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OBSERVATIONS ON THE TYPHUS FEVER WHICH PREVAILS IN THE FENS OF LINCOLNSHIRE; ITS SYMPTOMS AND TREATMENT.

By EDWIN MORRIS, Esq., Spalding.

The great source of typhus fever in low marshy districts is malaria. An individual may have been laboring under it for weeks prior to the symptoms of continued fever becoming apparent. In my former communication I have stated that persons affected with malaria have a "moist, white tongue;"* but if, at any time, it becomes dry, and the mouth clammy, we may conclude that they are about to have continued fever.

Typhus fever may advantageously be divided into *three stages*—a stage of depression, a stage of excitement, and of collapse, which last generally extends over a space of four or five weeks.

The *first stage* is of uncertain duration; it may be a few hours or days, and is generally ushered in by cold rigors, pain in the back, lowness of spirits, and great prostration of muscular power, and when the patients sit down they say they feel as if they were going to sink into the earth, so excessive is their weakness. There is also soreness and weariness, the pulse is small and feeble, the tongue dry, with a collection of white fur upon its dorsum; it has a continued tremulous motion when put out, and the lips quiver as though the patients were about to cry.

This is followed by the *second stage*, in which the pulse becomes quick, small, and hard, and sometimes intermittent; there is a continued buzzing in the ears; a dull aching pain in the head; the tongue is dry and parched, and as the disease advances the fur upon it becomes of a brown color; the urine is secreted in small quantities, and the bowels are costive; the breath is hot and very offensive; the heat of the body is very great; the breathing is quick and laborious, accompanied with occasional deep sighing; the symptoms are much increased in severity in the evening, and generally subside again towards morning. An eruption sometimes appears in patches upon different parts of the body, but generally upon the abdomen; it seldom, however, lasts long. After a time the symptoms are much increased, delirium comes on, and the patient raves violently, and is with difficulty kept in his bed; sordes collect upon the teeth, the tongue is dry and rough, and the color of mahogany; the thirst is very great; the lips are parched and cracked, and often bleed; the patient lies horizontally upon his back, and there is a continued inclination to slide down in the bed, so that the feet generally project out from under the clothes; the patient frequently makes a moaning noise, and picks about the bed-clothes with his hands; the urine and

fæces are passed involuntarily. From the continued moisture caused by this, and the pressure produced from lying in one position, there is apt to be an inflammation of the integuments covering the sacrum, which rapidly lose their vitality, and slough, forming immense sores.

After a time the symptoms abate, and the *third stage* commences. The patient becomes sensible, the sordes upon the teeth and the crust upon the tongue begin to peel off, the pulse is very feeble, and there is great debility, profuse perspirations occasionally break out, and also acute pains in the abdomen occur in paroxysms. During this stage we have occasionally hæmorrhage from the bowels and from the nose. The mucous membranes have so far lost their vitality, that ulceration of the intestines frequently takes place. The patients gradually become convalescent, but, before they thoroughly recover, all the hair falls off, and the cuticle upon the palms of the hands and soles of the feet peels away, and for a long time they are a living spectacle of the dreadful calamity which had befallen them. A month or two will elapse before they are capable of any laborious occupation; but, when once recovery has taken place, they will become robust and active, and bear greater exertion than formerly; indeed, the system appears completely changed.

I have mentioned that an eruption in some cases appears upon the body; I believe this to be characteristic of true typhus, and individuals who have this I have never known to have a second attack of typhus after complete convalescence; but, when this eruption is not present, they are not free from the liability to it; indeed, they appear more susceptible of its influence, and frequently have relapses. When, however, the eruption is present, we may view it as a guarantee to the patient of his being proof against the poisonous contagion for the future.

