

AN  
INAUGURAL DISSERTATION

ON  
*Typhoid Fever*

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## Notes on Typhoid Fever

It is my purpose to record in a manner as plain and concise as possible, the observations, in part at least, which some experience has enabled me to make, on that disease so well and fatally known in this country as Typhoid or Enteric Fever.

Anything like an elaborate Treatise on the subject, I have neither time, inclination or ability to attempt. My object is simply to dwell, for a short time, upon such points as I consider of most practical importance in this disease; and leave what is theoretical and speculative, to those who have more leisure and more capacity.

The Theory which declares the Cause of Typhoid

Fever to be a peculiar poison in the blood, is most probably the correct one; and, as an almost necessary consequence, it would follow, that the peculiar phenomena which we denominate "the Fever," is nothing more than the efforts made by the conservative powers of the system to get rid of the hurtful principle.

Example Typhoid Fever, then, may be defined to be, a continued form of fever, caused by a specific poison in the system, which poison, during its retention in the system, manifests a particular affinity for the glands of Peyer in the small intestines, the result of which is, either inflammation or ulceration of these glands, or both. This result, there is great reason to believe,



occurs in every true case of the disease  
It is also probable, that this noxious prin-  
ciple has partialities for other organs of the  
body; and the result of its selections  
in this respect, is determined by the  
modifications impressed on those organs  
by heat and cold, constitution and  
temperament. Thus during the heat  
of summer we are more likely to have,  
Cerebral complications in addition to  
the intestinal. This was strongly  
exemplified by the course of the disease  
as it prevailed in Wilson County in this  
State last summer. The enteric affection  
was very prominent and very troublesome  
Haemorrhage from the bowels occurred in  
several instances, and to an alarming  
extent; but the disease did not, I  
think generally prove fatal in this  
way. "The tendency to death" was by  
coma. In the cold and variable weather

of winter and spring the pulmonary lesions will predominate; and should <sup>there</sup> be two epidemics, one of Typhoid Fever and one of Dysentery prevailing at the same time, there will be cases which will have inflammation of the large bowels in addition to ulceration of the glands of the small, - constituting Typhoid Dysentery. Cases occurring in persons of robust constitution, and of the sanguine or bilious temperament are worst during summer from this cause; while those of the lymphatic or nervous temperament will fare the worst in winter. ~~The diseases~~ <sup>separate from each other.</sup> The disease is greatly modified by sex and age. As a general rule women will escape bitter when they have this disease than men. Old persons are not so likely to contract the disease as the young, and are more likely to recover when they do contract it.



Children are frequently attacked; but if properly treated, almost invariably recover. Persons of the serfalous diathesis are generally troublesome cases. Pregnancy seems to exert rather a favorable influence than otherwise over this affection. - Certainly so far as I have noticed, pregnant women are more mildly attacked than others, and recover better. I have never seen but one well-defined case in the parturient woman, which was quite a stubborn one, though she ultimately recovered.

It is still very clear that An Typhoid and Autumnal Fever always distinct and separate from each other; and even a disease, which was Autumnal Fever originally, to use an expression quite common with some physicians, "run into" Typhoid Fever, or Enteric Fever. These questions have given me no little trouble in practice. I once believed the association of the two

diseases to be a thing of no uncommon occurrence, but experience has now convinced me that I was wrong, and that the two diseases, though sometimes hard to distinguish from each other, are essentially different, and never associated with each other.

§ Typhoid

Fever partial to certain locations, and more prevalent during certain seasons. Admitting that it prevails in all locations, which, indeed, is indisputable, it is still very clear, that in those sections which are elevated, broken, and supplied abundantly with running water, that it finds its most congenial home. The very reverse of this is true of Autumnal Fever, and would furnish an argument, if one were necessary, to prove the radical difference in the nature of the two affections. So far as the influence of season is



concerned, I am of the opinion, that any difference will be found, either in the number or malignity of cases. During the past season, particularly, after carefully noticing the disease in this respect, I could discover not the slightest influence exerted by changes of season, so far as the number or severity of cases was concerned.

Does one attack afford immunity against a second? Cases do now and then occur, most undoubtedly, of persons having this fever twice; but such cases are extremely rare; and the probabilities are strong, that one attack affords as much protection against a second, as would one of measles or Small-pox or any disease of similar character.

