THE TREATMENT OF CHRONIC GONORRHOEA BY ANTIGONOCOCCAL VACCINE.

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THERE appears to be a general consensus of opinion that for systemic gonorrhoeal infection, the hypodermic injection of known doses of dead gonococci is the most effective means of treatment; but, so far as I know, no one has yet published his experience of treating chronic gonorrhoea by this method.

For the last twelve months I have been treating obstinate cases of gonorrhoea in this way, and I am persuaded that for certain cases it is most valuable. As yet I am by no means prepared to say the method is invariably curative, but with experience I believe its value will become very greatly enhanced.

The constitutional disturbance caused by the injection varies with the temperament of the individual. In a highly-strung man it may be so severe as to cause him to refuse further treatment, while in a phlegmatic individual who has confidence in his doctor, appropriate doses only give rise to slight headache and malaise some hours after the injection. For this reason it is a good plan to inject the vaccine in the late afternoon, so that business may not be interfered with, and discomfort deferred till bedtime, when the patient may sleep it off. Experience shows that to get any good effect from inoculation two or three points must be attended to:

(a) The gonococcus should be demonstrated in the urethral discharge. It is obviously of no use to inject antigonococcal vaccine if the gonococcus has died out and the discharge is perpetuated by other forms of bacteria.

(b) It is useful to get a patient into a good state of health before commencing the treatment. This may be accomplished by means of a holiday or the exhibition of iron.

(c) It is most important that the dosage be carried out systematically. I find that the best results are obtained by commencing with small doses—forty or fifty millions of sterile gonococci—and, as the patient becomes accustomed to the treatment, rapidly to increase the inoculation. This may be done in two ways—either the number of organisms may be increased or the interval between the doses may be shortened. A judicious combination of the two gives the best results.

I will briefly relate 3 cases in illustration:

CASE I.

In October, 1905, a gentleman, aged 27, contracted syphilis, and in July, 1906, a urethral discharge was present in which I failed to find gonococci. In August, 1907, the patient again contracted urethritis, and the gonococcus was present in large numbers. This attack ran a prolonged course. Time after time the discharge was reduced to a minimum, but the slightest departure from strict teetotalism was immediately followed by relapse, and gonococci could always be demonstrated in the discharge. He was under continuous treatment during January and February, 1908, yet on March 11th gonococci were plentiful. He then submitted to injection of vaccine, and had five injections, the last being on May 12th. The discharge diminished from the first, diplococci disappeared, and the patient was cured. Quite recently I met this gentleman, and he says that he dines, goes to smoking concerts, and other amusements, places no restriction on himself, yet remains quite well.

CASE II.

Last September a gentleman sought my advice on account of what he believed to be a long-standing urethral discharge. In 1904 he suffered from gonorrhoea and was under treatment for some months. He believes he has never been quite well since. His account now is that ten days after exposure to infection he noticed a small amount of discharge first thing in the morning. He cured this himself, but after drinking a few glasses of beer the discharge returned. He received the usual treatment till October 7th, when, as I was able to see diplococci in the discharge, I suggested antigonococcal injection, and gave him at once 0.5 c.cm. of the Lister Institute vaccine. On October 20th I injected 1 c.cm. and no further discharge was observed. As a precaution the 1 c.cm. was repeated on November 3rd and 16th. On December 3rd I examined the patient and could find nothing wrong, and a week or two ago he wrote to say he was quite well and leading his ordinary life.

CASE III.

This case illustrates the advantage of rapidly increasing the dose. Last April a gentleman, 30 years of age, consulted me for gonorrhoea. He had had several attacks, and probably had

not been quite free for some years. He was under treatment till the end of July, when he was advised to take a holiday. In October he returned to me and said that, although he was better, he was not well; he had to refrain entirely from alcohol, or he suffered from an annoying discharge. Gonococci were recognized, and on October 7th 0.5 c.cm. antigonococcal vaccine from the Lister Institute was injected subcutaneously, on October 23rd 1 c.cm., and on October 31st 1 c.cm. These injections caused no constitutional disturbance, and the patient was better. On November 23rd he came again, saying that he had been to a dinner party, had drunk wine moderately, and the next morning had again seen some discharge. On December 7th gonococci were once more demonstrated, and as the previous injection had not caused any marked discomfort, I advised the patient to have a few injections at short intervals, and of increased dosage. Accordingly, on December 11th I injected 1 c.cm. antigonococcal vaccine, on December 17th 1.75 c.cm., and on December 21st 2 c.cm. The patient went away to spend Christmas at a seaside hotel and was snowed up, so that his holiday was passed almost entirely indoors. He placed no restriction upon himself as regards smoking, eating, or drinking, and has suffered no return of his complaint.

These cases show that in the hypodermic injection of sterile dead gonococci we possess a curative agent which in all probability will prove to be of marked service in the treatment of gonorrhoea. If this surmise proves to be correct, it is a method which deserves to come into general use, because the way it brings about a cure is the most rational with which we are acquainted. At present we have no other means of attacking the gonococcus directly. Our injections, or drugs administered internally, can only act indirectly upon the organism; but if we can produce in the juices of the body a substance which is a poison to the gonococcus, then we may hope that the disappearance of the signs of the disease thus brought about means that the gonococci are killed, and not merely hidden away in a quiescent state, ready to light up again when an opportunity presents itself.

The antigonococcal vaccine prepared by the Lister Institute is a convenient and reliable preparation with which to make the injections. The gonococcus is such a delicate organism, and so difficult to grow, that unless one has a laboratory in one's consulting room the attempt to manufacture a vaccine from the individual case is almost certainly foredoomed to failure.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A PLEA FOR MORE ACTIVE TREATMENT OF ACUTE GONORRHOEA.

THE treatment of a case of gonorrhoea is surrounded with difficulties, and it can hardly be gainsaid that in this country it is only too often carried out imperfectly and attended with indifferent success.

Within the last four years I have had under my care 19 cases of acute gonorrhoea, and facilities were available for their efficient and thorough treatment under my supervision. The treatment I invariably adopted was briefly the early and repeated irrigation of the anterior portion of the penile urethra without the administration of any specific internally.

I have been in the habit of directing the patient as follows: Ten ounces of a solution of boiled water allowed to cool to a comfortable temperature, 99 to 100° F., to which has been added a grain of potassium permanganate, is allowed to flow into the urethra from a douche can, to which is connected a length of tubing and a suitable glass or bone nozzle. The patient is directed to grasp the penis between the index and middle fingers of the left hand, so as to shut off the anterior $1\frac{1}{2}$ in. of the penile urethra, the douche can is raised to a height to ensure a moderate pressure of fluid and the flow started and stopped by means of a convenient clamp on the rubber tube. Failing a douche can, a strong syringe with a ring at the end of the piston might be used; a syringe of this character can be easily manipulated by the right hand. Urination is to be performed when possible prior to irrigation. These irrigations are repeated hourly or oftener (three to four times in two hours) during the day, and at night also if this can be effected without disturbance of natural rest.

The boiling has already rendered the water sterile, so that the addition of a small quantity of potassium