

SUBACUTE TRENCH FEVER.

BY J. H. LLOYD, M.D. LOND.,

MAJOR, R.A.M.C. (T.F.).

A GREAT deal has been written about trench fever, but nearly all upon the acute stage. Its existence in a subacute form has not received the attention it deserves. The first cases of this type encountered I did not recognise, and attributed the symptoms to some other condition, or thought the man was malingering.

Terminology.—I feel sure that the illness is not sufficiently well known, and was glad to see Colonel R. D. Rudolf's note in THE LANCET.¹ I do not agree with his proposal to call these cases "trench fever cachexia," as undue prominence is given to one only of many concomitants, and that one not always present. For the last 18 months I have been labelling these cases "subacute trench fever," and with every deference I submit this as a better name for them.

Temperature.

Temperature charts (Nos. 1, 2, 3, and 5) shown by Colonel Rudolf illustrate what might be called an out-and-out pyrexial phase, which a 12-hourly record would elucidate. There is, however, a group of cases which have fever of a much more cryptic order. Into this group might come some of the cases of which Colonel Rudolf says: "The rise of temperature is not present in every case, because it is a common thing to see a man with the same appearance and the same aching shins as the others who has no fever." I have found men who made complaints which led me to think they were feverish, but whose temperatures were normal or below.

This brought up the question of what was a normal temperature curve, and I tried to control the temperature records of my sick men by those of men supposed to be normal. Whether it was the ubiquity of trench fever infection or difficulty with the thermometer, I failed. The control men gave anything but normal temperature curves. Some curves were positively spiky, and the men admitted that at the time corresponding to their "spikes" they had headaches or some other complaint. In the search for normal controls it was apparently of no use choosing as such from among ward orderlies or minor surgical patients a healthy-looking man who said he had never been ill in his life. I believe that often these men have attacks of trench fever of so mild a variety that they do not consider themselves ill, but they are thereafter useless as normal temperature controls.

Having failed to establish a normal curve, I had to fall back on the commonly accepted view—i.e., that 98.4° F. is about the mean of the daily average, and that the daily variation is not more than 1.5° to 2°.

If men showing the symptom-complex under consideration have their temperatures charted every four hours or oftener, in most cases will be found what might well be called a "low-gear pyrexia." The temperature curve may be for days together wholly below 98.4°, yet the diurnal variation most days will be more than 2°, and sometimes 3° or even 4°. Sometimes the curve, quite sporadically and suddenly, will shoot up to 102° or 103° and fall again to 96° or so, all in a few hours. These evanescent bursts of fever are characteristic of this type of infection.

Considered as a whole, the temperature is quite unstable, and the curve, although keeping usually below the 98°-99° mark, has an unsteady appearance, as if something had thoroughly upset the regulating mechanisms. It will be found that the man's sufferings correspond closely with his temperature.

Symptomatology.

Spleen.—It is essential to examine the spleen by percussion as well as palpation. If splenic percussion be practised sufficiently, it will become as little trouble and just as reliable as percussion of the cardiac dullness. Its importance and value in the present connexion is very great, as probably more cases show a non-palpable splenic enlargement than a palpable one. When enlarged the organ is more or less constant in size, and does not vary, as I have seen it do in certain cases of the acute fever.

Hyperæsthetic areas.—The areas of hyperæsthesia noted by Major D. W. Carmalt Jones² in cases of trench fever I have had no opportunity of examining, but they promise great help if they are present as often in the subacute as in the acute illness.

Rash.—I have not seen the maculæ that occur in the acute fever.

Symptom Groups.

The importance of recognising this type of case, and the difficulty of doing so, can be judged from the variety of diagnoses under which they are sent to hospital. These diagnoses, generally based on the man's own complaint, tell approximately how the man is suffering. From a consideration of the predominance of certain symptoms, it is convenient to divide cases into two main groups.

1. *The painful group.*—In this group are the men sent to hospital as "rheumatism," "myalgia," "neuritis," &c. They all complain of aches and pains in different parts of the body. Sometimes the pains are true to type, as "pains in my shins, which always get worse when I am warm in my bed at night." To illustrate this kind of case, let me refer to that of a man sent into hospital in January, 1918, as "chronic rheumatism":—

He had suffered ever since March, 1917, and had been evacuated to the base with what was evidently acute trench fever, of which for the first few months subsequently he had had several bouts, each with its own relapses. When admitted he had what he called "rheumatism" in the knees and shins, which was always worse (1) at night, (2) during wet or cold weather, (3) after unusual exertion. He suffered from palpitation, and very easily got out of breath. His tibiae were slightly tender to pressure, the spleen was enlarged to percussion but not palpable, the heart apex beat was just inside the nipple line, and his response to exertion such as is sometimes described as D.A.H. His temperature chart was what I have discussed as the "low-gear pyrexia" type, and his pains were always worse when his temperature was highest.