We come now to the consideration of a question connected with this affection, which has, and no <sup>doubt,</sup> will continue to



excite a great deal of discussion in and out of the profession; - is the disease a contagious one under any circumstances? That the question is a very difficult one, is very apparent from the fact, that the closest observers, the soundest and ablest men, the great lights of medical science, have differed and do still differ with each other upon this subject. I will present a few facts of which I am in possession, that have some bearing upon this point, and may add something to the mass of testimony which has been already accumulated.

The first case which I shall give is the following: In the winter of '51-2 Typhoid Fever was prevailing to some extent in the region of country where I have been practicing. Two cases of the disease occurred in the family of Mr. S. -

Mr. G., a carpenter, was at work at the house of Mr. S. during the time. Some two weeks after Mr. G. returned home, he was taken with the fever, and after a tedious illness, finally died. None of the neighbors of Mr. G., many of whom were with him a great deal, but seldom more than a few hours at a time, were attacked at all. After his death, as his family was left in destitute circumstances, her father, Mr. R., decided on removing them to his own house, several miles distant. Shortly after her removal, Mrs. G. was taken with the fever, had a very obstinate attack but ultimately recovered. One or two of her children had the disease also in a mild form. Before Mrs. G. had recovered from her attack, two members of her father's family, her step-mother and sister were violently attacked. Other members of her father's



family were seized in quiet succession with the disease, until the entire family, a large one by the way - with two exceptions, ~~was~~ prostrated, and two of the cases proved fatal. It is worthy of remark in this case, also, that the neighbors of Mr. R., who were with his family, many of them, more or less every day and night for weeks in succession, escaped without a single exception. It may be proper to state also, that the neighborhood is a densely populated one, that several families live quite near Mr. R.; that many of them endured as much fatigue and lost as much sleep as <sup>did</sup> the members of his own family; and, in short, seemed as favorably situated in every respect to contract the disease, with this solitary exception, none of them were exposed continually, and for a considerable length of time, to the

emanations from the bodies of the sick.

Another case. Some years since Mr I and his neighbor Mr A, with their families, were moving from North Carolina to the West. Passing near Mr L's in Wilson County, who was the Brother-in-law of Mr I, they called at his house to spend a few days. While there both these men were taken with Typhoid, <sup>fever,</sup> nearly at the same time; both lingered for several weeks and finally Mr I died. The disease next extended to the blacks of Mr I, and then to those of Mr L, their host. The fever was unusually violent in form and four of the negroes died.

Before the arrival of these emigrants the family of Mr L had been in perfect health; and the adjacent neighborhood, both then and afterward remained free from the disease. I confess I know not how to account for these and



and many similar cases, without calling  
in the agency of Contagion. I had intended  
giving one or two more cases calculated to  
strengthen this view of the subject, but  
time and space forbid. Suffice it to say,  
that though slow to believe in the contag-  
iousness of any disease, which generally  
propagates its self by other means than  
contagion, I am nevertheless constrained  
to believe, that, under favorable circum-  
stances and to a limited extent,  
Typhoid Fever is a contagious disease.

Whether the disease be admitted to be  
contagious or not, there is certainly no  
impropriety in using those precautionary  
means, which reason and experience  
would dictate if the contagiousness of  
it were admitted. These means are,  
many of them, very important so far  
as the welfare of the sick is concerned.

They are free ventilation - frequently

changing the clothing of patients and the sheets on their beds; keeping sick rooms very clean; removing all the excretions quickly from them; and in country practice, where disinfectants are not always at hand, it will be well to sprinkle the floors with water occasionally, that its evaporation may carry off impurities.

I know of no better protection for nurses, than sponging the body with cold water every day; changing the body-linen as often; eating heartily; drinking freely of strong coffee, and smoking plenty of tobacco.

It is of very great consequence in this disease, to make a correct diagnosis early.

Upon our so-doing depends, in many instances, the final result of the case, - the life or death of the patient. A case misunderstood, will often be a case mistreated, - that is too actively treated; and I have known so many instances



of cases originally mild, and favorable, by being badly treated at first, converted into dangerous and sometimes fatal ones, that I never meet with a case of the disease when the diagnosis is not clear, as is the case pretty often, without feeling heavier responsibility than in almost any other instance.

