
<td>56</td>
</tr>
<tr>
<td>Mar</td>
<td>39</td>
</tr>
<tr>
<td>Apr</td>
<td>37</td>
</tr>
<tr>
<td>May</td>
<td>28</td>
</tr>
<tr>
<td>Jun</td>
<td>28</td>
</tr>
<tr>
<td>Jul</td>
<td>28</td>
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<td>Aug</td>
<td>28</td>
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<td>Sep</td>
<td>28</td>
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<tr>
<td>Oct</td>
<td>28</td>
</tr>
<tr>
<td>Nov</td>
<td>28</td>
</tr>
<tr>
<td>Dec</td>
<td>28</td>
</tr>
</tbody>
</table>
17 times in June.
36 " " July.
61 " " August.
80 " " September.
101 " " October.

91 " " November.
96 " " December.

A further survey of the chart will show that during the first month of summer (June) the Bacillus is less active than at any other month. But in July it is not much more active but that in August a great amount of activity begins which increases and reaches its maximum in October to become a little less active during September to increase again in October and then to lessen in activity by May I say again till June.

Chart II. Shows the seasons of the year where the Typhoid Bacillus is most active and here we find that its activity is least in the Spring and greatest in the Autumn but only a little less during the Winter.

Let us now turn on to consider the Typhoid Sickness produced in the Body by the Typhoid Bacillus in other words to consider Typhoid Fever or the symptoms produced by the Typhoid Bacillus.
Chart I. Showing Months in the Year when Typhoid Fever occurred in an analysis of 701 cases.

Chart II. Showing Lessons of the Year.
At each time of life 24 plasma from most frequent? from a numerical investigation of 240 hundred and fourteen cases, from a general notion do I find that 24 plasma from is most frequent during the second and third decades, yet it is very prevalent during the first. A study of Chart III will show that

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - 20</td>
<td>282</td>
</tr>
<tr>
<td>20 - 50</td>
<td>283</td>
</tr>
<tr>
<td>30 - 60</td>
<td>99</td>
</tr>
<tr>
<td>40 - 60</td>
<td>26</td>
</tr>
<tr>
<td>50 - 60</td>
<td>14</td>
</tr>
</tbody>
</table>

Be it then that the likelihood is by far a, age in certain instances as age advances till the thirtieth year of life is reached. The leading fields are then over to each group of life. In other cases, it is a common observation that the thirteenth year of life is the most frequent in age, but in certain instances so much with one case recorded within any one knowledge occurred between the ages of seventy and eighty, the next age being seventy-five. The most advanced age of which I can find an account was a case mentioned by Fridericksen, having been occurred by Harrington at the patient was
ninety years of age. Before leaving the consideration of age in its
short reference must be made toward its occurrence during the first decade
despite and to this point have made an investigation of one hundred and fifty seven
cases in which typhoid occurred in children up to and under fifteen years of age. A glance at
Chart II will show that in this investigation no case under two years of age was found. I have
myself seen two cases under a year and a half old. Mr. Mayo and Peper record a case
as young as one year and six months, and

Majchrizen mentions a case in an infant aged

one month in the London Fever Hospital.

Hence in 256 cases found none under two
years of age. A further study of Chart II will
show that while typhoid may be met with during the first three years of life yet it would

seem to be most prevalent after the third
year and most prevalent at the ninth year.

**Sex.**

Typhoid fever attacks one sex almost as readily
as the other. In one hundred and ninety six
cases analyzed by myself in thirty adults about
one effected;

male infant in 97 instances.
Female in 99 instance =

From among first born cases one attacked about equally =

In one hundred and five cases when children only affected I find that the
Males were attacked 7 28 Times
Females = 5 0 Times

Thus making it once more more frequent in
male Children than in females.

Hence I have found that the 120 cases
in Children were attacked in almost equal
numbers =

- Symptomatology -

In studying the symptoms in Typhoid
Fever nearly all clinicians recognized the
following stages:

1. Incubation, onset or invasion;
2. The fever period itself which is divided
into First, Second, and Third weeks and
3. Tonic or gradual diminution of the
fever and convalescence =

The incubation period varies very much,
in the investigations made by the Committee
of the clinical history the conclusion came to
was that "the interval between exposure to
infection and the development of distinct
symptoms is probably most often twelve
to fourteen days; it is not very infrequently
nine or ten days, occasionally seven and
possibly even less. According to Murchison
"it may not exceed one or two days.
In rare cases it is prolonged to fifteen,
eighteen or even twenty-three days."

The onset is usually insidious - in most
of my cases it was so - with symptoms of
headache, pains in the back & tendons
down the legs, and around the abdomen.
with general feeling of lameness - in
my cases. Quinine has been present for
any part. I should say that Quinine is
a common symptom but all writers do
not to a great extent. These symptoms
have been associated with a sudden onset
of menstruation - this was a marked
symptom in one case - briarbea was
also present at the onset in a few cases.
Shivering with or without vomiting com-
mon in some few cases.
Giddiness with feeling of cramp in the
legs and nocturnal delirium. and also
in one case a rapid wasting & fever.
in two cases. Bronchitis as the chief symptom was also present in some instances. In one case that of a child the passing of urine and feces unconsciously was one of the earliest symptoms. While the onset is usually insidious it may be sudden, with rigors with or without vomiting. Several such cases were admitted into the Middlesex Hospital. The temperature in most cases, as far as I can judge from records raised during the onset in one case associated with pain over the epigastrium and, sickness after food, the temperature at this time was said to be 103°—the case previous to admission to Hospital was thought by the medical man in attendance to be one of jaundice which—

Having thus briefly enumerated the symptoms at onset as met with in many cases, I will give notes of a case under my care—

A. W. B., a male aged 27, was admitted about the seventh day of his illness—when the following notes were made:—Patient lies on his back.
The face is markedly flushed, purpura dotted.
Sores on the teeth; tongue beefy red, moist towards the edge, but dry at the centre. He
In very thirty; Abdomen - turned, tympanitic
over all regions but markedly so over the colon.
The spleen is enlarged upwards, the liver border
not being felt - the liver is not enlarged.
Bowler are moved three to five times a day.

The skin is hot and dry. Two circular pink
spots slightly raised from the surface and
the appearing a pressure are seen in the left
umbilical region.

Respiratory system: The respiration are increased
and numerous rhinat notes are heard at
both bases.

Circulatory system: Heart sounds normal.

Pulse regular - 100.

Genitourinary system: The urine is acid;
PH: 10.30. Large quantity of urates,
but no albumen.

Temperature: 102°.

Two days later: The spleen can felt below the
rectal margin; numerous nodes are seen
over the abdomen. The patient is helpless.
and right side within two latter symptom,
disappear in the following day after
Treatment.
On the sixteenth day, about two parts of blood were passed by the bowel. There was no associated with any collapse or fall of temperature.

On the Eighteenth day, patient can defecate at night during the day he can very slowly. The temperature was 103.

The patient is now becoming markedly emaciated. He has complained of some pain in the lower part of the abdomen. The pain has been gradual. His pain has been hard off.

On the day following, the abdominal pain again returned. The abdomen was much distended. Breaths were four times. The pulse was somewhat diastole. At 10 p.m. - the abdominal pain was intense - the patient shrieked with pain. The abdomen became more distended. The pain diminished, but not alleviated. Injurious pain almost immediate relief.

The following day, the patient was again dehydrated. The bowel moved four times. No abdominal pain did not return.

