infection of tinned food with *B. botulinus*. Moreover, certainly one of my patients has disclaimed ever having taken tinned food at all; and its relative infrequency among soldiers from abroad who have lived very largely on tinned food is significant.

Prognosis and Treatment.

It remains now to speak of the prognosis and treatment. In the majority of cases recovery occurs, though there is more likelihood of a fatal termination in those cases of the *superior* type; even here, however, recovery may quite unexpectedly take place. But what is of importance is that we are able to hold out to the patient's friends the possibility of recovery from a condition which, but for our knowledge of its nature, we should otherwise regard either as absolutely fatal or as the commencement of a chronic incurable disease, since different cases may simulate cerebral tumour, tuberculous meningitis, or the onset of disseminate sclerosis. The recovery from paralysis may be incomplete, as in poliomyelitis; it is too soon to speak for certain of this in the present epidemic, but some, at any rate, have made a full recovery.

Treatment seems to have little influence on the course of the disease, but, as in poliomyelitis, we should resort to complete and absolute rest in the dark, with or without the use of bromides or other nerve sedatives, during the stage of onset. Urotropin has been given, from a belief in its antiseptic effect on the central nervous system, and salol for a similar action on the nasopharynx, by which route infection is supposed to reach the brain. Lumbar puncture should be performed and, if necessary, repeated in cases which show the more marked signs of intracranial pressure, such as severe pain in the head, vomiting, and unconsciousness. Later, tonic treatment, such as iron, arsenic, strychnine, and cod-liver oil, with fresh air, are likeliest to restore the vitality of the damaged nerve centres.

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THE "THICK DROP" METHOD FOR THE DETECTION OF SCANTY SPIROCHAETES IN THE BLOOD.

BY

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In the majority of cases of Palestine relapsing fever (among British troops) which have come under my notice the spirochaetes have been throughout present in the blood in very scanty numbers. This has entailed a prolonged search before the diagnosis could be established; frequently a negative finding has had to be returned, as films cannot be carefully scrutinized in their entirety when a large number have to be examined. On several occasions the spirochaetes have first been demonstrated, after considerable search, at the second or even third time of examination of the particular case.

I have therefore made use of the "thick drop" method, which has proved of much service, not only saving time, but also frequently enabling me to report as relapsing fever, cases in which the examination of an ordinary blood film yielded no result.

To prepare a thick drop for examination, a small drop of blood is placed upon a clean slide. The drop should be about as large as is required for making a good-sized smear and should be spread out a little (with the needle) so as to cover an area about $\frac{3}{8}$ in. in diameter. Too thick a drop is not an advantage, as it is difficult to lake (dehaemoglobinize) completely, and more fibrin is present. The drop must be allowed to dry thoroughly, and before proceeding to lake it, may be gently heated by passing it over a flame two or three times.

There are several well-known methods of laking the thick drop. I have made use of two: (a) Distilled water, or (b) acidulated methyl alcohol.

(a) A few drops of distilled water are poured upon the thick drop, and the slide is gently agitated to and fro. The water may be renewed until the blood has completely lost its colour.

The process takes four or five minutes, depending on the thickness of the drop.

(b) Methyl alcohol acidulated is used in the proportion of 10 or 12 drops of HCl to 50 c.cm. of methyl alcohol; the procedure is the same as in the former case, but the laking takes rather longer. After the colour has been extracted, the drop is well rinsed with distilled water and dried.

Dehaemoglobinization is more complete and rapid by the former method, and there is less formation of fibrin. But unless the greatest care is exercised, the drop, or portions of it, are apt to be removed from the slide, in spite of complete drying (as there has been no proper fixation previously). If distilled water is used, and the preparation is to be stained by gentian-violet, it is advisable, after carefully draining off the water when the laking is complete, to pour on a few drops of methyl alcohol, for a minute or two, to fix the preparation to the slide.

The thick drop may be stained by the Giemsa or Leishman method, or with aniline gentian-violet; the last gives excellent results with spirochaetes, the intensely blue-stained parasites standing out well from the surrounding elements. Aniline gentian-violet is used in the proportion of 9 parts of aniline water to 1 part of alcoholic gentian-violet, the stain being left on for twenty seconds or so. The preparation is then well washed with distilled water, by which means the requisite degree of extraction and differentiation can be obtained, and finally dried.

Where examination is desired for suspected malaria or relapsing fever, it is a useful plan to have the slide sent in with both a fair-sized film (extending, say, over two-thirds of the slide) and a thick drop (on the other third) upon it. For staining, the smear can be separated from the drop by drawing a line with a grease pencil across the slide, between the two. The smear is stained by the Giemsa or Leishman method, and if no malarial parasites are found, nor spirochaetes quickly seen, the thick drop is used. If it is desired to examine the drop also for scarce malarial parasites (for example, crescents) as well as spirochaetes, the second method of laking is to be preferred, as distilled water is very liable to disintegrate malarial parasites; and in this case the Giemsa or Leishman method must be used for staining.

INTERNAL DERANGEMENTS OF THE KNEE-JOINT.

BY

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DURING the past eighteen months several patients have been sent to the Military Hospital, Tidworth, on account of painful cicatrices on the inner side of the joint. In all cases the cicatrices were the result of linear incisions down the inner side of the joint in line with the patella and ligamentum patellae, over the prominent part of the internal condyle. The history was of an operation performed for some internal derangement of the joint. This has been especially noticeable in cavalrymen.

Since September, 1916, it has been found advisable to segregate the knee cases, owing to the large number, principally the result of football accidents, but at one time a number of injured knees followed trench training. There has been on an average at least twenty cases in hospital daily suffering from derangements of the knee-joint the result of injury.

They practically all suffered from traumatic synovitis, some simple, the others with complications.

The most frequent complications were:

Firstly: Rupture of some fibres of the internal lateral ligament, indicated by acute pain on pressure over the inner side of the internal condyle.

Secondly: Looseness with partial or complete dislocation of the internal semilunar cartilage, indicated by pain on pressure over the site of the anterior end of the cartilage, inability to completely extend the joint, and a history of "locking."

Thirdly: A general stretching of the ligaments was the only objective symptom, besides the synovial effusion. This applied more especially to the posterior crucial ligament, which is the one ligament of the joint put on the