It is certainly very difficult in many cases to make a correct diagnosis, before the disease has made some progress; but, if we are careful in weighing all the attendant circumstances, in investigating and comparing all the symptoms, I think we ought very seldom indeed to be mistaken.

The disease with <sup>which</sup> Typhoid Fever is most frequently confounded is Autumnal Fever of the continued type. It is sometimes a matter of great difficulty to discriminate between them. Autumnal Fever has remissions so does Typhoid Fever in very

many instances; Autumnal Fever is not  
unfrequently wanting in many of its prom-  
inent symptoms, - such as the severe pain  
in the loins, the throbbing pain in the head,  
the bilious tinge of the skin and eyes, but  
little bilious fur on the tongue, and but  
little of the decided exacerbations and  
remissions which usually attend it.

Instead, we may have the dulness of ex-  
pression, and absence, more or less com-  
plete, of pain so common in Typhoid  
Fever. We have, on the other hand,  
some cases of the latter affection, where  
there is great pain in the back and  
head, nausea, ~~exacerbations~~ exacerbations in the  
evening and night, remissions during  
the morning and forenoon, (most  
cases of Typhoid Fever, indeed, whatever  
be their other symptoms, have these last,  
and occasionally, though very rarely,  
some bilious fur on the tongue.



Take a case of the former, and, through an error of diagnosis, give it the usual treatment of Typhoid Fever. You will have a case on your hands for two or three weeks, which you might have resolved in a few days with Mercurials and Quinine.

Take an example of the latter, and here a mistake will often be attended with far more serious consequences. A few active Mercurials or even one; a few days spent in dosing your patient with Quinine will probably seal his fate; - certainly aggravate all his symptoms, and change into a very obstinate and threatening case, what, perhaps, before was a mild and favorable one. What, then, are the symptoms which will enable us, very generally if not invariably, to make this necessary distinction between the two diseases, and to make it early. They will be found I think to be these.

The forming stage of Typhoid Fever is much longer - its progress is much more slow and insidious. The malaise, the dullness, the indisposition to physical or mental exertion, the general muscular soreness, loss of appetite &c. are more plainly marked, and for a longer time before the full development of the disease.

In the second place, when the disease is fully formed, the tongue is rounded, pointed, red at its tip and edges, and nearly always coated, if coated at all, with a whitish mucus instead of bilious fur. In Malarial Fever, the attack supervenes without such a lengthy period of incubation; the tongue is not round or pointed but flat, and generally covered with bilious fur. Thirdly. In Typhoid Fever, even in its very early stages, we have the manifestation, in some shape, of its peculiar lesion of Peyer's glands.



Sometimes, though not very commonly, this is evinced by positive pain or uneasiness in the abdomen. Much more frequently, when there is no complaint of pain or uneasiness, by making firm pressure, particularly over the right iliac region, some tenderness will be discovered.

Should there be no tenderness, which is not at all uncommon, we will still be able to discover this affection by the diarrhoea, or should that be wanting, by the unusual susceptibility to the action of purgative medicines. A fourth and very important diagnostic sign, is the occurrence of tympanitis. This does not prevail to any great extent at first; sometimes it is not very manifest at all;— still a careful percussion of the entire abdominal region, will seldom fail to detect a greater or less amount of it. In addition to these, we have sometimes

another symptom, which is considerable soreness of the neck about the Parotid glands, and tenderness of the cervical spine. This last symptom though frequently absent, is an important one when present; for, so far as I have observed, it is never seen in any disease with which Typhoid Fever could possibly be confounded.

Briefly then:-

Typhoid is distinguished from Anterior Fever, by its longer period of incubation; by the rounded and pointed tongue, with its edges and tip inflamed, and covered with mucus instead of bilious fur; by the intestinal disease, made evident by pain, uneasiness, or tenderness; by tympanites; by diarrhoea or the tendency to it, and by soreness of the neck and tenderness of the spine within the cervical vertebra.

The Prognosis of Typhoid Fever, as every one knows, is very uncertain.



The most desperate cases will frequently get well; and, on the other hand, cases which in the beginning, seem to be mild and favorable, from some untoward circumstance will die at last. A physician who cares for his reputation, should, therefore, be cautious always in his prognosis.

