

The *Treponema pallidum* is the cause of syphilis, and is present before clinical signs appear. The Wassermann reaction is a result of the generalization of the syphilitic infection, and is therefore late in appearing. It is the same in typhoid fever. In the first few days of the fever the typhoid bacilli are in the blood, and to make an early diagnosis a blood culture is made. The Widal reaction is the result of the infection, and does not become positive until the disease has been present for some time—namely, during the second week. Therefore, to make an early diagnosis of typhoid fever we look for the typhoid bacillus. Similarly, to make an early diagnosis of syphilis, we look for the cause of syphilis—the *Treponema pallidum*. We do not delay treatment, waiting unconcernedly for the Wassermann to become positive. Successful treatment depends on early diagnosis.

Allow me to give a few figures showing the importance of early diagnosis, also showing that the longer the infection has been present the more difficult it is to cure.

The Wassermann reaction is the most delicate test we have for controlling treatment. It becomes positive before the ordinary clinical manifestations of so-called secondary syphilis are evident. It remains positive after the clinical signs have disappeared.

I took seventy-two cases of syphilis and divided them into primary, generalized and late cases. Primary cases were those which showed only a primary lesion. Generalized cases were those that had rashes, mucous patches, condylomata, &c. Late cases were those which presented lesions, such as tabes, &c.

Of twenty-seven primary cases, after a full course of "606," 23 or 85.5 per cent. had a negative Wassermann.

Of thirty generalized cases, 9 or 30 per cent. showed a negative Wassermann after a full course.

While of fifteen late cases only 1, or 6.7 per cent., showed a negative Wassermann.

In other words, the longer the infection exists the more difficult it is to render the Wassermann negative.

Harrison gives a series of cases showing somewhat similar results. Of seventy-nine primary cases, after a full course of salvarsan, 66 were negative, or 83.5 per cent.

Of 141 generalized cases 82 were negative, or 58.1 per cent.; and of 31 late cases only 29 per cent. were negative.

This also shows the difficulty of rendering the blood negative the longer the infection has been present. Successful antisymphilitic treatment depends on the early inauguration of treatment, or, in other words, early diagnosis.

I have mentioned my views as regards the time syphilis becomes generalized. I have also mentioned that when syphilis becomes generalized the central nervous system is often involved, and as Mott says, "When once the trypanosome organism (*Treponema pallidum*) has entered the spinal fluid it is doubtful whether it can ever be eradicated." As to the frequency with which the cerebrospinal fluid is involved, Dreyfus reported the finding of pathological changes in the spinal fluid in nearly 80 per cent. of generalized syphilis. Gennerich believes that changes are present in nearly all cases, Mills found changes in the spinal fluid in fifty-six per cent. out of eighty-one cases of generalized syphilis, which cases did not show any clinical evidence of disease of the central nervous system.

It is much more difficult to drive the *Treponema pallidum* out of the central nervous system than out of other parts of the body. The best way to combat this is—never let the *Treponema pallidum* get into the nervous system. This can only be done by early treatment.

Early treatment depends on early diagnosis.

By means of the dark field examination an early diagnosis is possible.

AN ABORTIVE TREATMENT FOR GONORRHOEA.

By ARTHUR B. JAMES, M.B., TOR., Captain C.A.M.C.,
Canadian Military Hospital, Etchinghill.

The gonococcus is readily destroyed by certain chemicals. Silver salts are most deadly to it, and consequently have been more popular in the treatment of gonorrhoea.

The object of abortive treatment is therefore to bring an active agent into direct contact with the organisms

before they have penetrated too deeply to allow this procedure. In order to do this there are several factors to consider, viz.: (1) to use a drug which is non-destructive or non-irritating to the tissues. (2) To make the technique simple, so that it can be carried out in any practitioner's office. (3) To keep our drug in contact with the organisms until they have been killed. (4) To have the entire co-operation of the patient and have him under complete control.

Ballenger [2] has recommended an excellent abortive treatment, which he calls "Sealed-in Abortive Treatment." He has personally informed us that he has met with absolute success in over one thousand cases. Our experience with several hundred cases at the base hospitals, Toronto, Canada, has been the same.

In order to get results with Ballenger's treatment we must pay strict attention to the following precautions:—

(1) The case must come under treatment during the first twenty-four hours after the discharge has shown itself. Some cases have yielded, after coming under this treatment within the first thirty-six hours, but none outside that period. In some cases treatment may be begun very early, as an anxious patient often reports to his physician on noting the first drop of pus. Our advice is to adhere to using this treatment on cases reporting within the first twenty-four hours after noting discharge. In the Army there should be greater opportunity for men to come under this treatment immediately, except in concealed cases, than in civilian practice.

(2) The treatment should be faithfully carried out up to seven days. Most cases will show no discharge or gonococci on the third or fourth day, while some cases clear up after a single treatment. After seven days, if the discharge persists, it is useless to continue this treatment, as the process will have extended beyond the possibilities of its scope. However, no harm is done in continuing the method up to the seventh day as the local condition is improved by it. Owing to incorrect observation by some patients treatment may be commenced too late, both surgeon and patient being in ignorance of the true date of the first appearance of the discharge. These cases, though not aborted, are not aggravated by this treatment.

(3) A diagnostic smear should be taken immediately the patient reports. This should not necessarily delay the first treatment while awaiting a bacteriological report in case a microscope is not at hand. A smear will keep indefinitely on a slide, but the gonococcus should be attacked before valuable time is lost. If no slide is handy an ordinary piece of window glass, properly cleansed, will suffice.

(4) The urine should be passed into two glasses to make sure there is no posterior urethritis before treatment is commenced. If both glasses are turbid it is useless to continue.

The method is painless, causes no great inconvenience to the patient, and is easily carried out.

The technique is as follows: A freshly prepared 5 per cent. solution of argyrol is used. Organic compounds deteriorate rapidly, so in order to be accurate a freshly prepared solution should be used each day. The proper amount of water should first be poured out and the argyrol powder sprinkled slowly on to the water, not the water on to the powder; in the latter case precipitation of the proteins in the preparation takes place, and the silver does not go into solution.

The patient should first empty his bladder and lie in a recumbent position. The parts are then cleaned, and a syringe holding no more than 30 minims is used to inject 25 minims of the solution into the urethra. No more than 25 minims should be used on any account. A great many failures have been due to distending the urethra with the solution. Our experience confirms this fact. All that is necessary is to have the argyrol solution in contact with the walls of the anterior urethra. Too much solution is liable to drive the gonococci back into the posterior urethra.

A simple method of injecting the argyrol is to hold the penis just behind the corona between the first and second fingers, palm uppermost. When the required 25 minims have been injected the fingers are pressed together, while a clamp, preferably a rubber-guarded intestinal clamp, is applied just anterior to the constricting fingers, care being taken that it is not too close to the meatus. This now leaves both hands free to work. The glans penis and the meatus are now thoroughly dried; ether may be used to an advantage, the lips of the meatus are separated, wiped dry, and brushed