For the three following days the patient was dehydrated at night and bared from 30-40 ounces of urine in the twenty-four hours. Urine was scant and clean.

Pulse 100. Temperature 101.
From the twenty-fifth day the delirium again returned. The patient was very restless. The mouth was frequently opened, but he did not have any marked symptom till the thirty-fifth day. Then there was severe pain over the abdomen with sickness and vomiting. The abdomen again became much distended, markedly tympanitic and the twin children can not apparent. The breathing was now entirely thoracic and rapid. The pulse 112 and the temperature fell to 97.8°. The faces and urine were fevered unconsciously. During the night sickness returned as also delirium, and the pain which had been relieved returned. The diarrhoea was now profuse, but no further hemorrhage occurred since the thirty-fifth day.

On examining the abdomen one could feel distinctly the coils of intestines. Much distended but low evidently the small bowel but over the epigastrium and right and left hypochondriac regions the loops were marked. Tympanitic and the colon could not be made out.
from this time the patient was frequently delirious, on one occasion it seemed to get out of bed; he then became unconscious, framed fever, and lurie in bed, but three days before death he was conscious and asked for his bed-pan, his liver dulness returned, he took nourishment well, when his breathing became irregular, he broke out in feverish perforation and died on the forty-eight day and about thirteen days after the bowel had perforated.

I have selected this case because it is illustrative of symptoms referable to most of the symptoms which will be described more in detail later on.

While typhoid fever may have a protracted course before convalescence or death results, yet some cases are not only of a mild type lasting from thirty to forty days, but may be of a much shorter duration what is called abortive typhoid, such cases have been under my care.

Typhoid nearly always ends by fever. In many cases, after the temperature has once become normal, the patient makes a rapid recovery but other cases are not so fortunate; some may have a relapse while
others may have a protracted convalescence during which they may suffer from asthenia, pneumonia, bronchitis, etc. In some cases the patient can deaf, dull and lethargic with pulmonary symptoms at first suggestive of pulmonary tuberculosis. When in about a month all symptoms cleared up and the patient left the hospital quite well. Other conditions will be referred to later on.

I will now direct attention to the typical lymphatic lesions met with in the intestine.

It is not often that one has the opportunity of studying these intestinal lesions in an early stage — most frequently the condition met with is advanced but rare even ot observe The condition in an early stage and the most marked case was in a child aged 5 years who died within a week of joint being ill and five hours after admission to Hospital.

In this case the lymph nodes were in the stage of infiltration. They were moderately elevated from the surrounding surface, firm in the touch and uniformly were of the same consistence and colour. Node most marked in the ileum, three elongated, changed glands were present also in the jejunum.
The solitary glands were also in a similar condition.

The next stage that of stage of coagulation begins is much more frequently met with in this stage the gland begins to break down and abscesses are formed. This condition does not frequently met with but the stage of ulceration is the one much more in want familiarity with. In this stage the abscess has extended or rather become detached and an ulcerated surface is left.

This stage of ulceration may be met with in children as well as adults.

In seventeen post-mortem & autopsies made in children when there was present in:

3 cases between the ages of three and five.
10 " " " " five and ten.
1 " at " age fourteen and
1 " " " fifteen.

In two cases one aged 2 year no ulceration was found the child dying on the 4th day. and in another case of a child aged 15 no ulceration was found. The child dying on the 9th day.

In an analysis of 192 necropsies ulceration was present in all cases.

Ulceration was present in the ileum alone in 128 ca.
In three of these cases small newly-formed ulcers were found in the stomach, in two instances two separate ulcers being present; in the remaining sixty-four cases the ulcer was ulcerated in all instances and other part of the intestine as follows: the jejunum in one case, the cecum in twelve cases, the cecal appendix in four cases, and the colon in forty-seven cases. The ascending colon being ulcerated in eight, the transverse three, the descending two cases, and ulcers were present in all parts of the colon in thirty-four cases. Thus while we see that the ulcer was ulcerated in every instance the relative frequency with which ulceration was present in other parts is as follows: colon, cecum, cecal appendix, stomach, and lastly the jejunum.

In one case under any case the side of the ascending colon and rectum was ulcerated whilst only two small ulcers existed in the ileum. Hoffman describes a case in which the ulcers were in the colon only.

In another case under any case three ulcers only were present in the ileum and two of these had perforated.

In two cases occurring in children we have already seen that no ulceration was
Present and this condition may also be met with in adults, such cases however would appear to be uncommon.

Fagge in the Transactions of the Pathological Society (1876) records the case of a man aged 33, who died on the 13th day after being admitted to Guy's Hospital having been ill 18 days before.

He had dysuria and typical typhoid discomfort at the autopsy #tennis_largescale ld ceratin can present but in the intestines only ill defined purplish red patch the tips of 4 thilling were seen in the ileum close to the valves.

Dr. Sidney Phillips in the Clinical Study, Eezer action records two instances:

One a man aged 22 life well marked

symptoms of typhoid died at a late period of the fever and at the autopsy the Bezer

patches in the lower third of the ileum were in the stage of defecation and there was no potenti on hatches higher up in the intestine. There was no ulceration in any part. There was general deponent and no pain and defecation in the mesenteric glands.

In the second case also a male close age
were 36 - marked symptoms of typhoid fever present during life. Typhoid fever is to die between the twenty-first and twenty-third day of disease.

At the autopsy in the lower part of the stomach Typan patches were enlarged and prominent as seen in the deposit stage of typhoid fever. The mesenteric glands were dark coloured, soft and swollen. The abdomen contained present anywhere in the sitz bones and kept in one military grand in the beginning of the large intestines.

The mesenteric glands are enlarged in nearly all cases in children. It has seen them very much enlarged. They may break down and suppurate.

I shall now proceed to describe some of the symptoms more in detail and will first consider

Symptoms Referable to the Skin.
Symptoms referable to the Skin

The eruption peculiar to typhoid fever consists of small isolated spots of a rose or pink colour, they are slightly elevated and disappear (to reappear) on pressure.

This eruption is not present in every case; it is however more frequently present than absent.

As regards adults, it is more frequently present in the male than in the female being seldom absent in the male.

In children it is less frequently present than in the adult. In male children it is almost as frequently absent as present, but in females it is more frequently present than absent.

In an analysis of one-hundred-and-twenty cases of typhoid occurring in those above fifteen years of age the eruption was present in

Fifty-four males and Forty-one females.

and was absent in

Seven males and Eighteen females.

out of a total of 120.

In an analysis of seventy cases of typhoid occurring in those of fifteen years of age and under, the eruption was present in
Twenty-two males and
Eleven females, while it was
absent in,
Twenty-one males and
Ten females.

Date of the appearance of the eruption,
said that the eruption may appear earlier
in children than in adults; thus in the
former (48 cases) the eruption appeared on the
third day in one case and on the fourth
day in three cases. In the latter (adults)
in 72 cases, the eruption did not appear in
one single instance before the fifth day.