In this case there was a definite acute original attack, but I wish to insist on the large number of men—especially the more aged soldiers—in this painful group who give no such history, but who are suffering from subacute trench fever.

2. *The debility group.*—This group has at one end the men whose chief disability is the "effort syndrome," and who are sent into hospital as D.A.H., V.D.H., &c. At the other end we find men complaining of being "done up," "nerves all gone," "depression," and being sent into hospital as "N.Y.D.N.," "neurasthenia," "debility," &c. Between these two extremes are all kinds of gradations.

It has been stated that D.A.H. is a sequela of trench fever, but I venture to predict that this symptom-complex will be found as an expression of the fever itself in its subacute form. Equally remarkable is the number of cases sent to N.Y.D.N. centres, who are victims of this subacute form of the fever, and in whom I conclude the symptoms have been produced more by the fever than by shell-fire—the latter merely precipitating and modifying them.

Whilst I was working for a short time at the N.Y.D.N. centre of one of the armies, I started to hunt systematically for cases of this kind amongst the N.Y.D.N. patients admitted. My detailed records have been lost, but I had at any one time an average of about 50 cases (of trench fever, either acute or subacute), out of a total of about 400 N.Y.D.N. cases in hospital. It is perfectly easy to see how these men come to be labelled N.Y.D.N. Many of them come in with a note to say "fainted" or "collapsed under heavy shell-fire." If their previous histories are gone into carefully, it is generally clear that many of them had been for some time previously infected with trench fever.

The fever in such men as these, smouldering for perhaps weeks or months, is likely at any time to flare up into a flame. If this happens suddenly, as often as not the man collapses, whether he be in the fire trench or on parade in a rest area. There is no doubt, I think, that the rigour of life in the line is a factor in bringing about the exacerbation. Another thing to remember is that the pyrexia of 102° or 103° that knocks such a man down may not last more than a very few hours, and that when he is seen by the medical officer his temperature has fallen again to normal or below.

To illustrate further this evanescent pyrexia, I can recall the case of a man sent into hospital with the following note

¹ THE LANCET, 1918, ii., 809.² THE LANCET, 1918, ii., 443.

from his medical officer: "Fits, ? cause. Fainted on parade this morning. No physical sign." This man turned out to be suffering from the subacute form of trench fever that had followed his original acute attack of months before.

What exactly determines the groups of symptoms complained of I know not, unless it be where falls the stress of the poisoning, the susceptibility of his various tissues, and the man's own psychology.

There are some suspicions that the virus of trench fever is not entirely blameless with regard to the occurrence of some of the cases of war nephritis. If these suspicions are ever confirmed, we shall have yet a third group of symptoms—the nephritis—and I expect it will be in the comparatively difficult-to-recognise subacute form of the fever that the mischief in most cases will have been done.

Conclusion.

When we know more about trench fever in its acute and subacute forms it might be interesting to draw comparisons between it, syphilis, and malaria in their active and their latent stages; and had I had the opportunity of doing so, I should very much like to have compared temperature charts of men in the subacute phase of syphilis and malaria with those in the corresponding phase of trench fever. Perhaps this may some day be accomplished, but it is more profitable at the moment to advertise widely this unobtrusive phase of trench fever, and to keep it ever in mind when dealing with sick soldiers.

As Colonel Rudolf points out, there are great possibilities of regarding as a malingerer a man suffering in this way, and thus making him a danger to his comrades and laying up we know not what trouble for himself. The recognition of the condition will also be of primary importance to members of boards examining and reporting on the physical condition of men about to be discharged from the Army. Some day, perhaps, a complement-fixation test will be elaborated, and then we may be able to recognise this illness more often and make less mistakes.

CHART 1.

