

AN
INAUGURAL DISSERTATION
ON

Typhoid Fever

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BY

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In choosing Typhoid fever, as a subject for discussion, I have consulted, rather the advantages accruing to myself, by fixing more permanently in my mind its peculiar diagnostic signs, than with a view of offering any new thoughts relative to its mode of access, course, termination or means of cure.

A disease that is becoming every day more common, and that is threatening to supplant the common miasmatic forms of fever, (according to the opinion of some of the learned) should not only arouse the notice in the investigation of disease:— but should awaken the attention of those master spirits of our profession, that ever stand as sentinels upon the watch tower, ready to sacrifice their health, fortunes, and even their lives to relieve the distresses and afflictions "to which flesh is heir."

To Louis and Chomel of France, especially the former, we are principally indebted, for the first elaborate

description of this frightful malady. He did not rest satisfied with giving a mere description of its more prominent symptoms, which might be confounded with its kindred disease, Typhus fever, - but he has shown the lesions incident to the disease, that distinguish it from all others: - thus shedding a light upon a subject which the brightest intellects had failed previously to unfold.

Our own country can also boast of a Smith, Jackson, Gerhard, Bartlett and Sutton whose Latin investigations of this subject are scarcely excelled by those of the renowned Louis and Ghoul.

The different appellations which Typhoid fever has received, has tended in no small degree to embarrass the mind of the student. Thus some describe it under the name of Entero-Mesenteric fever, Postinfective Follicular-Enteritis - Nervous fever, Intestinal ulcerative fever &c. - while some make no distinction between Typhus and Typhoid.

The mode of access of

Typhoid fever is not always uniform; occasionally it is sudden, but in a great majority of cases it is slow and insidious in its commencement. The patient feels some slight indisposition, slight headache, muscular debility, loss of appetite, which in from one to six days, will be followed by chilly sensations, occasionally by a distinct rigor. The pulse in the initiatory stage differing but little from the natural, except in frequency, becomes more frequent and fuller as reaction is established, but rarely ever manifesting much resistance on pressure.

Reaction in the majority of cases is not complete - heat is irregularly diffused over the body - the face and chest being warmer than other parts. Occasionally a bright red spot as large as the palm of the hand will appear upon one cheek, shifting in a few hours to the opposite one. On being called to a patient in this stage, and you rarely see him before, you will find him extended in bed, with a listless indifferent appearance - his eyes dull and gazing, answers questions indifferently - respiration easy, but interrupted at indefinite periods, by

slight hacking cough. The skin is acid, and has an unpleasant harsh feel, imparting a sensation of huskiness, occasionally covered with perspiration, which may be slight or quite profuse. The peculiar odor characteristic of this disease is a mixture of the musty with the cadaverous, and is more marked in those cases where there is considerable cutaneous transpiration. The tongue in this stage is not much altered in the consistency or color of its coating; but will be found lengthened, pointed and protruded with a trembling motion.

As the disease advances, the nervous symptoms become more marked, mental languor augmented, increased muscular debility with subsultus tendinum, attention difficult to fix—passes rapidly from one subject to another, though entirely disconnected. He frequently he imagines himself from home and is anxious to return, complaining bitterly of his friends not fulfilling their promises to take him home. In one instance, I witnessed a severe and protracted attack in which the patient

retained the full force of her intellect.

Vigilance, an almost constant phenomenon, tends greatly to the patient's disadvantage, favoring exhaustion and muscular debility.

The abdominal and digestive symptoms furnish the practitioner valuable signs in this disease. As a diagnostic sign, I attach more importance to the tremulous state of the tongue than to its different states of dryness and moisture and the peculiar color and consistency of its coating. In the mild forms of the disease the tongue is but slightly altered, the edges being a little redder and covered with a whitish fur. In most of the cases that I have seen, the edges of the tongue were red and fissured - the center covered with a light brown fur varying in consistency. In two or three the coating was dark and scaly. In these latter the process of cleaning commenced on the back part of the tongue and advanced in flakes, leaving the organ beneath, smooth, red and glossy, apparently without papillae. Nausea and vomiting are spoken of by most

writers as of frequent occurrence. I have seldom witnessed these phenomena, except in the advanced stages of the disease; then the matter thrown up exhibited great alteration from the normal state. The stomach will almost always be found tender upon the application of pressure, which I think accounts in a satisfactory manner for the slight dyspnea and cough, by the descent, of the diaphragm being interfered with.