In an analysis of 70 cases in adults, the
eruption appeared as follows:

<table>
<thead>
<tr>
<th>Days</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>12</td>
<td>7</td>
</tr>
</tbody>
</table>

Between the 5th and 12th days in 43 cases.
On the 13th day in 2 cases:

<table>
<thead>
<tr>
<th>Day</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>14th</td>
<td>7</td>
</tr>
<tr>
<td>16th</td>
<td>1</td>
</tr>
<tr>
<td>16th</td>
<td>6</td>
</tr>
<tr>
<td>17th</td>
<td>1</td>
</tr>
<tr>
<td>18th</td>
<td>1</td>
</tr>
<tr>
<td>19th</td>
<td>3</td>
</tr>
<tr>
<td>20th</td>
<td>1</td>
</tr>
<tr>
<td>21st</td>
<td>1</td>
</tr>
<tr>
<td>23rd</td>
<td>2</td>
</tr>
<tr>
<td>24th</td>
<td>1</td>
</tr>
</tbody>
</table>

Between the 13th and 20th days in 22 cases.

Between the 21st and 24th days in 4 cases.

This was during a relapse—the symptom not having been noticed before.

In an analysis of thirty-eight cases in children, the symptom appeared as follows:

On the 4th day in 2 cases:

<table>
<thead>
<tr>
<th>Day</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th</td>
<td>3</td>
</tr>
<tr>
<td>7th</td>
<td>2</td>
</tr>
<tr>
<td>8th</td>
<td>3</td>
</tr>
<tr>
<td>9th</td>
<td>2</td>
</tr>
<tr>
<td>10th</td>
<td>5</td>
</tr>
<tr>
<td>11th</td>
<td>2</td>
</tr>
<tr>
<td>12th</td>
<td>3</td>
</tr>
<tr>
<td>13th</td>
<td>1</td>
</tr>
<tr>
<td>14th</td>
<td>7</td>
</tr>
<tr>
<td>15th</td>
<td>3</td>
</tr>
<tr>
<td>16th</td>
<td>3</td>
</tr>
</tbody>
</table>

Between the 4th and 12th days in 22 cases.

Between the 13th and 16th days in 14 cases.
On the 20th day in 2 cases.

- 49 - 1 case.

This was during a relapse but the eruption led not been seen before.

The situation of the eruption: The eruption is almost universally situated on the abdomen. Among fifty-six cases where its distribution was particularly noted in one case only was the eruption absent from the abdomen, and in that instance it was on the chest and back. It is however to be remembered that whilst the eruption is to constantly present on the abdomen it may appear in other parts as well. Thus in one case examined the situation may be:

(and may myself report in these situations)

on the back, chest, between the thighs, on the knees, shoulders, elbows, forearms, neck and face. The eruption may be very scanty, or very profuse. The latter is not to common still have meet with this case where the eruption was very profuse.

Then are other conditions of the skin which must be mentioned.

Induration are not infrequent, they are most frequent on the front of the chest.
or abdomen. In one of my cases this was very well marked.

Erythema. Erythema Rashes may occur in a boy under my care in hospital at present time. The skin is covered over the chest, abdomen, arms, legs, and back with an erythema. Erythema patches may also occur on the face.

Erythema nodosum is noted as being present in one of the cases admitted to the Middlesex Hospital.

Leucemia is not frequent. It can only be found in one case out of two hundred and forty.

Urticaria may be present in at least one of my cases.

Herpes facieli and labieli may also be present without any pustulosis.

Abscence may also be met with during the illness and also as sequelae. One case under my care had three abscession during the course of the disease (vide also lungs, kidney, stomach). Both limbs are considered frequent occurrence. They occurred in several of the
cases have analysed, but not in any under my own care.

The eruption and hence the disease of Measles and Scarlet Fever may be associated with Typhoid Fever such instances are recorded.

Desquamation of the skin apart from the above cause (Scarlet Fever) may be met with. It was noticed in eleven out of two hundred and forty cases analysed. A very marked case of this is described in the "Clinical Societies Transactions" by D. Malcolm.

Purpura. The appearance of Petechiae or purpura spots during the course of Typhoid Fever is not of frequent occurrence. On looking over the notes of several cases where such occurred I find that three varieties of Purpura may be met with in Typhoid.

I. Purpura simplex as being evidenced by Petechie only.

II. Purpura Hemorrhagica the presence of Petechie being associated with Haemorrhage from the buds or from the lips, gums or urethra.
III. *Purpurea Rheumatica.* The presence of petechiae being associated with other signs and evidence of Rheumaticus.

*Purpurea Tripleplex* is apparently the least common of the two first divisions. In an analysis of 25 hundred and thirty-two cases of *Purpurea,* only one case out of thirty cases was mentioned. It was in a child aged 2 years. Purpurea spots were noticed on the abdomen on the twelfth day before any signs of purpura. The child died two hours after purpura first occurred.

*Purpurea Hemorrhagica* is more frequent. Two cases of this variety have been under my care, one a female aged 18, hemorrhage from the bowel set in on the 12th day following the onset of headache and diarrhea. Purpura first appeared on the 12th day situated over the right side and lower right half of the lumbar region. Some of these spots surrounded the one-color lenticular spots; but a few of these latter became themselves petechial. I must say hemorhagi were this because Münchmeyer says their petechiae occur they are not developed in the center of the lenticular spots but are independent.
They certainly were not independent in any case. The second case was also a female. Her age was 18. She had hemorrhage from the mouth and subsequently petechiae on her legs, with large bruise-like swellings on the lips. (9th died.)

Another case is recorded by Dr. Lewis Jones, under the complications of Typhoid Fever, in Dr. Bartholomew's Hospital. The patient was a child aged 10 years. The purpuric spots in this case were preceded by hemorrhage from the mouth. (9th died.)

Dr. Barnie in the Lancet describes another case of a female aged 26. She expectorated frothy blood and drank a black stool on the 13th day after admission. Shortly afterwards, 2 erythromas appeared on the mucous membrane of the mouth, and purpuric spots on the arms, chest, thighs, and legs, varying in size from a millet seed to a split pea; later one on blood was found in the urine and black stools were frequently formed. At the autopsy extravasated blood was found in the mediastinum, around and above the root of each lung, also opposite the hepatic flexure of the colon and that extending down to the brim of the pelvis. Infracts were found in the spleen and right kidney, and their layers of blood were effused under the diaphragm.
matter in both hemispheres. Dr. G. B. Ranson of Nottingham has sent me very kindly the following case - a female aged 17 had epistaxis subconjunctival hemorrhage about the twenty fourth day. The day following there small purpuric patches, came on the back of the left wrist and hand and small petechiae about the knees and left shoulder. Subcutaneous hemorrhage presenting a nodular feel was also observed. The left eye numerous subcutaneous hemorrhages appeared on the arms and legs, true small petechiae, true large petechiae, and true sub-conjunctival hemorrhage with clotted blood in the gums. The patient died. Another case of true interest was under the care of the late Dr. Woodland in the Royal Infirmary Hospital. A female child aged 11 years had been ill about four weeks, with typhoid fever when a rash and general oozing of blood from the mucous membrane of the nose and gums with purpuric spots on the abdomen were noticed. A few days later blood was vomited. Blood also appeared in the urine and from the stools. The patient died. A look-down leg amputation was recorded by Schmeeckle (Centralblatt f. Klin. Med. Hefte) of a child 6 years of age. Purpuric spots appeared.
on the 16th day, and bleeding from the nose, mouth, ears, and urethra on the 21st day. The hemorrhage cleared and the patient made a good recovery. Hence it refers to a case of a child who had intestinal hemorrhage accompanied by hemorrhage from the mucous membrane of the nose, mouth and pharynx but no purpura. My friend Mr. Robert, a practitioner in this town tells me that he once had a very severe case of typhoid in a youth who had purpura and hemorrhage from the bowel who made a good recovery.