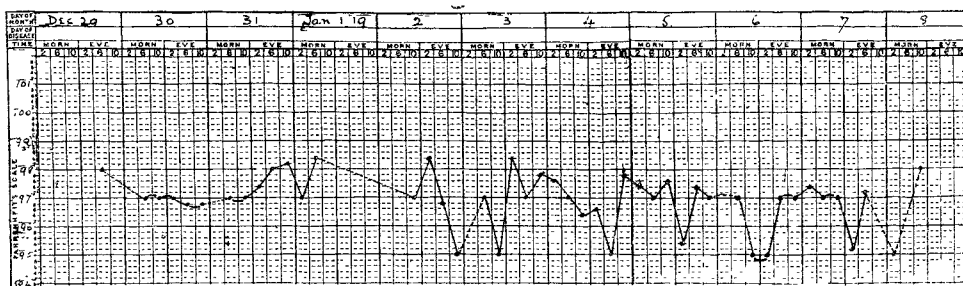
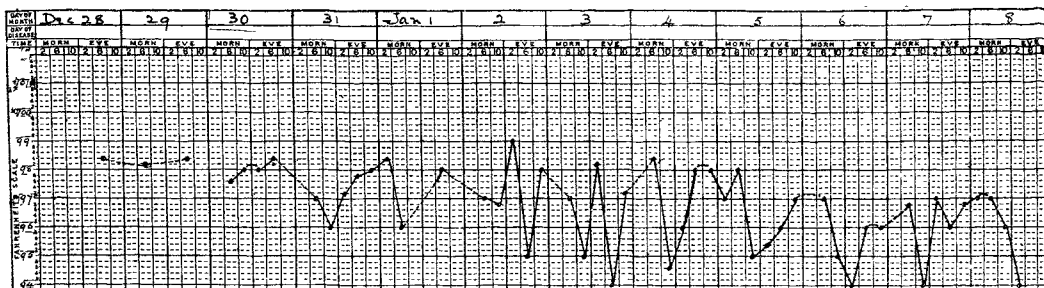


CHART 2.



I feel I must apologise for the absence of detailed records and the incompleteness of these remarks. My excuse is my difficulty of obtaining access to published works, and the mobile nature of last year's campaign defeated my attempt to retain the records I had collected.

Postscript.

Since writing the above I have again been able to collect records of some of these cases. Here are two temperature charts:—

Sgt. S.—Age 51. Admitted as "debility." Ill 12 months in all. Worse for the last seven days. Complaints of pain in head, shoulders, back, shins, and toes. In the Army 4 years. B.E.F. 1½ years. Had "rheumatism" in 1917. Pains are worse "when standing about," and "generally at night." Heart apex beat in nipple line. No other physical signs. (Chart 1.)

Pte. M.—Age 39. Admitted as "D.A.H., chronic rheumatism." Ill this time three weeks. Complaints of pain in head, back, and limbs. Dizziness, "weakness." In the Army 3½ years. B.E.F. 7 months, then to England with "rheumatism." In England 16 months, then to France 3 months. No tropical history. Spleen palpable. (Chart 2.)

THE LACRYMAL GLAND IN SURGICAL ANÆSTHESIA.

BY THE LATE L. T. RUTHERFORD, M.B., B.C. CANTAB.

A PROLONGED search among modern text-books devoted to surgical anæsthesia has failed to discover any reference to the subject under discussion. Cases are occasionally met with where the anæsthetist has difficulty in securing a quiet anæsthesia, and where, in maintaining a constantly flaccid abdomen or other desirable condition, the resources of his craft are taxed to the utmost. It is here especially that the activity of the lacrymal glands is of value. Since the appearance of the lacrymal secretion at the inner canthi is obvious and requires no movement of the administrator to observe it, such a sign, if reliable, will decrease his work.

Account of the Sign.

The symptoms and signs observed during the inhalation of chloroform suffice to illustrate the stages of anæsthesia seen when chloroform, ether, or a combination of these drugs, is administered. Four stages are usually described: (1) a preliminary stage; (2) an excitement stage; (3) a stage of surgical anæsthesia; and (4) a stage of overdose.

In the first stage the activity of the lacrymal glands varies according to the strength of the irritation in the nose and tubes, and if no vapour impinges on the corneæ the canthi may remain dry. With the onset of the excitement stage,

however, the lacrymal glands become excessively active, and pools of secretion appear at the inner canthi and overflow on to the face. During the stage of surgical anæsthesia the lacrymal glands cease to secrete, and the canthi, if dried after the excitement stage, remain so. The cessation of the lacrymal secretion usually takes place a few breaths before the complete abolition of the corneal reflex, although the disappearance of the reflex and the secretion may occur simultaneously. It is in the fourth stage that the differences between the action of chloroform and ether are so well marked and important, but these do not concern us at present. In the stage of overdose the lacrymal glands are inactive, the canthi are dry.

The four stages seen in some cases of chloroform narcosis may be found described in every text-book, but no mention is made of the lacrymal glands. The slight variability in the time of cessation of the lacrymal secretion is of no practical importance, for in no case do the glands continue to secrete after the abolition of the normal corneal reflex. (The term "normal corneal reflex" is used here to distinguish it from the "diminished corneal reflex," observed after a time in an eye continuously or carelessly tested.)

The moment at which the lacrymal secretion is first observed, after its cessation under the influence of chloroform or ether, provides a reliable indication of the exact moment at which to continue the administration, if a satisfactory surgical anæsthesia is to be prolonged. The time of the cessation of the lacrymal secretion during the induction period corresponds almost exactly with the time of its