This eruption makes its appearance during the second stage of the disease, and most frequently upon the abdomen; it is in patches of a dark red color, and rough to the touch; it is not attended with itching or pain; indeed, the patients are ignorant of its presence; it is, therefore, essential that we should carefully examine them every time we visit them, or else it may appear and disappear without our cognizance. It is uncertain in its duration; it may last a few days or only a few hours, but will generally continue visible during the second stage of the disease; yet, as I before observed, I do not mean to affirm that in all cases of typhus we have this eruption, because I have occasionally seen cases which have run regularly through the different stages without it.

There has been much diversity of opinion amongst physicians respecting the regularity with which a *crisis* takes place in typhus. That a crisis does take place is unquestionable, but as to the time it will vary

* Provincial Medical Journal, vol. vii, p. 417.

much, according to the age of the individual, and whether there be any serious organic affection of the chest or head. It usually takes place from the twentieth to the twenty-seventh day, and its approach is generally indicated by the increased violence of the symptoms. Relapses will occasionally take place during the third stage, and mostly in those cases where a crisis takes place early, and is caused by some intestinal irritation or organic lesion.

Typhus is frequently complicated with some other affection of the body, and the most common one is bronchitis; old people are much more liable to this than young persons, and whenever this complication is present, the danger of a fatal termination is much increased. Whenever an affection of the chest takes place, effusion into that cavity will often occur very rapidly, an event we have too frequently to lament; abscesses will often form in different parts of the body, and whenever they are situated over the tibia, necrosis of it invariably follows. I have a patient under my care at the present time who has had a severe attack of typhus, and an abscess has formed immediately below the right knee, the pain from which has been excruciating.

Where cases terminate fatally, death generally takes place during the last stage. It may, indeed, occur in the first stage; patients occasionally, when first attacked, fall senseless on the floor; the shock is too much for the system to bear, reaction never takes place, and dissolution speedily happens. When death occurs during the second stage, it is mostly from effusion into the head. The excitement is very great, the patient is furiously delirious, the inflammatory action of the brain runs very high, effusion takes place, the pupils are dilated, the patient has a wild staring look, coma comes on, convulsions follow in quick succession, and death closes the frightful scene. The younger the patient, the more liable he is to die from this cause, and the fatal event generally takes place about the eighteenth or twentieth day.

I have before stated that hæmorrhage occasionally takes place from the bowels during the latter stages of the disease; this is not of frequent occurrence, and only in those cases where the symptoms have been very violent; under such circumstances, the mucous membrane becomes softened and attenuated, and readily gives way, when any increased impetus is given to the circulation; thus, an abrasion of its surface is produced, and hæmorrhage is the consequence. The cases in which this occurs mostly have a fatal termination.

After an attack of typhus, patients are frequently deaf, but the deafness usually leaves them when they have thoroughly recovered their strength. In a few cases suppuration has taken place, within the ear, the tympanum has become perforated, and the small bones discharged through it, and permanent deafness has been thus produced. A violent diarrhœa will sometimes take place, which is productive of the worst effects; indeed, I know of no complication which is so dangerous, and always look upon it as an unfavorable symptom. The alimentary canal generally becomes implicated in this disease, and when it is so to any extent, the tongue becomes red at the edges, and bears marks from the indentation of the eth upon it; the fauces are inflamed, there is burn-

ing sensation about the epigastric region, with pain, which is increased upon pressure, and the food is occasionally rejected.

Contagion.—Much has been said, and a great deal written, respecting typhus. As far as my experience goes, it is a disease decidedly of a contagious character, and is thus rapidly propagated from one person to another, and may, in nearly every instance, be distinctly traced. I could give numerous instances of its extension through towns by this means, but shall content myself by stating the following, which has recently occurred:—A gentleman had a severe attack of typhus fever; during his convalescence his wife caught this disease, and died from effusion taking place into the cavity of the chest; they had a daughter who resided a distance of twenty miles from them, and who occasionally visited them when ill; she also fell ill of the fever, and communicated it to the other members of her family, and it was soon after spread through the village where she resided. We could not have a more convincing instance of its contagious character; and when a case happens to occur, in a locality where the atmosphere is charged with malaria, and the population more or less predisposed to it, the rapidity with which typhus is communicated by contagion is truly astonishing, and it is a long time before the village or town gets rid of it. It is under the above circumstances that we have an occasional burst of typhus, in certain localities, which will rage with unmitigated violence for a length of time; it pays no respect to persons; the blooming bride of yesterday is snatched quickly away from the world by this deadly enemy to the human race, and the lonely widower is left to bewail the loss of his bosom friend and partner of all his joys and sorrows, inwardly lamenting the miserable resources of the physician, who has not been able, with all his boasted philosophy and learning, to preserve for him his lost and deeply regretted companion. But it teaches both a lesson—the husband, how vain are all human calculations for the future—the physician, how utterly worthless have been the remedial agents he has employed, reminding him forcibly that there was at work a higher and mightier power, which can not only create, but destroy.

