THE CROONIAN LECTURES ON SOME POINTS IN THE PATHOLOGY AND TREATMENT OF TYPHOID FEVER.

Delivered before the Royal College of Physicians of London.

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LECTURE III.*

ANOTHER abdominal symptom remains to be considered in relation to the bathing, viz., tympanites. When great, not only is it in itself a cause of much distress and even danger, but it indicates either very severe nervous depression or serious local lesions. The actual cause of the condition is, no doubt, paralysis or loss of tone of the muscular coat of the intestine. Sometimes it comes on early, before the middle of the second week, and is then a most ominous symptom, and is an indication of a profound shock to the nervous system. This early tympanites is, I believe, most beneficially influenced by reducing the temperature by bathing and cold compresses, together with free stimulation. The tympanites of the later stages of the fever is often due, in addition to the local lesions, either to actual peritonitis, or, at any rate, extensive and deep intestinal ulceration, and demands, besides the local application of cold to the surface of the belly, the free use of opium. I cannot say I have ever seen much advantage result from the remedies usually recommended for this affection, such as charcoal to condense the gas, or stimulating enemata to expel it. The latter sometimes give temporary relief; but, unless the tone of the intestinal wall be restored, the gas soon reaccumulates. Attempts to draw off the gas by introducing a tube into the rectum only occasionally succeed. In order to do so, the tube must be passed quite into the sigmoid flexure—no easy matter to accomplish—and, moreover, the gas is often contained in the small intestine.

Seeing how little influence the antipyretic treatment appears to exercise on the typhoid lesion of the intestine, when, as is often the case, it is deferred till the end of a week or more, it becomes a matter of great importance to recognise as early as possible those cases in which the primary infiltration has gone very deep, and where, in consequence, there is danger of arterial hæmorrhage or perforation taking place when the sloughs separate; for probably the best chance of preventing these accidents is to arrest as far as possible the peristaltic movements at this period of the disease by means of opium. Unfortunately, we have no signs on which we can rely with any certainty. It has been said that twitching of the muscles indicates severe intestinal lesions, but this does not accord with my own observation. In a large proportion of the cases of perforation which I have seen, this sign has been absent; and, from my limited experience of typhus, I should say that muscular twitchings were much more common in this disease, where there is no ulceration. On the whole, I think that great tympanites is the most valuable indication which we possess of this condition.

Another point of interest in connection with cold bathing is the effect on the kidneys. Dr. George Johnson has shown that prolonged cold bathing will often induce a temporary albuminuria in healthy persons; it might, therefore, be anticipated that, in a disease like typhoid, the severer forms of which are often attended by albuminuria, repeated cold baths would tend very much to increase the frequency and danger of this complication. Such, however, does not appear to be the case; and none of those who have extensively employed this mode of treatment have found any increased frequency of the rare complication in typhoid fever—acute nephritis. One such case occurred this year in the London Fever Hospital, but this patient had never been bathed.

A case of acute nephritis and uræmia in typhoid fever was admitted last winter into the Middlesex Hospital under the care of Dr. Greenhow, but neither had this patient been bathed; and two similar cases have been reported by Professor Immermann as occurring in the hospital at Basle, but in both these the affection was already present on the patient's admission. Hence, albuminuria need not, I think, be regarded as a contraindication.

Another point of great interest is the effect of the treatment on relapses, and I think it cannot be doubted that relapses are rendered more frequent. The probable causes of this I have already considered. In order to prevent these relapses, Professor Immermann has tried the effect of salicylate of soda; and he gives four to six doses of fifteen grains daily for ten or twelve days from the time of complete desquescence. Of fifty-one patients treated in this manner, only two relapsed, giving a ratio of less than four per cent.; while of two hundred and thirty-four patients treated at the same time and under similar conditions, but without the salicylate, thirty-three relapsed, giving a proportion of twenty per cent. His paper has come into my hands too recently to enable me to try this mode of treatment on more than a few cases, but so far some of them have relapsed.