To sum up briefly, purpura when it occurs in typhoid is rarely of the variety of P. luekenheimeri, it occurs most frequently in females and is almost invariably fatal. When it occurs in a man it is not a sequel of an evil appetite.

**Purpura Rheumatica.** This variety of purpura recurred in the case in the Middlesex Hospital: one a man aged 22. He had previously suffered from rheumatic fever, hemolytic, and it is when a cardiac tract was present, had an hi. utine in both legs, from the knee downwards, studded with minute
petechiae and on both ankles and on the dorsum of each foot large hermaphroditic plaques. For some time this case was regarded as one of hereditary rheumatism. On the thirty-first day typical lymphatic spots appeared and on the twenty-second and twenty-fifth day crops of spots appeared which became pustular.

The patient was a man fifty-two years of age who had petechiae over the ankles. Both cases recovered.

Bed-fors were may and do occur during Typhoid Fever, found in middle cases.

Adenoma of skin is sometimes noticed owing to blocking of the feet and ankles in the case of the convalescent.

Empyema has presented in one case in the Middlesex Hospital series.

Gangrene occurred in one case (of the heels) and in one case of the feet. Middlesex Hospital.

I now proceed to consider the temperature in Typhoid Fever that begins to drop will adhere to —
Nascentaneous Emphysema. A case of this nature is described by Dr. W. J. Seaman Billis in the Transactions of the Pathological Society. A boy aged 12, became emphysematous on the twelfth day during an attack of typhoid fever. The emphysema commenced in the neck, spreading to the face, arms, and chest. Breaths occurred on the twenty-second day and at the autopsy it was found that the air had escaped through a small rent in the base of the tongue situated at the posterior portion of the vocal cords.
Temperature in Typhoid

As a rule the fever in typhoid lasts at least three weeks. It is characterized in most cases by an evening rise and a morning fall. The temperature varies between 100° and 105°. The highest point reached in any single case was 105.6. The case of a severe one occurred in another case complicated with pneumonia in the fall. In one of the cases the temperature rose to 105.9°, the patient died. The highest temperature I ever found recorded in the cases in the Middlesex Hospital was 107.4°. The case made a good recovery.

Taking the average of my own cases, the temperature varied from 100° to 104°.

When perspiration or hemorrhage from the bowels occurs the temperature usually falls.

The temperature usually falls by using and during convalescence the temperature can in many cases return to normal.

In some cases, after the temperature has fallen during the third or fourth week without having a relapse it becomes high.
and last for some short time. This has
been present in some open cases without
any of symptoms being present - it may
be due want of food, at least so it
appeared in one case - for having giving
with some feeling of anxiety - the food
the temperature returned =

July 14th 1843. May in 4. cases of cases
occur without any perceptible sympotic.
In such cases has been under any case -
then the symptoms of a mild form of
by which it is common, quick pulse, dark
the abdomen, back and thighs were
present. There was no diarrhoea but the
face resembled that of other case of
by which severe constipation has been
present - and the patient came from a
district where other cases of by which
related. The temperature was once
repeated 99°, my suspicion may have
been wrong =
- Alimentary System -

Must. Simple stomatitis may occur, it could however explain the uncommon.

Lips and Teeth:

Smiles & Frown in the teeth. The lips are usually smoothed and no true instance breaks and fails.

Bleeding from the gums may occur. The reason is not common. I have seen it in one case only and in the Middlesex Hospital case, it was not listed.

Absence of the mouth may occur. But it is not common. My two cases in Middlesex and Green in the check on present in one instance.

Canavanosis is rare. One case is recorded in the Transactions of the Clinical Society in a child aged 11 on the 48th day.

Another case of which I have written was read before the Academy of Medicine in Dublin by J. B. Ruxton in 1894.

The patient was a boy aged 14. The on the 41st day of the illness had a black patch appear similar the right cheek.
and two days later another black patch
was viewed inside the left cheek.
Subsequently an opening was formed
through the cheek of the size of a shilling.

**Tongue** - The tongue may be moist
covered with a white fur and
red at the tip and edges, all
through its form - or it may
become dry and brownish, if they
be pinioned in any case, it
be raw red - in another, dry
red and looked like a small
cherry-burst in consequence of
pinioned - It may be dry and
pale and quite tender.
In two cases in the Middelton Hospital
The tongue was ulcerated.

**Throat** - The soft palate was ulcerated
in two cases in the Middelton Hospital.

Trismus - is fairly frequent but
intensity of the Trunk is common.

I will now take the

Parotid gland - in the Middelton Hospital
During a period of fifteen years, the parotid gland was noted as being affected in five cases. Three of these cases proved fatal. In two instances, the patients died from peritonitis.

In one of the cases that recovered, there was a double parotid tube.

In one of my own cases, the submaxillary glands enlarged and suppurred. The right one first and the left a few days later.

Pharyngitis may occur.

Hematemesis occurred in one of the middle ear cases. The case terminated fatally. There was no peritonitis.

Thirst is usually present.

Vomiting is a common symptom at the onset and it may occur independently of perforation during the course of the disease. In some cases, it is a very troublesome symptom and may be persistent in which...
Abdominal pain is a constant symptom and is very frequent, frequent at the
wrist and I can name abdominal
pain complained of P.J. Present
The patient
seven and present to recitative
pain is common symptom of
peritonitis
Tenderness on pressure over the abdomen
is also frequent
Metritis. The abdomen is in constant
pain, this tended to an extent
but some metritis is not met
with in every case - I remember
taking it very severe in one case
but in the case (in the case) back in
the clinic when it subsided in
the course of a few days
In most cases the patient appears
in the second or third week - one
can render my care at the present
Time has marked Metenurism - the evil of
The vitriolic can be distinctly seen through
The histoinural cell.
In another case it can vary severe
with pain and tenderness - to store up.
The metenurism that dyspsia became
marked - its cure known to

The LCM plays an important part in
the production of Metenurism. The latter
being chiefly contained in it.

The distinction between urinary stones
and Perforation is in some
instances 4 times difficult.

Diarrhoea is frequent in T. M. & N. but

Constipation is also frequently met with
in 193 cases. Constipation can
present in 9 of cases and
Diarrhoea in 49 instances.
In some cases in the St. Albans Hospital
constipation could been the cause
prevalent. Than diarrhoea and vice versa
and we have noticed the same in the
Beds of the Hospital - at one time all
the cases admitted have diarrhoea while

...
at another time all the cases have constipation.
At the end of the four administered
may be a prominent by reflexion and
constipation may set in at a later
period and on the other hand there
may be constipation first which may
later on give way to diarrhoea.

Diarrhoea is very frequent & in many
instances usually indicative of
 subtlety in the colon.

When diarrhoea is present the

Stools are liquid their colour is offensive
The smell peculiar to typhoid patients
They are frequently of a yellow color
and are likened to fecal matter but
I have seen them quite green in
color and later on in the disease
the fluid would settle slowly
and minute flecks may be seen.

When constipation is present and the

Stools are hard by an increase the

Stools are pale yellow in color and

With the commencement of fealty.


Hemorrhage from the Bowel

Sex = Hemorrhage from the Bowel occurs equally in both and female in adults. From in fifty, his case analyzed.

29 occurred in Males.
23 - Females.

In eleven cases, 8 hemorrhage was met with in children; females showed too affected from than males.

3 cases occurred in females.
3 - Males.