But I have digressed. There is a village a few miles from us, where the fever is raging most violently, and many have been cut off by it; and yet, the surrounding districts within a few miles of it, are unusually healthy. I have no doubt there is some local cause which is the occasion of it, which ought to be looked to, and removed, or else the inhabitants will stand a chance of being harassed with it for some time to come. A great deal has been done, but more remains to be effected, to abate at all the original cause of typhus in these marshy districts. The improvements which have been made were done with the view of benefiting the land, and making it more valuable; the formation of a healthier atmosphere was but of secondary consideration; but, however, in this instance, one good turn followed another, for the very means which were adopted to bring the Fens into a state so as to admit of their being profitably cultivated, were the most likely to free the atmosphere of malaria; and as prevention is always better than cure, it would be well if the different companies who

have the management of the drainage of the fens would bear this in mind, and make use of the ample means which they possess, to get rid, as much as possible, of the malaria, which is the great source of fever. The plan which they would have to pursue to do this would tend greatly to improve the land, and would, of course, ultimately amply repay them. The poor suffer the most from typhus; its diffusion is much increased amongst them by their living in small and badly ventilated rooms, and by many occupying the same both for sitting and sleeping in; and also by their being scantily supplied both with food and clothing. It may be as well to remark, *en passant*, that the mortality from typhus is greater amongst the teetotallers than amongst those who do not observe total abstinence from stimulants; they appear to have no stamina left, and the shock is too much for their system to bear; they also suffer severely from malaria. A great many Irishmen came, during the harvest, into the fens, and nine out of ten have taken the pledge; it is astonishing how these poor fellows suffer from malaria, which quickly becomes typhus; numbers of them apply to medical men for permission to take stimulants, as a medicinal agent, for they find they cannot exist here without it. To work hard, live sparingly, and drink our ditch water with impunity, would require a stronger constitution than even an Irishman's.

Treatment.—Authors have stated, and it is generally believed amongst medical men, that it is possible to check typhus in its early stages. As far as I have observed, I deny this. It will have its course; we may modify the symptoms, but certainly not check it *in limine*. It is very seldom that we are called to a case of typhus during the first stage; it is generally when the stage of excitement has commenced, and the disease is fully established. As the alimentary canal is mostly in a torpid state, it will be right to administer a brisk purgative; a combination of calomel with rhubarb will be found the best, and this must be repeated, until a copious evacuation has been obtained; the feather bed should be taken away, and the patient laid upon a soft mattress, the curtains upon the bed should be removed, and the carpet taken up, and the room kept well ventilated; the blinds should be drawn down, so as to subdue, as much as possible, the light, as it is painful to the eyes, and distresses the patients very much; the effervescing saline medicine should be given every four hours; with toast and water, barley water, lemonade, and milk whey, *ad libitum*; as the thirst is excessive, it is as well not to restrict the use of any of the above diluents; the hands, arms, and face may be occasionally sponged with tepid water, which refreshes them very much. Patients generally refuse all nourishment, and will go for days without food; when they are inclined to take any, it should be light and easy of digestion, such as sago, tapioca, and arrow root; broths should not be given during this stage, as they cause an increase of fever; when delirium occurs, the head must be shaved, and evaporating lotions kept constantly applied upon it, or a bladder filled with pounded ice or water, for there is extreme heat about the head, and the application of cold has a very soothing effect. When the patient is very restless, one drachm of the tincture of henbane, with an ounce of camphor

mixture will tend considerably to allay this irritability.

