AN
INAUGURAL DISSERTATION,
on
Typhoid Fever

SUBMITTED TO THE
PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY
OF THE
University of Nashville,
FOR THE DEGREE OF
DOCTOR OF MEDICINE.

BY

Robert J. Albee
of
Mississippi

18
CHARLES W. SMITH,
BOOKSELLER AND STATIONER,
NASHVILLE, TENN.
Typhoid Fever

This is a complex and in many respects an obscure disease. Its diagnosis is in most cases easily and positively made out. It attacks some persons more suddenly and violently than it does others. It generally comes on slowly, so much so that the patient cannot date the day on which his fever began, he will be apt to say that for several days past he has not enjoyed his usual degree of health. There is generally a loss of appetite, and moderate thirst, with a dry or clammy state of the mouth. Generally has headaches or pain in the back and limbs, with a general feeling of drowsiness or of fatigue. There is a bodily languor and indispension or inability to perform his usual labor either of body or mind. The countenanc
assumes a different expression, sometimes becomes listless and dull the eye loses its animation and the mind is either indifferent or apprehensive. There are generally pains in the abdomen attended with moderate diarrhoea. This state of health may continue for a week or ten days or perhaps longer with but slight changes from day to day. Oftentimes there is a slow but steady increase in these morbid symptoms, while others more prominent in character arise day by day by which we are enabled to distinguish this disease most accurately from others. Sometimes after an indefinite continuance of this precursory period there is a sudden ushering in of the most violent symptoms. But whatever be the manner of attack whether this be slow and obscure...
marked by no obvious and prominent symptoms or on the contrary sudden and violent. in either case the disease goes on for a considerable period of time varying of course according to its severity and its favorable or fatal termination. during which progress it is characterized by a greater number and variety of symptoms in themselves. in their combinations and their successive appearance peculiar to this fever than are to be found in any other form of acute disease. I now proceed to describe these symptoms as fully as the present state of my knowledge will enable me to do. Like other acute diseases typhoid fever is generally attended with chills and in the first stages more properly with chilly sensation. The patient may
have these chilly sensations for a week or more followed by slight fever or perhaps he may have chilly and hot sensations alternately. Then he may have a decided chill for several sweeping days. In the meantime the febrile exacerbation increasing successively after each chill. This heat varies very much in different respects. In some patients it is uniformly diffused over the whole body. In others it is not unfrequency very unequally distributed. Sometimes the head and body will be extremely hot while the extremities are cooler than normal at others the extremities will be hot and the body cold. The state of the skin in regard to dryness and moisture is quite different in different patients. In severe cases the skin is generally dry throughout.
whole course of the disease. In some few
there may be more or less moisture. In some
cases the moisture or sweat is confined to por-
tions of the body only; in others it extends
over the whole surface. After recovery
when the case has been of considerable severity
the cuticle often peels off in large flakes
from the palms of the hands and soles of the
feet; the hair also frequently falls off from
the head and is succeeded by a new growth.
The circulation is generally accelerated. As
a general rule, the frequency of the pulse is
in proportion to the severity and danger
of the disease. The pulse is more frequent
in females than in males. From the obser-
vations of some the least medium of the
pulse is about 85 and the greatest medium is 130.
The pulse sometimes in severe cases runs
To 160 in a minute. Sometimes especially in mild cases, where the circulation is only moderately accelerated, the pulse preserves its natural softness and volume. This is not the case where it is very frequent. Sometimes the pulse is compregable and undulating.

The most common alteration of the breathing consists simply in the usual acceleration which accompanies feverish excitement. Under certain circumstances however, there is a more marked and peculiar change in the breathing. In high grades of the disease and particularly in its later stages accompanied invariably or nearly so by delirium or the for the respiration becomes irregular, noisy and hissing. It is thought by writers that this irregular, noisy and sibilant res-
Respiration is not dependent in any degree upon any disease of the lungs. It is manifestly connected with and dependent upon a morbid condition of the brain. Positive dry dyspnea is very uncommon. It may occur where there is impending secondary disease of the lungs and sometimes it is occasioned by excessive tympanitic distension of the abdominal parietes. This disease, in a majority of cases, is attended with a cough. This is generally slight and hardly ever attracts the attention of physician or patient. The spueta are usually small in quantity sometimes tenacious and colored sometimes of a rust color from a complication of pneumonia. Sometimes bloody from rupture with the blood from the mares. There is generally a denoument when the chest when you apply your
ear. In many of the severe and fatal cases there is some dullness on percussion over the most dependent portion of the chest. There is one prominent symptom found on good authority though not to be found recorded in the books. That is a tendency to inflammation of the parotid gland, sometimes it goes on to suppuration. When this gland is affected in this manner there is not that disposition to spitting in convalescence which is so frequently the case when this gland is not affected.