Diarrhoea is present in the greater number of cases; - occasionally however, there will be constipation during the entire course of the malady. In some instances it will be the first symptom that arouses the patient's attention. More frequently its appearance will be postponed to the commencement of the second week, and occasionally as late as the end of the third. The nature of the evacuations is variable; generally thin, and yellow - sometimes dark, mucous and slimy, emitting a very foetid odor. Hemorrhage from the bowels rarely occurs, except towards the termination of the disease, and is then the harbinger of

approaching dissolution. The abdominal pain elicited by pressure upon the bowels over the ilio-caecal valve is almost a pathognomonic sign, especially when accompanied by a gurgling noise. In one case that I saw this pain was unusually severe for the first three or four days, then disappeared until the twelfth day, when all the symptoms became suddenly aggravated. The pain rapidly extended over the whole abdomen, accompanied with tympanitic distention, indicating intestinal perforation and peritonitis. There is always more or less tympanitis the abdominal parietes being rarely found in a relaxed state.

Emaciation in this disease will be marked, whether there be much diarrhoea or not. The skin upon the face will have a ~~rigid~~ appearance like a piece of stretched parchment.

The urine appears but little altered, the secretion is generally increased and of a lighter color than natural. The catenitious deposit is rarely observed even in favorable terminations of the disease.

The cutaneous eruptions spoken of by most authors on Typhoid fever has escaped my observation in a majority of the cases that I have had the pleasure of seeing. I have found the lenticular rose colored spots upon the chest and abdomen of more frequent occurrence than the sudamina; these latter, I think, rarely occur except in constitutions vitiated by confined air and unwholesome food. To attempt to delineate the anatomical lesions incident to this disease, would protract this humble dissertation beyond its proper limits, I will therefore content myself by giving an outline of the more prominent and important ones.

The heart is described, in the majority of cases, as being soft and easily broken down of a pale and flabby appearance; in consequence I think of insufficient nutrition. The function of assimilation, being nearly or entirely suspended in this disease. The occasional redness of the heart and aorta is thought by Louis to be occasioned by the imbibition of the coloring matter of the blood, which accords with relaxed

condition of the organs. The principal alteration of the blood, consists in a diminution of the relative proportion of the fibrin. I have witnessed some cases, (so far as ocular inspection is concerned) in which there did not appear to be a deficiency of fibrin, but, its intimate diffusion through out the mass of blood, giving rise to a solid coagulum, without the buffy coat, looking more like a mass of soft red flesh than blood. These alterations in the brain are not at all proportioned to the mental disturbance manifested in the disease. The arachnoid is occasionally found red, with effusion between it and the Pia Mater, as in the heart, this state may result from relaxation and diminution of consistency. The most frequent alteration in the stomach is in consistency and color. The mucous membrane being red, soft and broken down. The muscular coats also want consistency.

The small intestines furnish the most constant and characteristic lesion in this disease. That portion of the ileum in which are situated the glands of Peyer, can always be regarded, as possessing diagnostic

marks which distinguish this disease from all others. The glands of Peyer will always be found in a state of congestion and ulceration. I have regarded this lesion as being so constant, that, if I should fail to detect soreness in this region upon pressure, I should hesitate in pronouncing the case to be Typhoid fever. In a very early examination we might fail in the discovery, but in my judgment it would be a rare exception. The mesenteric glands corresponding to the glands of Peyer are uniformly altered: being red and thickened.