The symptoms of a fatal termination are more reliable than those of a favorable one. We cannot often be certain, if ever, that a patient will live; we can be certain, or nearly so, in many instances, that he will die. As many people test the skill of a physician by his ability to foretell results, almost as much as by his skill in the treatment of disease, it is important, that he should be well posted in matters of this kind. There are a few symptoms, which, when present, indicate an unfavorable issue. One is the presence of *Tubercles* early in the attack. - Such cases are always

obstinate, and frequently fatal. Another, and one of the worst, is, of course, a very quick pulse. In adult patients a pulse of 130 will seldom be seen except in connection of cases of a grave character. A pulse of 140 to the minute will almost invariably indicate a fatal result. I have myself never seen but one patient recover with such a pulse if an adult. There is seldom much complaint of abdominal pain; but when there is, it is unfavorable; for it indicates ulceration either deep or extensive, perhaps both generally, of the glands of Peyer, threatening perforation of the bowels and peritoneal inflammation.

Persistent delirium is a bad symptom, so is a peculiar dusky hue of the skin.

There is another symptom which I have seen a few times, and regard it as one of the worst. I do not remember to have seen <sup>it</sup> mentioned in any of the Books.



It is the tongue, not dark and chapped or sore and bleeding, with the teeth covered with black scordes, which we so commonly see, and with which patients frequently recover; but dry clean and fiery red, not only at its point and edges, but universally, over its intire surface; the teeth also perfectly dry and clean. I regard it as an indication that all secretion has been arrested. I have seen it in but few instances, and all of them had a fatal termination.

The average mortality of this Fever, so far as my observation enables me to make an estimate, is about 1 in 16. Last year the proportion was greater perhaps about ~~1 in 10~~ or ~~1 in 11~~ or ~~1 in 12~~. All physicians know the great variety in this respect of different epidemics of the disease; One being mild and benign, and the next malignant.

The important practical considerations connected with the treatment of this disease, are first:—can we resolve or cut short the disease, as assuredly we can Autumnal Fever? Can those formidable foes of Malarial Fever, Quinine and Mercury, be depended on here? Answering these questions, as I do, from my own experience, I have no hesitation in asserting, that no genuine case of Typhoid Fever can be arrested by these remedies, or by any other remedies. The Quinine treatment I have tried repeatedly, and, I think, faithfully, and I am not sensible of having ever done anything with it— but harm.

But though sceptical as to breaking up this fever, I have no doubt but that a proper course of treatment, will often shorten an attack materially; and failing to do this, much more certainly conduct one to a fortunate Termination.



The first thing, and not the least important, to be learned in the treatment, is to abstain, religiously, from the use of remedies calculated to prejudice the case, by aggravating the specific intestinal disease or any other complication which may be present. Active purgatives, therefore, and large doses of those that are mild, should be discarded.

If the brain be threatened opiates should be given sparingly if at all.

The chief indications in the treatment are; to control the general febrile commotion and thus to ward off the local lesions, which, alone endanger the life of the patient; to combat these lesions when they do occur; and to support the vital energies when they begin to fail. He who fulfils these indications, patiently, sensibly and perseveringly, allowing no favorable

omen to make him rash, and no combination of ~~these~~ <sup>unfavorable ones</sup> to make him despair, - will have the proud satisfaction of saving many a desperate case, and of wearing many a wreath of well-earned praise.

Begin the treatment by cropping the hair close. Place the patient on a low bed for convenience. Keep his head constantly cool by strips of cloth dipped in cold water, and changed when necessary. Sponge him frequently with water at whatever temperature is most agreeable to him.

A little vinegar, weak ley or whiskey may be added to the water occasionally with advantage. Poultice the bowels regularly throughout the attack.

If the bowels do not threaten to become troublesome, the poultices may be suspended for while, but it is best not to discontinue them altogether. Should the bowels be confined, small doses of



Rhubarb in combination with magnesia or the Lodes  
or Siccitz powers may be given to move them.  
If there be much heat of the skin and a free  
strong pulse the neutral mixture may be given;  
but as it will frequently do no good and ~~not~~  
not unfrequently do some harm, by deranging the  
bowels, it had best be omitted; the more  
readily, as in cases of this kind, that is where  
the disease is somewhat sthenic in its character,  
we have a remedy equally safe and far  
more effectual, The Tincture of Veratrum Viride.