Against the general adoption of this mode of treatment, it has been objected that in the great majority of cases it is unnecessary; that upwards of 80 per cent. of the cases, if properly fed and nursed, will recover; and that therefore so troublesome and even distressing a method ought to be reserved for the comparatively few cases which are likely to end fatally. This argument is not without force, and no doubt a large number of the milder cases do not need repeated bathing; but it is notoriously impossible to predict at the outset, with any certainty, the course of an attack of typhoid fever, and any delay in commencing the treatment deprives it of a large part of its efficacy. A mild case of typhoid, or any feverish attack of which the diagnosis is at first doubtful, should from the outset be treated on the same principles, though in a less rigorous manner.

The patient should be confined to bed in a cool room with thorough ventilation, and be only lightly covered, and from time to time may be sponged with cold water or have a cold affusion. Most persons in the upper and middle classes are accustomed to have a cold sponging or a cold affusion daily, and if they are feverish this will be still more grateful to their feelings; at the same time, abundance of cold drinks should be given to quench thirst and keep the mouth moist. If the case should prove to be one of febricula or simple catarrhal fever, no harm, but rather good, is done; if it turn out to be typhoid, we shall have obtained control over the fever from the first, and as soon as the temperature, in spite of these milder means of refrigeration, begins to maintain itself above 102°, and signs of febrile oppression manifest themselves, we can have recourse to the more energetic means of reducing it.

We have now to bring this mode of treatment to the test of statistics, and to inquire what is the effect on the general rate of mortality. First we must endeavour to compare together like instances, and this we are enabled to do pretty satisfactorily by contrasting the rate of mortality in the same hospitals before and after its introduction. Thus, in the hospital at Basle, of 1718 patients treated on the expectant plan, 469 died, giving a mortality of 27.3 per cent. Of 982 patients treated partially on the antipyretic system, 159 died, giving a mortality of 16.2 per cent. Of 1483 cases treated thoroughly in this way, 130 died, giving a rate of 8.8 per cent. In the hospital at Kiel, of 330 patients treated on the expectant plan, 51 died, giving a mortality of 15.4 per cent. Of 160 cases treated by Jürgensen by cold baths, 5 died, giving a mortality of 3.1 per cent. In the military lazaretto at Stettin, of 1591 cases treated before the introduction of bathing, 405 died, giving a mortality of 25.6 per cent.; since, of 121 cases, 5 have died, giving a rate of little more than 4 per cent. Similar results have been obtained at Zürich.

Perhaps the most striking results of this mode of treatment were obtained in the field-hospitals during the Franco-German war, which show a difference in the mortality between the ordinary and the antipyretic treatment of between 20 and 40 per cent. for the former, and 3 or 4 to 12 per cent. for the latter. It is interesting to compare with these numbers the rate of mortality in the English army on home service in times of peace.

If we now take the general results as given by Dr. Brand, we find that of 8141 cases treated antipyretically, 600 died, giving a mortality of 7.4 per cent., while the average rate in hospitals under the ordinary treatment is certainly not less than 16 per cent.

One result of this is, that while formerly the rate of mortality in the English hospitals was decidedly lower than that in the German hospitals—a result which we were disposed to ascribe to our better sanitary arrangements, better nursing, better feeding, and more free stimulation—it is now more than double. I think, therefore, that it is impossible to doubt that this mode of treatment considerably diminishes the rate of mortality.

I will now give briefly my own experience of this mode of treatment, which, however, in itself has been too limited to justify me in drawing any positive statistical conclusions, though it has been sufficient to convince me of its great advantages. At first, I confess I was prejudiced against it. Not that I ever doubted that it was advantageous to reduce the temperature in fever; but I regarded this repeated cold bathing as

* Concluded from page 687 of last number.

in itself impracticable, and moreover an unnecessarily severe proceeding. I therefore proceeded very tentatively, at first only giving a bath occasionally when the temperature was very high and the symptoms severe. Seeing the good effects which often followed, I gradually administered the baths more frequently, and supplemented them by quinine and salicylate of soda and the other means of reducing the temperature; but it is only quite recently that I have endeavoured systematically to keep the temperature below 102.2° ; and I have rather followed Liebermeister than Brand in the free use of quinine and the other antipyretic remedies, and have moreover largely supplemented the baths by sponging with iced water, cold packing, and ice-compresses.