The glands of Brunner in the duodenum, and the solitary glands in the large intestine, as well as the Lymphatic generally, present considerable alterations from the normal state. The spleen is increased in volume, and diminished in consistency.

The only alteration in the Liver discovered by Louis was softening. The Biliary secretion was natural. Having given a hasty review of the more prominent lesions of Typhoid fever, it becomes necessary to say something with regard to its

cause, duration, diagnosis and treatment. As to the cause which develops this peculiar form of fever, but little is really known. Putrid vegetable and animal exhalations have alike failed to generate the disease *de novo*. I entertain the opinion, that the cause is a peculiar poison, which gains access to the blood: the entire organism soon exhibiting signs of its impress. The nervous apparatus first, then the muscular system, and then the glandular structures, especially those of Peyer and the mesenteric.

It evidently owes its origin to civilization as it rarely ever appears in newly settled countries. For this reason, I apprehend, the disease is more prevalent in the Northern states. It appears to me also, that Typhoid fever becomes more common in proportion, as the causes which generate miasm are removed:— for we frequently see families living on the margin of streams or in the neighborhood of ponds affected exclusively with malarious fever, while those only a few miles distant will be seized with the Typhoid. There being but very few cases

of malarious fever in the North, while this Typhoid fever is endemic, furnishes strong corroborative evidence of the fact.

The duration of this disease will vary from eight to fifty days; being determined more by the nature of its complications and the virulence of the cause, than the peculiar treatment adopted.

The diagnosis of Typhoid fever excites more than ordinary interests in these latter days, since every disease of grave import is wondrously to be garbed in its habiliments. In this country Gastric and Billious Remittents are the only diseases that may be confounded with Typhoid. In some instances, the points of analogy are so very marked, that autopsies are the only certain means of diagnosis. Nor am I altogether persuaded that the two diseases cannot exist in the patient at the same time. For we frequently see patients complaining for one or two days with slight headache, loss of appetite, mental languor, resulting in a chill, which is followed by vigorous reaction

and augmented pain in the head, subsiding
in a partial establishment of a crisis - a gentle
perspiration being observed on the forehead only,
which process may be repeated for three or
four days.

When we subject such a patient
to the antiperiodic treatment, the chills
are removed, but we have on our hands an
apparently new type: a well marked case of
continued fever. The pain which heretofore
could not be produced by pressure over
the termination of the ilium, is now distinctly
felt accompanied with gurgling and
borborygmus. The tongue is red at the
edges, fissured, and covered with a
dark or yellowish, tenacious fur. To which
will be added subsultus tendinum, showing
great derangement of the nervous system.
This case is not amenable to quinine. But
on the contrary the symptoms become aggra-
vated by its administration. The case is now
a very perplexing one to the young practitioner.
He is compelled to call it Typhoid and
treat it as such. Attention to the observed

phosphorina in Typhoid fever, as they regularly appear, will generally lead to a correct diagnosis. The initiatory stage is much more protracted than that of malarious fever. The patient exhibits great antipathy to confinement, says he does not feel sick enough to go to bed nor can you force him to do so for several days. But when he does take to bed, it is a hard matter to drive him from it. The reaction which follows the rigor or cold sensation is very partial, and irregularly diffused: the face and chest exhibiting a flushed appearance, and imparting a burning sensation to the touch, while the lower extremities have a temperature scarcely above the natural. These cold sensations followed by reaction may be repeated two or three times during the twentyfour hours. But we rarely ever see any manifestations of the crisis, however, after the chilly sensations and exacerbatious may be repeated.

Muscular ability is very great, the patient generally preferring to lie on the back.

The tongue will be found lengthened, red at the edges and protruded with a tremulous motion. The color and consistency of its coatings are not of much diagnostic value.

The gastric distress and disgust for food are not so great as in the malarious fevers. There is rarely any vomiting except in the decline of those cases, that terminate fatally.

The pain and gurgling sound elicited by pressure over the ilio-caecal valve, spoken of by most writers on this fever, I regard as symptomatic sui generis of this malady.