Ages = In an analysis of fifty-one cases it is the object of an etiologic et each age hemorrhage from the Bowel might occur. Indeed, it is rare occurred in any period under five years of age. Yet, that between five and ten one case occurred - between ten and fifteen, eight cases; between fifteen and twenty, eleven; between twenty and thirty-five, fifteen; between thirty-five and forty, nine; between forty-five and fifty, ten; between forty-five - forty-five - between
Tabular Statement of Ages at which Hemorrhage from the Bowel occurred in Typhoid Fever, showing (1) age of occurrence, (2) age of non-fatal and (3) fatal cases.

<table>
<thead>
<tr>
<th>Years of Age</th>
<th>Total number of Cases</th>
<th>Non-fatal Cases</th>
<th>Fatal Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>At and under 5 years</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>&quot; 10 &quot;</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>&quot; 15 &quot;</td>
<td>8</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>&quot; 20 &quot;</td>
<td>11</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>&quot; 25 &quot;</td>
<td>15</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>&quot; 30 &quot;</td>
<td>9</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>&quot; 35 &quot;</td>
<td>9</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>&quot; 40 &quot;</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>&quot; 45 &quot;</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>&quot; 50 &quot;</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>&quot; 55 &quot;</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>&quot; 60 &quot;</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>61</td>
<td>36</td>
<td>25</td>
</tr>
</tbody>
</table>

Chart IV.
forty-five and fifty; two cases. Thus we see that hemorrhage most frequently occurs between the ages of ten and thirty-five but that before ten and after thirty-five, while it may occur yet such is not common.

Column I of Chart II. I show this in tabular form.

Date of Occurrence. In fifty-two cases analyzed for the purpose of observing the dates of occurrence I find that hemorrhage from the bowels is most frequent between the fifteenth and thirty-third day; it is however fairly common between the tenth and fifteenth days and between the thirty-third and fortieth day; it may however occur as early as the sixth day and as late as the forty-fifth.

An inspection of column I in Chart II will show this in tabular form.

Hemorrhage from the bowels in typhoid is a symptom that any physician will regard as one of much importance. Sir William Jenner well sums up our view when he wrote:

"Hemorrhage from the Bowels is a very grave symptom but it is by no means necessarily fatal." Frowen was the first to teach that hemorrhage from the bowels in typhoid might
Tabular Statement of the Days of the Fever when Hemorrhage from the Bowels took Place. (2) Days of non-Fatal and Fatal Hemorrhage also. (3) of cases where Hemorrhage of a Single or Recurrent nature.

<table>
<thead>
<tr>
<th>Date of Occurrence of Hemorrhage</th>
<th>Total Number of Cases</th>
<th>Non-Fatal Cases</th>
<th>Fatal Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Single Hemorrhage</td>
<td>Recurrent Hemorrhage</td>
</tr>
<tr>
<td>Sixth Day</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Eighth Day</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ninth Day</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Between 10th and 15th Days</td>
<td>9</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>&quot; 15th - 20th &quot;</td>
<td>13</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>&quot; 20th - 30th &quot;</td>
<td>15</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>&quot; 30th - 40th &quot;</td>
<td>8</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>&quot; 40th - 50th &quot;</td>
<td>3</td>
<td>2</td>
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<tr>
<td></td>
<td>52</td>
<td>17</td>
<td>11</td>
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<td>28</td>
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Chart II.
be a favourable rather than an unfavourable symptoms he regarded it as a rare provision of nature which might occur in a favourable rather than an unfavourable crisis, but that as an occasional result it was of great danger. Trouaneau for some time held that it was a formidable symptom and increased the danger, but after reading Graves' lectures changed his opinion and stated that as a symptom intestinal haemorrhage did not prove the dangerous character imputed to it but that it was usually of a favourable augury. "Broadbent in Ananin Dictionary of Medicine states, "Intestinal haemorrhage is a symptom which causes anxiety it is by no means necessarily fatal. Munkhoni regarded it as a very formidable symptom."

I have myself made an investigation relative to their important symptom with the object of finding some basis for forecasting the issue of cases associated with it. A glance at (Chart II) my tabular statement will show that up to the age of twenty more cases recover than die, and that between twenty and twenty-five nearly as many cases die as recover but that between twenty-five and thirty-five more recover than die. After the age of thirty more die than recover - be have therefore, so far as Age is concerned, some data for making
a program, for speaking broadly one may say that up to the age of twenty the symptom is less indicative of danger than it is after that age. In non-fatal cases, hemorrhage frequently occurs but once—that is to say, only at one period in blood seen in the stools (This is shown in Chart II Column II-III). And it may vary from a few streaks to one joint. A single hemorrhage occurred in seventeen out of twenty-eight non-fatal cases. Hemorrhages in fatal cases are more usually recurring. Of twenty-four fatal cases there were but three instances of a single occurrence; but when these recurrent hemorrhages are fatal we have no data to guide us, for in both fatal and non-fatal cases the recurrences may be equal in number and frequency. Hemorrhage associated with perforation is always fatal and is more frequently recurrent of the twenty-four fatal cases in Chart II, eleven died from perforation. When a hemorrhage of a single type has occurred comparatively early in the course of the fever and for a time the patient seems to have passed the danger point, hemorrhage of the recurrent type may occur later from which the patient dies.
difference, I cannot lay stress upon this, for many writers appear to think that haemorrhage early in the course of typhoid fever is not fatal, certainly it may not be so if it occurs before the ninth day but should it occur after or at that day the time of occurrence is of much value in prognosis. So far as my own observations, so far as my own kind are not reliable written down, the quantity of blood passed helps much in guiding the judgment, for in non-fatal as well as in fatal cases the quantity passed may be large or small and in recent publications it has been pointed out that while the quantity passed by the bowel may be small a large quantity of blood may remain within the intestinal canal.
- Perforation of the Intestine -

Perforation of the intestine occurred in six cases out of twenty children who died from Typhoid. Only twenty children died out of two-hundred and fifty-one, attacked with Typhoid.

Perforation of the intestine occurred in eighteen cases out of forty-three that died in adult life. Forty-three adults died out of two-hundred and fifty-one who suffered from Typhoid.

Perforation of the bowel is not uncommon in children as the above remarks will show. The death among children with Typhoid is not all unequaled with that in adults and to regard perforation in children as rare as some writers appear to in believing an error.

- Age - Of the 18 cases in children two were five years of age, one was seven and a half, two were nine years and one was fourteen years of age.

Of the eighteen cases in adults, two were between fifteen and twenty years of age, six between twenty and twenty-five; two between twenty-five and thirty; four thirty and thirty-five; two thirty-five and forty.
and two forty-three years of age.

III. Of the six cases in children, five were females, and one was a male. Of the eighteen cases in adults, two were males and eight females.

**Period of Occurrence.** In children, perforation occurred during the third week in one case, during the fourth week in two cases, during the ninth week in one case, and during a relapse in two cases.

In adults, the perforation occurred during the second week in two instances (being in one case early and in the other late in the week during the third week in six cases, at the early part in three cases, in the middle in one case, and at the end in two cases) at the end of the fourth week in two instances, during the fifth week in one case, during the seventh week in two cases, and the eighth in one. In the remaining four cases, the notes do not enable me to look at the date of perforation.