Including all cases—viz., those which were only bathed occasionally, as well as those in which the method was more thoroughly carried out—I have treated one hundred and twenty patients, of whom eighteen have died, giving a mortality of 15 per cent. This is not much below the average mortality, during the last decade, of the London Fever Hospital in London; but it must be remembered that these were all severe cases, while the general rate of mortality is reckoned on the mild and severe cases together; therefore the results are really very favourable. Of these one hundred and twenty cases, forty were treated systematically by applying remedies to reduce the temperature whenever it maintained itself above 102° to 103° in the axilla. In the earlier cases, the higher maximum was taken; in the latter cases, the lower. The means employed were cold baths, cold sponging, cold packing, cold compresses, quinine (usually in thirty-grain doses), salicylate of soda in sixty-grain doses, and sometimes digitalis. With the exception of one fatal case, I have excluded from this list all cases where less than ten baths or equivalent modes or methods were administered. The largest number of baths given in any case was sixty-four. All these cases were of great severity, and in some the condition was almost desperate when the treatment was commenced.

Four deaths took place, giving a mortality of 10 per cent. Of these four fatal cases, in one, a patient in the Middlesex Hospital, the treatment was not begun till the eighteenth day; the patient was then in a state of great prostration, with delirium, stupor, and hypostatic pneumonia. She had thirty-eight baths. The second case, treated in the London Fever Hospital, was a woman aged 29. The treatment was commenced on the tenth day. She had fifteen baths, was cold-sponged fifteen times, and had nineteen thirty-grain doses of quinine. She recovered from the primary attack, relapsed, and died on the forty-second day. During the relapse, she was only bathed once. The third case, also treated in the London Fever Hospital, was a youth aged 18. The treatment was commenced on the eleventh day; number of baths, eleven; quinine given fifteen times. He was apparently progressing favourably. His temperature had fallen, and no bath had been given for two days, when he was suddenly seized with a violent attack of tetanic spasms with opisthotonos, after which his temperature again rose and his urine became bloody. He died of asthenia on the twenty-fifth day. After the attack of convulsions, he was not again bathed. The fourth case I have already mentioned in a former lecture. The patient died, on the fourteenth day of the disease, of acute granular degeneration of the heart. She got out of bed in the middle of the night and fell dead on the floor. She had only been bathed eight times, as her temperature was never very high.

Of the fourteen deaths which occurred among patients in whom the treatment had only partially been carried out, in eleven cases it was not commenced till after the eleventh day of the disease, and in seven of these not till after the fourteenth. In five cases, only one or two baths were given, and the treatment, therefore, could not be considered to have been tried. One case was admitted with acute meningitis and maniacal delirium, and died within thirty hours, and the surface of his brain was found covered with lymph. Three cases died of peritonitis, in two of which there was perforation; of these, one died in a relapse, during which he was not bathed. One case died of hæmorrhage. One was the subject of valvular disease of the heart, of pericarditis and pleurisy; in this latter case, the treatment was not commenced till the twenty-ninth day of the disease, and he was only bathed on two occasions when the temperature became very high.

The remaining deaths were due to asthenia and hypostatic congestion of the lungs. No patient has died in whom the treatment was commenced before the eighth day, and only two in whom it was commenced before the tenth. Of the whole number of one hundred and twenty cases, thirteen, or ten per cent., relapsed; one relapsed twice. Of the forty cases systematically treated, five relapsed; four of the thirteen relapses proved fatal.

I may add that, last year, in which the treatment by bathing, though still only partially, was more completely carried out than in any previous year, the rate of mortality in the London Fever Hospital has been lower than has occurred since the exclusion of the pauper patients.