The lenticular rose colored spots, and sudamina are not of much diagnostic value, as they do not make their appearance before the end of the second week.

Subsultus tendinum, a common symptom in this, and some forms of malarious fever, is a valuable sign, being manifested much

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earlier in Typhoid. Diarrhoea is almost always present in this malady; if not, there is great susceptibility to the action of purgative medicines.

Treatment.

The unsettled state of the Medical profession in regard to the treatment of this disease is truly embarrassing. In France one dogma after another has arisen, flourished & decayed, to be remembered only in connection with their bold instigators.

Thus tartrate of antimony, excessive bleeding and hyper-catharsis, have each flourished as specifics, but are now sunk into merited neglect.

In the United States like vacillations are witnessed. We have a Jackson theory, Smith theory, and a theory of almost every practitioner who has seen the disease. The most reasonable view to adopt, I think, is the rational plan of treatment, meeting the symptoms as they arise.

A disease so variable, and presenting so many complications, cannot be treated with a specific, or in other words, there cannot be any one plan of treatment applicable to all cases.

If the cause producing the disease is a poison entering and contaminating the fluids of the body, the solids must soon become consecutively affected. The entire organism being thus deranged, no one or two of the natural cruetoriscan effect its elimination.

The following plan of treatment will, I think, be indicated in the majority of instances.

The bowels should first be evacuated with a combination of calomel and rhubarb; if there is much inflammatory action, from ten to fifteen ounces of blood should be drawn. Where there is much heat of the head and mental alienation the scalp should be shaved and cold

water should be freely applied. A gentle action on the skin should be excited by a sudorific mixture composed of citrate of potassa, ipecacuanha, and sweet spirit of Nitro. This combination fulfills two very important indications: allaying nervous excitement and inducing perspiration.

Sleep can best be procured with small quantities of sulphate of Morphia and sulphuric acid or where there is much mental derangement, Aqua Ammonia, will best fulfill the indication.

If the bowels are constipated, recourse should be had to hyoscyamia, Apletims, cold or tepid, as indicated by the surface, will be found beneficial. If the tongue should become dry, showing a want of secretory action, mercury in small quantities, continued until the organ becomes moist, is of vast importance.

If the tongue should commence cleaving in flakes, leaving the organ red and glossy beneath,

the oil of Turpentine promises more good than any other remedy: vomiting is very apt to be induced by it, if not sufficiently garbed by more palatable articles. I have known it discontinued on account of this unpleasant symptom. Professor Bowling of the Washington University, recommends the article to be well triturated with loaf sugar, Gum Arabic and water, as follows.

Oleum Turbinthinæ ℥ʒi

Saccharum album ʒi

Gum Arabic ʒi

Aqua — ℥ʒi

given three or four times a day until the tongue presents evidence of improvement. To control the ulceration of the glands of Peyer and check the diarrhoea, the iodide of potassium combined with opium; and iodine ointment rubbed upon the abdomen seem to exercise a very beneficial influence exceeding, in some instances, our most sanguine expectations. Professor Bowling recommends, subnitrate of Bismuth in 20 grs to ʒi doses

If life seems to be sinking under the prostrating effects of the disease, the patient must be sustained by stimulants. Wine and brandy are to be used in small quantities, repeated at short intervals, and the body sponged with warm brandy and water.

The patient should, if possible be placed in a large, well ventilated apartment, and his clothing changed as often as every other day. In country practice where we have three or four patients crowded together in a small ill ventilated apartment, the chloride of lime or soda is an almost indispensable agent to correct and neutralize the offensive effluvia.

The complicated cases will require a modification of treatment according to the particular organ or organs implicated, whether it be inflammation of the brain, spinal marrow or the lungs.

Prop per

nourishment is a very important desideratum.

The patient must be nourished with the blandest articles, vegetable gruels, and animal broths, properly alternated, will be found most suitable to the palate and weak digestive power of the patient —