**Seat of Perforation.** I now proceed to give facts obtained from an investigation of seventy-two necropsies as to the seat of perforation. I find that out of these seventy-two cases,
The ileum was perforated in thirty-one instances; at distances above the ileo-cecal valve varying from one inch to six feet being in the majority of cases, six inches, twelve inches, and twenty-four inches. In the remaining eleven cases, the perforation was situated as follows: The colon in five instances, the cecum (the anterior surface) in three and the cecal appendix in three. Of the five perforations in the colon, one was in the ascending colon an inch above the cecum (in this case the ileum was also perforated) and two in the transverse colon and three in the descending colon, two being in the upper part and one in the sigmoid flexure. Amongst the cases thus investigated there is no mention of perforation in the bursa omentalis and ileocecum. Contrary however, Morin found the ileocecum perforated in two instances. Murchison records one case in which perforation occurred in the cecal appendix and Shaper reports of five cases, other than those found in the recumbent before referred to, and in one of these cases the perforation was in the ascending colon and in four in the sigmoid flexure. If I take the five cases previously mentioned and consider the situation of the perforation in the cases in the colon I find that it occurred twice in the ascending, once in the transverse...
and seven times in the descending colon — being twice in the upper part and five times in the sigmoid flexure itself. To far then as these recorded cases allow one to form a judgment the sigmoid flexure is the most frequent site of perforation (the result of typhoid ulceration) when it occurs in the colon.

It may be of interest to mention that of the four cases of perforation in the cecal appendix two were in children aged respectively five and thirteen and in one of the three cases when the cecum was perforated the patient was ten years of age.

The abdominal cavity after perforation.

As the result of perforation the contents of the abdominal cavity may contain much that is foreign to it. Gas, fecal extravasations, blood clot and blood — and not only is a foreign element admitted but the contents themselves become changed. Thus local peritonitis is met with which is however less frequent than a general peritonitis which becomes in many instances precedent in character. The intestines are constantly matted together lymph in many instances becomes extravasated out and sometimes general but often local. The diaphragm is pushed up and the liver is displaced upwards.
As the result of a study of the Abdominal
Cancer of the Peritoneum it can be seen that
in some instances nature has endeavored
to effect a cure by colliquation taking place
around the perforation and thus its effects
became localized.

In one of my cases the coat of peritoneum had
become adherent to another neighbouring
cell and the two together adherent to the
upper surface of the bladder, an abscess
had formed within the colliquation which
ultimately burst and was the immediate
cause of death.

In the Middlesex Hospital cases in one case
of perforation of the carcinoma colon
theomentum had become adherent
preventing & hastening into the
peritoneum.

Peritonitis may in quite exceptional
instances which occur in epithelial
without perforation. It was in in
one of my cases. The patient
was kept hydrated for some intense
while by injection & but from time
came low asked were the case in
consultation when the patient was
evidently suffering from peritonitis and
by fluid from at the bulging as perforation was found.

Perforation has been found in the abdomen without any perforation, it can be in the case in the stomach as in not frequent, and

A few cases of high tension can also found in another case without any perforation.

I should have mentioned one interesting fact viz. that perforation may occur during pregnancy. The occurred in one case. The abortion took place on the 14th day. Perforation occurred during the pregnancy. The patient died on the 16th day.

**Symptoms of Perforation**

In a case under care, Smith ball appearance was a significant and during most of the patient had sudden akin with severe pain in the abdomen and bony tenderness. He became pale, finite, profuse perspiration appeared over the face. The temperature fell, the pulse was very rapid and almost imperceptible by vomiting came on Smith was persistent.
The patient maintained the position he always assumed viz. crossed declination but he was drawn up. The abdomen became distended - subsequently the pain became so severe that the patient screamed out and died screaming with patient.

And on this ordinary symptoms of peritonitis. But in addition there was hemorrhage from the mouth.

Liver & Spleen Swell & Fall Bladder.

The only symptoms indicative of disturbance of the liver: 

Swell & very red in 2 days.

One case is recorded in the Middlesex Hospital. A girl aged 20. She was on the 40th day. The case is recorded in 2 cases. The area of the liver dulness was increased. This patient ultimately recovered.

In a case of under my care. A female aged 16. Jaundice appeared in the 14th day and remained persistent till death on the 37th day.

In my paper on this subject published...
Franz. Rupel Med. Chief. This Pneumonia may occur in Dyplid at any age between 16 and 54. Not more an hour affected than females.
Not a feature it may occur a case at the 3rd day - 5° - 14°° on the 26th or 28th day or later on during convalescence.

Recovery is not unusual in most cases only two recovered.

Stones in bladder. Stones are said to be formed in consequence of Dyplid. In one of my cases a fell stone was present but I am not able to find in any of the Middlesex autopsies.

Gas during the form and some years after may form in the fall bladder. In my case with fell stone the bladder was full of gas.

To fall bladders results in case of incision in the fell bladder, and in the cases of the Middlesex Hospital clinic at the autopsy a small abscess was found around one of the fell stones.

The blisters may also be found in the abdomen of the case and parts.
Hemorrhagic System

The Blood - The blood in typhoid especially during the late stage of fever and in convalescence could appear to have a tendency to coagulate and this by some is thought to explain the formation of thrombi. Recent observers think that the number of red blood corpuscles falls gradually during the fever, and that with the cessation of the fever they fall still lower.

The amount of hemoglobin falls with the fall of red blood corpuscles.

Some writers state that the leucocytes diminish in typhoid fever.

In all cases of anthrax made by myself on people dying from typhoid fever the blood has been fluid but in one case a small pyogenic was found in the left auricle.

Anemia - After typhoid fever this is frequent.

Spleen - In all cases with perhaps a few exceptions the spleen is enlarged. It is not necessary to feel the lower border of the spleen in order to be satisfied of its enlargement - in many cases it
cannot be felt. I have satisfied myself
both by clinical examination and also by
post-mortem that the enlargement of the
Spleen is upwards and backwards in
many cases and therefore cannot be felt
in such cases.

Pain over the Spleen may be met with
during and after the termination of the
fever and is sometimes very troublesome
indeed with.

Pathologically the Spleen is found to be
enlarged in six to six thousand cases
out of six to five. The greatest width
in these cases was 2.5.

In one of these six to five cases,
a case, hemorrhage in infants was present
no infant being noted in any other
organ.

A solitary infant can be found in one,
and numerous hemorrhages in some cases.
The Spleen was adherent to this part
in one case.
The capsule was thickened in one case
and in one case the Spleen was small
and fibrous. In this case it is said that
new infant may break
deAR. This information may
spleen and a sub-diaphragmic abscess from (fem)., lymphatic glands. In one case in the Middlesex Hospital the cervical lymphatic glands, suppurred and in another one in the axillary glands. I describe here Mammary glands. Suppuration in the Mammary gland is also recorded as being present in one case.

--- Circulatory System ---

The pulse is always increased in frequency and may vary from 84 to 130. The pulse may be intermittent or irregular.

Tachycardia was a marked feature in one case in the Middlesex Hospital.

Syncope: Fatal syncope may occur, it did so in this case, out of one hundred and fifteen.
The pericardium could appear to be rarely affected. In eight hundred and fifty-four cases of Typhoid Fever admitted to the Middlesex Hospital during a period of fifteen years in two cases only was a pericardial friction heard.

(1) A girl twelve years of age had during the course of the fever doubtful signs of acute pericarditis.

(2) A man aged twentynine had a well marked pericardial friction (friction) during an attack of pleuro-pneumonia which complicated arrose towards the end of the fever. Both the above cases recovered.