When not contra-indicated by irritable stom-  
ach, and by a marked tendency to prostration,  
indicated by a very quick full pulse, or dulness  
or lividity of countenance and skin, in other  
words, by symptoms of decidedly asthenic char-  
acter, this medicine will, if commenced  
with, before the supervention of much local  
disease, and continued properly, accomplish  
great good. I would not give Veratrum  
where the disease had made considerable

progress, and when the complications were already serious, because, in the first place, the mischief the medicine is calculated to prevent has already occurred; and secondly and chiefly, because the sedative influence of the Veratrum, very great generally, when added to the prostration already existing might sink the patient irremediably. I can, in this manner, account to some degree, for the great difference of opinion entertained by men of great ability, much greater than I can ever pretend to claim on this subject. They may, perhaps, have given the sedative, either in an inauspicious form of the fever, or at an improper stage of it, for its exhibition. To those who have not given the medicine a fair trial, I would say:—take one case of Typhoid Fever in its first stage, the earlier the better—begin with a moderate dose of the Veratrum, say 3 or 4 drops, increase each dose by one drop until its full sedative effect is obtained. This may



be preceded by severe sickness and vomiting - frequently it is not. The sickness seem to be owing, almost entirely, to the reduction in the force and frequency of the circulation - which withdraws suddenly from the brain the stimulus to which it had become accustomed. This appears probable, at least, from the fact, that after this sedative effect is induced, it may be maintained by smaller doses, steadily and constantly for days, without any distress of the stomach; unless the sedative effect is carried still farther when we will again have some sickness. This farther reduction of the pulse is unnecessary, and should be avoided by reducing the dose; indeed the effect of the medicine should always be watched, and govern the dose.

Having thus effected and maintained sedation with the Veratrum, and judiciously employed all other necessary means, for I do not believe in "One horse" remedies; If I am

not greatly mistaken, The physician who tries this treatment will find his case improving sooner and more easily - having escaped much if not all the secondary mischief attendant upon the fever as it is usually treated. To sum up the remaining treatment, briefly; - if diarrhoea supervene, which is to be expected, astringents, such as Catechu, lead, Tannin with or without Dover's powder or morphine may be given. The best astringent, and the one on which I usually rely, before the tongue becomes dry and the pulse somewhat febrile, is the sub-nitrate of Bismuth.

I believe it to be, not only astringent but curative in its action on the inflamed patches of the mucous membrane. After the tongue becomes dry and the pulse small, it is proper to commence with the oil of turpentine. I think the doses of this medicine as commonly given are too large. If 20 drops or even 12 are given every 3 or 4 hours,



It will often purge, and frequently it is essential that the bowels should be quiet. In these doses, it acts as a drastic diuretic, if the term be allowable, and might superinduce disease of the urinary organs. Six or eight drops every 6 hours will, I think, give us the full benefit of the medicine with less risk of harm. Should there be good cause for suspecting much ulceration, the nitrate of silver may be given also. If the bowels become very tympanitic, a large blister will often do much good. After the occurrence of haemorrhage the bowels should be kept quiet for several days. In delirium which does not depend upon sympathetic intestinal irritation, and which improves as the bowels become healthier, - but upon disease of the brain itself, cupping and <sup>a</sup> blister to the shaven head should be tried, - They will often be tried in vain. Opium in this fever is a two-edged sword, and should be

handled with caution. The principle given us by Watson in his excellent work, is the best I have seen, to govern us in the administration of it. Stated generally it is this: where there is more nervous disturbance than sanguiferous, opium will do good, if the reverse, opium will be hurtful.

When the powers of life begin to flag, the only hope for the patient consists in the proper administration of Stimuli and nourishment. Port wine is I think the best stimulant. Patients generally love it and will take it readily. As a general rule, patients are in little danger from over-stimulation if stimulation will save them at all. Brandy & Ammonia may be tried if the wine should fail. It will also be proper, in these very low stages, to throw 8 or 10 grains of Quinine up the rectum every 8 or 12 hours. The consequences of purgess should be prevented as much as possible.