As regards the abstraction of blood during this stage, when there is great pain in the head, with increase of fever, quick pulse, and a dry tongue—under such circumstances, the abstraction of much blood will be decidedly injurious; there can be no objection to the application of half a dozen leeches to the temples, but in no instance do I think it justifiable to open a vein, and thus withdraw suddenly a given quantity of blood, and from patients too, who are poisoned with miasmata, and have the nervous system in the greatest possible state of excitement. I know this is contrary to the opinion and practice of some medical gentlemen whose professional capabilities are of the first order, and for whom I have the most profound respect; nevertheless, with due deference to them, I must record my objection to a plan of treatment which I am fully persuaded frequently causes effusion to take place; or, if not, causes the fever rapidly to assume a typhoid character. I recollect, two years ago, a young plethoric female who was suffering from an attack of typhus; she had a severe pain in the head; pulse full and quick. A vein was opened, and a basin full of blood abstracted; a dozen leeches were afterwards applied to the head. The pain was very little relieved, and effusion took place a few hours after; the patient became comatose, and died. The next case I saw of a similar character, I kept cold cloths constantly applied to the head, gave one drachm of the tincture of henbane, and repeated it in three hours; it had a most delightful effect; the patient became tranquil, and appeared much relieved; I took care to keep her under the influence of it for some time, and had the satisfaction of seeing my patient recover. Therefore, whenever this state of excitement exists, with great pain in the head, cloths moistened with cold water should be constantly applied, and a drachm of the tincture of henbane be given, and be repeated every four hours: this will be found greatly to lessen the irritability and abate the pain; blisters applied to the head and neck I have occasionally found to relieve it, but I am no advocate for them; the good they do is not commensurate with the increase of suffering they produce. As soon as ever the third stage commences, which will be known by the symptoms decreasing in violence, the mode of treatment must be altered; the decoction of bark must be given in combination with ammonia; port wine must be administered, also beef tea and jellies; for a crisis has taken place, the great excitement has passed away, and a severe collapse come on, and, unless the strength is kept up by stimulants and nutritious food, the patients will quickly sink from exhaustion. At this period they require narrowly watching, their friends are apt to overload their stomach, and sickness is induced, which will much retard recovery. An evacuation must be had every day from the bowels, and the patients be kept as quiet as possible; the feather bed may now again be allowed. During this stage of the disease the patient will often suffer from an acute pain in the abdomen; a soothing embrocation should be applied upon the surface of the abdomen, and a dose of hydrochlorate of morphia given. If diarrhoea comes on at this time, it must be immediately checked by astringent injections. The back should be frequently

examined, to ascertain if the continued pressure from lying in one position has caused a discoloration of the integuments; if so, a quantity of tow should be rolled lengthways in a napkin, and formed into a ring, and placed underneath the patient, so that the pressure might thus be removed from the affected part; an air cushion shaped like a ring would be much better. When sloughing takes place, linseed poultices must be applied, and the sore kept very clean; when the sloughs have all separated, a piece of lint, moistened with a lotion containing two grains of the sulphate of zinc to the ounce, and applied upon the sore, will cause granulations to spring up very rapidly.

When hæmorrhage takes place from the bowels, an injection should be administered, and repeated occasionally, containing half a pint of the decoction of starch, with half an ounce of the tincture of catechu, and one drachm of tincture of opium.