In an analysis of the notes of ninety autopsies of cases dying from Typhoid Fever I can find no instance of acute pericarditis.

In one case there was an effus of fluid within the pericardial sac and in another pericarditic conditions were present all over the inner surface of the pericardium.

In three instances old pericardial adhesions were noted.

Rennan in his analysis found one case only in which there was any deviation from the
normal and in that case a few threads of lymph
less attached to the pericardium covering the
auricle. In no case under my own observation
has the pericardium been affected.

Heart

Murmurs. Intracardial murmurs arising
during the course of hyphemia. They are not
very common, for they are by no means rare.
Many of these murmurs are inorganic and
are either during the course of the fever or
during convalescence, but they heard all dispepar.
Still many of the murmurs which arise during
the fever are organic.

In four hundred and ninety-six cases, the walls
of the heart were examined. A murmur developed
during the fever in forty-one cases.
The point of maximum intensity was at the
apex in thirty-nine cases. Quite in two it was
at the base—over the aortic region in one and
the pulmonary region in the other.
In forty cases the murmurs lasted a few
in time and in one instance for several
in thirty-four cases. The murmurs entirely
subside in nine cases. In these cases
persistent in two cases. Two of these cases
scarcely at all. Convalescent, the other three five
died. In three of these cases, the valves were
not divided in any way. One in two there was
distinct evidence of recent endo-carditis of the
aortic valve.

In an analysis of ninety autopsies of people
dying from Typhoid Fever, the valves of the heart
were affected in the cases, thus,
1. Early Initial Endo-carditis.
2. Thickening of Initial Valve.
3. Initial Mitral.
4. Recent Vegetation on Initial Valve.
5. Initial and Tricuspid Mitral.
6. Recent Vegetation on Initial Valve.
7. Vegetation on Arterial and Mitral valves.
8. Mitral Valve of Mitral Sphincter.
9. Sphincter of Mitral Valve, valve
  covered with tissue like vegetation.
10. Arterial flap of Initial Valve much
    thickened.

From the evidence before us we may I think
conclude that Endo-carditis may and does
arise during Typhoid Fever. It is however I
venture to think not such a common cause
as many would have me believe - in feeling
the history of antecedent disease in one thousand
cases of Heart disease I can only
have five cases of vascular disease. The cause
A Drick was a previous attack of Typhoid Fever.

Chronic Venular Disease is not very commonly met with in those suffering from Typhoid Fever in its hundreds and eight, cases analyzed nine only had Chronic Venular Disease. Of these nine, seven died and two recovered. Of the fatal cases, two were initial; ten, and the other two initial replications. Of the two fatal cases, one recovery occurred one can attribute arrest, and the other arrest.

In passing, I may say that some little time ago, when considering the prognosis in cases of Typhoid complicated with Chronic Venular Disease, the results of my observations led me to consider that Venular Disease by itself cannot be an unfavourable one. If the kidneys were in any way affected, the prognosis of Venular Disease with Typhoid was not unfavourable.

Passing on from the consideration of the effect of the values one must consider the condition of the ventricular walls. These will render incompetence from stenosis. And nothing is frequent...and the atonic is a good example — hypertrophy is more with the heart frequently. The heart may be unloaded.
Acute dilatation of the heart may occur during life and yet recover from - a case is recorded in the transaction of the Clinical Society, when the right ventricle became dilated. The patient a male aged 25, became emaciated, of anxious looking face, half open and shrunk. After taking eight ounces of morphine from the median saphenous vein the patient improved and eventually recovered.

In considering the conditions affecting the auricles and ventricles, caution must be made of one case in particular Smith in the autopsies atitch nan access when the left auricle exhibited only three of the posterior walls were opened on the posterior wall.

In the case under my own care a small polyphyma was found in the left auricle and in one case from the Pathological Society of London a polyphyma the tips of a small branch was found in the left ventricle =
Diseases of the Arteries - The arteries in
Typhoid may become occluded - it is not
very common - I have under my care
one case where the left middle cerebral
artery was occluded, and I have seen
one case exhibited at the Pathological
Society where the left carotid artery was
occluded and paraplegia resulted.

Dr. Huntin & Fitch's record a case in the
Transactions of the Clinical Society where
the left temporal artery was occluded
in a man aged 29.

There are two theories on the causation of
the blocking of arteries - one is that
owing to the formation of a Phlebitis in either
the left ventricle or a number of emboli
is carried into the artery. This appeared
to be in my case as also in that of
Dr. Huntin at the Pathological Society.
Others do not accept this view as being
good in all cases and think there is
a mixed cause, one on the part of the
arteries - a form of arthritis being liable to
occur in Typhoid and that the condition
of the Blood renders it more liable to
coagulate.
Condition of the Veins. If it is rare for the arteries to become occluded in this form, it is not so with the veins. Fifteen such cases are recorded in the Middlesex Hospital cases.

The popliteal vein in two cases was during the hyperical period and one during convalescence.

The Prædical vein in one case, and the Ileo-Femoral or Femoral in the other.

Post-mortem notes show that in one case when the left common iliac was blocked, that emboli were found in the pulmonary arterial branches supplying the upper lobe of both lungs.

In another case, the superior vena cava showed an adherent clot tending into the subclavian and jugular veins, which were converted into firm cords.
Respiratory System

Sputum is frequently met with. It may occur at the onset or during the course of Typhoid Fever in our case in the Middlesex Hospital. It was associated with Hemorrhage from the Anus.

Dyspnoea, may be present as a consequence of division of the lung or Pericarditis: it may be due to retention or perspiration going to the diaphragm being prevented by the lung markedly firm in the early cases.

The inspirations are in most all cases diminished.

Cough may be present, in the Middlesex Hospital two cases are recorded of children with bronzing cough associated with dyspnoea. In the cases terminated fatally it occurred in another case as a regular and continuous

not fatal.
Laryngitis. Laryngitis may occur - it did to in one spring case. In the Middlesex Hospital case, I noted a present in two four cases. In one case it was associated with manner of the vocal cords and loss of voice. In one case it proved fatal in another having been performed.

Bacterial was present in one case. In the Middlesex Hospital case, I noted it recorded as being present in one case in the Middlesex Hospital Report. In one spring case, Dr. Smith found fatal before knew it and no culture was made. A distinct membrane was said be seen (The Hon. Physician).

Bronchitis. This is very frequently met with in the early stage of the disease and may occur later and also during convalescence. In some instances it occurs all other symptoms in one case within very few knowledge. The
fact of the case being one of typhoid was not and not recognized but not thought of till too - around that time was seen at
the hospital.
In two hundred and ninety cases in the Middlesex Hospital Bronchitis was present in eighty - two cases - in twenty - five of these
the Bronchitis was severe in forty. time it was mild and in five it proved fatal.

Pneumonia - Pneumonia may be met with under three varieties.

1. Very - Catarhal or Hypostatic.
2. In two hundred and ninety cases.
3. Very Pneumonia can present in four cases all of which recovered.

Hypostatic Pneumonia can present in heart - fire cases, only of which proved fatal.

Catarhal Pneumonia can lead to being present in some of the cases in the Middlesex Hospital but not mentioned in the above 290.

While Pneumonia occurs usually during the course of Typhoid and
in one among whose chief symptoms, with rest and protection occur, yet it may occur at the start of the disease, result from asked to see such a case in consultation during the time. This patient was so ill that after the yew, he was removed to the Hospital. He then had a typical course of typhoid fever from which he made a poor recovery.