Cerebro spinal symptoms. Pain in the head is amongst the most constant symptoms of this disease. In many cases it is the first thing which arrests the attention of the patient and marks the formal onset.
of the fever. It is seldom intense in the first stages. Generally occurs most frequently on rising from bed in the morning sometimes does not come on until the third or fourth day. Generally is continuous and increased on the exacerbation of the fever. Most frequently it is dull heavy and throbby. In some cases it is intense and acute causing great distress. In combination with these symptoms there is sometimes great pains in the back and extremities. The pains generally are greater in the legs than in the arms. These pains for the most part disappear when convulsion sits in and some of them sometimes previous to that time. I have already given the first symptoms of this disease. He cannot confine his mind to
a regular train of thought. Becomes list.
less and dull and sometimes impatient and
irritable or perhaps timid and apprehen-
sive of the approaching danger of the
disease. His mind becomes weak forget-
ful of things that have past and that
are passing about him. This condition of
the mind generally continues throughout
the whole course of the disease until the
period of convalescence, or in the sever-
cases it may terminate in delirium
or coma. Delirium is a concomitant
of typhoid fever especially the severe case
and its degree is in proportion to the gravity
of the case. In cases that terminate fatally
when delirium once comes on it hardly ever
disappears till it is lost either in coma or
death. Its subsidence is one of the earliest
and surest signs of convalescence. Delirium generally makes its first appearance at night or during the febrile paroxysm, or perhaps immediately after waking. Under these circumstances by calling his attention he may talk sensible but as soon as he is left to himself his mind at once lapses into its disturbed and irregular action. Delirium is attended with wild and violent agitation in many cases of rapid march and great severity. He becomes restles in bed picking at the bed clothes or any thing he can get hold of. wants to get up and put on his shoes and walk. Sometimes in the midst of the most dangerous symptoms the patient will declare that he is perfectly well, insensible to all pain. This is the worst symptom, few ever recover under these symptoms,
The restoration of the healthy action of the mind on recovery is more or less gradual but nearly always complete. Some writers state that the moral principle in some cases is somewhat affected after recovery.

The expression of the countenance is peculiarly changed. The eye becomes heavy and languid. If there is much suffering either from pain or the indistinctness and indescribable restlessness of fever the usual heavy and stupid expression of the countenance is mixed with or supplanted by one of sadness, anxiety and distress. There is generally a great disposition to sleep. Sometimes an opposite state exists. In fatal cases it generally persists and increases after its first appearance unless when interrupted by violent delirium until it ends in complete coma or is lost in death.
The patient when first attacked generally has dizziness of sight perhaps before he has taken his bed and subsequently especially on his rising from the recumbent position. There are frequently in the first and middle stages a buzzing or ringing sound in the ears. Sometimes false hearing occurs the patient imagines he hears sounds and voices when nothing of the kind exists. The sense of taste is either dull or perverted. He will take medicines with the least repugnance which would be disgustful to hear if well.

One of the most constant and certain phenomena of typhoid fever is prostration of the muscular strength. In some cases this is extreme in others but slight especially in the first stages.
A slight return of the muscular strength
is one of the most certain and
quickest signs of convalescence.

The tongue in the course of five or six days
takes on a white or yellowish coat. Then
turns brown or black in its centre and
the edges red and becomes dry. In other
cases it becomes black over its whole
surface sometimes glazed, stiff and
creased by cracks and fissures. Sometimes
this dark dry crust peels off in flakes
or patches leaving the mucous mem-
brane naked red and shining. This process of
coating and cleaning off may be repeated se-
veral times in the course of a severe and
protracted case. The tongue becomes narrow
and lengthens out. Sometimes it is with
difficulty that the patient can protrude it.
 Tongue, and when he does protrude it in some cases it appears to be tremulous cannot hold it still. The patient has little or no appetite from the beginning to the period of convalescence. The thirst in most cases is in proportion to the degree of febrile excitement. There are generally more or less gastric symptoms in every case. The patient generally has nausea in the first stages and later in the progress of the disease vomiting. Pain or distress in the region of the stomach varying in character and distress is nearly always present.