In conclusion, I trust I have brought forward sufficient evidence—not indeed to convince my hearers of the superiority of this mode of treatment—but enough to show that it is deserving of a fair trial, by the results of which it must stand or fall. Its objects all will acknowledge to be rational; and the means, when judiciously applied, are free from danger. Moreover, we may claim in its favour the weight of authority; and though we may not say in medicine, “Errare malo cum Platone quam cum aliis vera sentire”, nevertheless, when we follow Currie, Gregory, Giannini, Horn, Chomel, Graves, Trousseau, Traube, Liebermeister, Brand, Jürgensen, Binz, von Ziemssen, Wunderlich, Chavanne, Cayla, we may feel some assurance that we are not wandering far from the right track. And I think it can hardly be doubted but that we have here a potent weapon, originally indeed forged in this country by a skilful artificer, but allowed to get rusty from disuse; but which, again sharpened and polished by the great physician of Stettin, has been restored to our hands—a weapon by whose aid we may well hope that we shall succeed in saving a considerable proportion of those 8,000 victims who every year in England alone succumb to the attacks of this treacherous disease.

ABSTRACT REPORT OF LECTURES ON THE COMPARATIVE ANATOMY OF MAN.

Delivered at the Royal College of Surgeons of England.

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LECTURE VII.—THE RACES OF AFRICA (*continued*): MODIFICATION OF THE NEGRO TYPE.

At several parts of the equatorial region of Africa, from the Gulf of Guinea to the White Nile, indications have been met with of a small race of Negroes, sometimes so small that the name of pigmy may truly be applied to them—differing from the ordinary Negro in the short rounded form of the head. These bear some resemblance to the diminutive members of the Oceanic black races who inhabit some parts of the East Indian Archipelago, especially the Andaman Islands, and to whom the name of Negrito is now generally applied; and Dr. Hamy, who has collected together all the evidence at present accessible as to their existence, has proposed to distinguish them by the name *Negillo*. The Akkas of Schweinfurth appear to belong to this race. In many districts, they are more or less mixed with ordinary Negroes, and their physical characters are therefore obscured; but some skulls in the collection of Dr. Barnard Davis bear a striking resemblance to those of the Andamanese, and have a cephalic index of 80 and upwards.

The greater part of Africa, between the equator and the most southern parts, where the Hottentots and Bushmen dwell, is inhabited by Negroes who, for linguistic reasons, are grouped together and separated from the more northern tribes, and are now generally known to ethnologists by the name of *Bantu*. Their range seems to have extended southwards in comparatively recent times, encroaching upon that of the original inhabitants. They are a pastoral people, warlike, energetic, and intelligent, owning large herds of cattle, and living in villages composed of a number of beehive-like huts. The southern Bantu, who at present are the best known, from their vicinity to the British and Dutch settlements of South Africa, are divided by Fritsch into—1. The Ama-Xosa, who inhabit at present the south-east portions of the Bantu territory adjoining the sea, between the Cape Colony and Natal. To these the name *Kafir*, derived from an Arabic word applied to them as unbelievers or heathens, is commonly given; but the name is sometimes used in a wider sense for the Bantu Negroes generally. The Ama-Xosa include the well-known tribes of Gaiikas and Galeikas, with whom we were at war in 1877. 2. The Ama-Zulu, situated to the north of these, in Natal and Zululand; 3. The Bechuanas, occupying the central or inland country; 4. The Ova Hereros or Damaras of the western coastlands. Each of these divisions is composed of numerous small tribes, frequently at war with each other, and constantly changing in relative importance and even locality. The growth of the Zulu nation is a striking example of the mutable character of native African political combinations. At the commencement of the present century, they were an extremely insignificant tribe; but by the military and political genius of their chief Chaka, who conquered and absorbed all the neighbouring tribes, a powerful kingdom was formed, which was consolidated by his successors, Dingaan, Panda, and Ketchwhy;.