Hemorrhage can not listed as being present in any of the Middlesex Hospital cases. But in one among ones cases during the course of the preparation made, the patient was bled with blood.

San francisco of the lung may occur.

With keen.

Another of the lung may also occur as the nurse case is recorded in the Middlesex Hospital report of a child of about 11, connected with suppurative in the parotid gland.

Pulmonary hemorrhage - from an evil. (Win is London) even a case of typhus from the minute death, pulmonary hemorrhage as a regular
In one of the cases in St. Michael's Hospital a patient had pulmonary tuberculosis. He was admitted with typhoid - the case made a good recovery.


discussion of the pleura =

four cases of pleurisy are listed in St. Michael's Hospital - in one case of my own this occurred.

pleurisy with effusion is noted in two cases -

pneumonia is not recorded as being present -

In our case - in private, I have not noted pneumonia as the result of typhoid - the case made a good recovery.

Pneumothorax may occur - Dr. Hale Unit records no such cases in the clinical lecture Transact.

In one case the pneumothorax occurred on the 41st day with straining at stool. The patient a male, aged 19, became confused and died. He was not to prepare for expiration and died on
The 4th day with left pneumo-thorax.

The second case - aged 12 years - became sick swimming at St. Iliak. It was associated with constant dryness, spleen, sweat, and colic - and this transmural. It was found that the patient had a right hypo-pneumo-thorax due to the rupture of a localized empyema.

Professor F.T. Saraner also recorded a case of pneumo-thorax ([Clinical Medicine] Vol. 2) with David Ford due to recent tubercle.

In an examination of the cause of death of eight young autopsies of people dying from Typhoid Fever I find that the

1. Lungs were affected in ten cases - in which laceration was noted in six cases, in one of the six there can be seen of the any thyroid cartilage. Small erosions were found in four cases and in one of these there was a small hemorrhage into the lungs.

2. The lungs were affected in fifty-
in cases and the pleura in two only.

Conditions of the lungs were as follows:

- *Lobar Pneumonia* in four cases.
  - Upper right lobe 1 in one case.
  - Lower left 1 in one case.
  - Lower left 2 in two cases.
  - Both lower 1 in one case.

- *Lateral Pneumonia* in four cases.
  - One case in a man aged 30 years, stated
  - to be due to *Staphylococcus*.

- *Bronchitis* alone in many cases.

- *Hypostatic Pneumonia* in ten cases.

- *Adenoma* and *inflammatory* of lungs in
  - a large number of cases.

- Old cases, moderate in two cases.

- Lung generally adherent in two cases.

- Hemorrhage into right upper lobe in one case.

- Invasion intestinal hemorrhages...
In the case:

And in the case blood had been
offered into the lungs during life
and can present also in the
Bronchii and Trachea.

In two cases only was the Pleura (except
in the two cases of effused pleura)
described as being increased and in
both of these instances there was pleural
effusion.

— Urinary System —

The urine is usually decreased in quantity
high coloured and acid.
In cases under any case the Specific
gravity has varied from 1016 to 1030.

Albumen is often present in the urine
I have myself noted its presence quite
early in the disease and disappear in
a few days. I think it is more often
present in the urine than any analysis
would lead one to think for out of six hundred
and eleven cases Albumen was noted as being present in
Eighty-five cases. Urine blood was noted as being found in three cases only.

Transitory albuminuria may be present early in the disease; it is however not usually found till the end of the second or beginning of the third week.

The presence of Alburnum in the urine depends upon two causes.

I. Febrile albuminuria. Of the eighty-five cases when Alburnum was present, eighteen of the cases proved fatal, but in three cases only was any distinctive disease found in the kidney.

II. Albuminuria due to nephritis. In the three fatal cases the kidneys were found to be diseased. Thus Alburnum in typhoid may be due to renal disease—when such does occur it frequently ends in recovery. In the three fatal cases above referred to one case suppurative nephritis, one granular nephritis and one "acute nephritis." An interesting case of acute nephritis with pyonephrosis hematuria without dropsy is recorded in the Clinical Society Transactions. A man aged 21, who died on the thirty-third day after admission to Middlesex Hospital. The kidneys were large, dark chocolate in color and the tissue was full of epithelium. Typhoid ulcers were present in the intestine.
Granular Casts may be found in the urine.

Perinephritic Abscess may occur as a sequela. Kears mentions three such cases.

Cycatitis can present in some of the cases analyzed.

Retention of urine and incontinence is often frequently present (with nervous system).

Urethritis is also said to be present in true cases.

In eighty-four autopsies of patients dying from typhoid fever, the kidneys were fibroid in three cases.

Fatty degeneration was found in both kidneys in one case, there was no other fibrosis in any other organ, but there was thrombosis in the vein of the kidney. In another case hemorrhages into glomeruli were present.

Acute nephritis was present in one case and Clark's polyp in several instances.

Hence we observe that acute nephritis may arise during typhoid fever—and that chronic nephritis may complicate typhoid.
Before leaving the urinary system may mention that while in no case have I known of sugar being found in the urine during an attack of Typhoid, yet people suffering from Diabetes may have Typhoid. One such case, is recorded in the Transactions of the Clinical Society.

**Pregnancy and Typhoid.**

Only three such cases have come under my observation. In one case the woman was three months pregnant and she aborted within the first fortnight but subsequently made a good recovery.

In another case a woman of twenty-two was about three months pregnant. She did not abort but left the Hospital quite well although on several occasions the bed became attack of vomiting.

The third case is at present in the Hospital. The woman has been ill now for about ten days - and is in the eight months of pregnancy.
The Nervous System

Seizures may arise during the course of the illness -

Meninges can occasionally be very present in the case -

Vertigo frequently occurs at the onset -

Headache is a very common symptom -

Paresthesia at the onset -

Delerium is also very common -

It may be the result but usually ensue in during the course of the illness about the second or third week -

Delerium made me nocturnal only -

It may be any kind -

It may be of a milder nature -

Violent and may pass into

Chronic Mania - which happened in one case -

Suicidal Mania was also present in the case during convalescence -

Other conditions that I think may be
Incontinence of Urine and Feces.

Some papers can present if one can for a few days. The patient recovered.

Hemiplegia may occur in Parkinson. In some instances, it is a disorder of the middle cerebral artery and happened so one came under long care.

Hemiplegia is a rare complication. It may however occur at all ages from 2½ to 30 years.

Males are more affected than females.

It may occur as early as the sixth day or during the third week in the forties and sometimes during convalescence.

The right side is apparently more frequently affected than the left.

First cases to recover but the duration may be for several weeks.

Rare cases one side of Parkinson the result of Dyshidrotic The case was.
exhibited at the Clinical Society of London by Dr. Most. A man aged 22, because unable to walk during convalescence might be stand, and then was shifted to a chair to retain his urine.

There was much wasting of the lower extremities, and the superficial and deep reflexes were greatly suppressed.

The late Dr. Row in his book on Peripheral neuritis claims that many of the cases of radiculitis are a sequel of syphilis from belonging to the Peripheral neuritis class.

Meningitis is treated here.
Wirmas of Joints - Bones to.

Effusion into the joints may occur during typhoid (Middletown Hospital) and may be present within a few days.

Periostitis may occur. Thigh can present in one of many cases.

Rheumatism of Bone. Have seen one case of which the foot had the appearance.

Abscess of Bone.馬牙骨無再出現 in 90% of cases.