During convalescence, the patients require good nursing, and great care must be taken in regulating their diet; their meals must not be crowded upon each other, but sufficient time must be allowed between each, so that the stomach may thoroughly digest one meal before another is taken. The breakfast should consist of cocoa and milk, or coffee, with dry toast. At eleven o'clock the patient may have the following:—Take the yolk of an egg, and beat it well with a fork; then add to it three ounces of boiling water; mix well together, and pour it into a half-pint glass, containing a few lumps of sugar; to this add a dessertspoonful of brandy; spicewitn nutmeg; then fill up the glass with new milk; stir it well together; a little biscuit should be taken with it. The dinner should be of food of easy digestion—such as fowls and mutton, rice and sago puddings, but by no means pastry of any kind; jellies made with port wine may be taken *ad libitum*. I may be thought too particular upon this point, but I am convinced that sufficient attention has not been paid to it, either by the medical attendant or friends of the patient, and that several have had their recovery very much retarded for want of proper caution being taken in the selection of their diet, and the time for taking it; and some there are who have fallen a sacrifice to their want of care in this respect. If all cases of fever were precisely alike, we should have no difficulty in laying down a fixed plan of treatment; but, as this is not the case, all directions must be more or less vague and unsatisfactory. Nevertheless, I have ventured to give certain general principles to guide us in the treatment of typhus, and any anomaly that may arise in the symptoms of the disease must be left to the judgment of the medical practitioner in attendance to combat in the best manner he may think proper. Thus it is that the country practitioner is suddenly thrown upon his own resources; he goes to his library, and looks over attentively the work which treats of the disease, but finds the symptoms there given very different from those presented to him in his patient, and closes the book with evident dissatisfaction; he is compelled to consult and observe the book of nature, which is now open to him; he acts upon his own judgment; he compares cases; he gradually gains more confidence in himself; his diagnosis is more correctly formed; the symptoms are treated, and not the name of the

disease; he gives over theorising, and becomes a practical man. I have been in attendance upon a poor family for upwards of three months who have had the fever severely. It commenced first in a little girl, seven years of age; the rest of the family, eight in number, caught it; they had violent delirium, with pain in the head. No blood was abstracted or blisters applied; they were treated after the manner I have above recommended, and are now convalescent, and there is every prospect of their thorough recovery. This family had the fever under every disadvantage; they were dirty people, and had only one sleeping room; four beds were in it, and two of them were upon the floor; five of the children were confined to their beds at the same time, and were in a deplorable state.

EDWIN MORRIS.

CASE
OF
ASPHYXIA FROM HANGING,
TREATED BY BLEEDING.

By C. R. BREE, Esq., Stowmarket.

TO THE EDITORS OF THE PROVINCIAL MEDICAL
JOURNAL.

GENTLEMEN,—The case so well related by Dr. Shearman in your last Number, affecting, as it does, the treatment of that important class of affections, the result of suspended animation, induces me to forward you the particulars of a case which fell under my notice several years ago, and in which the treatment pursued by Dr. Shearman was attended with complete success.

I happened to be passing a cottage in this town at the moment its occupant, a man about sixty years of age, had been found hanging by the neck from a rope attached to the banisters of the stairs. He was instantly cut down, and at first appeared quite dead. His face was swollen, and black with congested blood, the eyes starting forwards, and the tongue protruding, presented a most horrid spectacle. The surface was cold, and the action of the heart not to be felt with the hand. I did not, however, waste much time in inquiring about symptoms. I cut up his coat sleeve, applied a bandage, and opened a vein. I then got all the hot water I could obtain, and applied it, by means of a flannel, to every part of the surface I could come at, particularly to the arm in which I had opened the vein. I at first thought all my efforts would be useless, but, by perseverance, I at last got the blood to flow from the vein, shortly after which respiration became partially established, and the action of the heart distinctly felt. I now opened the temporal artery, and took away altogether about twenty ounces of blood, with most decided and permanent relief to my patient. He gradually became sensible as the blood flowed from the vein and artery. He was now put to bed, when, continuing to treat the case as one of congestive apoplexy, I applied sinapisms to the ankles, a blister to the nape of the neck, and directed him to have an active enema. Soon after he was put to bed, however, he became delirious, and required the assistance of two men to hold him. He was now in the condition of a man