Amongst the most frequent symptoms of this disease is diarrhea, and when taken in connection with other symptoms one of the most characteristic is

This symptom varies much in different
cases. As a general rule it is most common and severe in long continued and grave cases and least so in mild cases. The patient may have from two or three discharges to twenty or more in the course of twenty-four hours. There may be some mild cases where the disposition to diarrhoea is very slight and when present very mild in its form and of short duration. The stools are generally watery and of a yellowish cider color. Sometimes they are of a dark brown color and generally very offensive. Sometimes free and frequent hemor-

hages take place from the bowels. With but few exceptions there is always pain in some portion of the abdomen. These pains are in proportion to the severity of the disease and extent of the diarrhoea in some cases it is only evinced by pressure
in others it is independent of this. It varies in gravity from a heavy dull ache to a severe colicky griping. Its most frequent seat is in the iliac fosae the hypogastrum and around the umbilicus. Flatulent distension of the abdominal parietes is a very common symptom of this disease. Its degree and frequency like, diarrhoea and abdominal pains with which it is often associated are for the most part in proportion to the gravity of the disease. It frequently distends the bowels so that they press upward the diaphragm thereby intruding upon the thorax, disturbing the action of the heart and lungs, sometimes bringing on dyspnoea. When the bowels are distended in this manner if one produce pressure on the abdomen and especially over the region of the coccyx...
There will be a gurgling sound given out.

There is frequently hemorrhage from the mucous membrane of the nostrils in this case. There is generally a peculiar eruption of the skin in this disease. It consists of a small spot about the size of a pinhead, a little elevated above the surrounding skin and of a bright red or rose color. These spots vary in number generally from one to twenty or more. They generally occur upon the chest and abdomen. Sometimes but rarely upon the extremities. There is sometimes another eruption, consisting in transparent cells, varying in size from that of a pin head to the size of a split pea. They are formed by the presence of a limpid fluid elevating the cuticle. There most frequent seat is upon the neck and on the shoulders, but rarely the skin.
Anatomical Lesions. The heart undergoes a material change in this disease. It becomes soft, pulpy, and placid and is easy torn and broken down. The color changes, comes of a pale or violet-red, and the walls of its ventricles are generally thinner than they are in health. The aorta is also affected, its internal membrane becoming red. When these lesions occur, there are pools of non-fibrinous blood found in the cavities of the heart and in the aorta. The most frequent alteration in the character of the blood is a diminution of its natural proportion of fibrin. Blood drawn from the veins in this disease rarely exhibits theuffy coat. The lungs undergo no material change only their structure may become tough and cells-like.
From the frequency and severity of the symptoms arising from deranged action of the brain it would have been thought as an matter of a priori reasoning that this organ would have shown corresponding change in its appearance. But writers inform us that lesions of the brain are far from being always present and when present are far from being severe in proportion to the disturbed functions of this organ during life. The most common changes consist in an effusion of serum between the arachnoid and the mater, more or less vascularity of the meninges itself, a change of the cortical substance, and injection of the medullary portion of the brain. The only lesions of the Pharynx and Oesophagus is ulceration of their mucous lining. The mucous membranes of the stomach
is generally more or less affected. The most common consists in change of its color, its consistency, its thickening and ulceration. The most common change of color consists of increased redness. Softening of the mucous membrane exists.

In all cases of typhoid fever there is lesions of the small intestines. It is found in no other disease. These lesions consist in alterations of Peyer's glands. In some cases the glands together with the subjacent cellular tissue, are merely increased in thickness with redness and softening. These glands are elevated one or two lines above the surrounding mucous membrane. These lesions are generally found at the lower portion of the ileum. Sometimes these plates instead of being merely thickened take on ulceration.
The bottoms of the ulcerations vary. They consist sometimes of the cellular tissue just under the connective membrane sometimes of the muscular coat and sometimes of the peritoneal covering. Occasionally this covering gives way perforation takes place and the contents of the intestines are discharged into the cavity of the peritoneum. Ulcerations are sometimes found in the large intestines. The lymphatic glands are generally affected sometimes enlarged softened and reddened. The spleen is almost always more or less altered in appearance. The most constant change is enlargement of its size. The only alteration of any considerable frequency in the liver consists of softening. The pancreas, salivary glands, urinary apparatus and sexual organs are for the most part found in a healthy state.
Treatment: When the patient is first taken he should be put in bed and kept comfortable. The bed should be placed in a large room and it should be well ventilated. The bed should be placed in the centre of the room, and the light should be excluded by curtains hung over the windows but not so as to prevent a free access of fresh air. Every thing should be kept neat and clean in the room and no more attendants should be admitted than sufficient to wait upon him.

If in warm weather the floor should not be carpeted and it should be sprinkled every day with water. It appears of all diseases that medicines in this does the least good. The best treatment is good nursing. When the patient is first attacked we should withdraw
all food or at least his food should be very light and mild. If his head is hot we should apply cold to it and if his body is hot we may sponge it with cold water. If the bowels are constive give a laxative; if disposed to diarrhoea give astringents and starchy injections. Give cold water for a substigze. When the mouth becomes dry and the tongue begins to clean off and the bowels torpid then it is that morphia is an excellent remedy. If epistaxis occurs take linen rags and wet them in a solution of sugar of lead and then roll them up then screw them up the nostrils. If the patient's strength becomes weak support it with stimulant plants and cordials. If he becomes so that he cannot swallow we may administer nourishment by the rectum.