Temperature records do not follow the same course as of older children or adults; in many of these the rise occurs on the following day, whilst in the case of infants it is more or less immediate, and rapidly sinks to normal.

Two important points arise from my contention: first, the possibility of an infant being infected and surviving without showing unmistakable clinical manifestations of the disease. Ghon has shown that infants die from tuberculous disease, but as his cases are proved by post-mortem examinations, the point is not decided by his results. The question, therefore, rests with the clinician, and can only be decided by the results of test injections until methods of diagnosis other than those which we possess are adopted.

The second point is the value of tuberculin as a test and as a curative agent. As a test its value is when there are no signs present to auscultation, percussion or X-ray. Dr. Gee (Aphorism No. 10 “Of Phthisis,”) remarks, “If physical signs are present, the probabilities are against complete recovery.” Aphorism No. 11 says, “Facts which lead to a diagnosis—hæmoptysis, cough, loss of flesh and colour, slight rise of temperature, and hereditary liability to the disease.” Hæmoptysis we rarely find in an infant, but the latter symptoms are very common.

As tuberculin produces certain results in those who have physical signs, we cannot say that when similar results are produced in those who have no physical signs, the disease is absent; and, in our present uncertainty about early diagnosis, we ought to use it and accept its results until its unreliability is proved.

With regard to its curative effects, more is expected of it than of any other vaccine. Though cases of cure are recorded after heroic doses, and though it possesses remarkable powers of assuaging long-established disease it will probably never be seen to its best advantage until we possess and use means of diagnosis of pulmonary tuberculosis before important physical changes have occurred.

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SHORTER COMMUNICATIONS.

NOTE ON THE TREATMENT OF TUBERCULOSIS WITH SODIUM MORRHUATE.


INTRODUCTORY REMARKS.

I took up the treatment of tuberculosis with “sodium morrhuate” in hand after listening to the paper on the subject read by Sir Leonard Rogers, I.M.S., at the session of the Science Congress in Bombay on January 1, 1919. My experience, therefore, is limited to the treatment of a few cases not exceeding a dozen and a half only from April to October, 1919. The great difficulty in treating cases of a particular disease with any particular treatment is their extreme reluctance to staying in the hospital. The aversion to admission to hospital is simply inconceivable.
Hence they cannot be closely watched or their daily progress recorded. They choose to live in crowded localities which are necessarily insanitary—at least not very open and clean such as they should be for tuberculous cases. Living out of sight, their regimen cannot be watched or regulated. They eat all sorts of articles of food. Worse still is the evil, the common tendency of the Indian patient to mix up treatments of a number of men—qualified and quacks—without letting any of them know what is going on behind his back. Thus in the majority of cases almost every man who goes to visit the patient has his hand in the pie. Treatment with "Pichkari" (as hypodermic injections are called) attracts them simply because of the novelty of the treatment from which they expect magic results in about two or three days, and which they give up as unexpectedly as they took to it. Despite all these disabilities I have been able—luckily, I must admit—to treat a few cases for a fairly long time.

Most of my cases have been lung cases, pure and simple. Only one case has been a complicated one. In this the lesion is pulmonary and laryngeal. I have treated up to now three cases of surgical tuberculosis, two of tuberculous glands and one of tuberculous caries of the ankle and elbow-joints. This last one is a young Bania girl, aged about 14. This case is kept on a mixed treatment. The wound is dressed with garlic ointment, and she is given sodium morrhuate injections hypodermically. The details of her case are given below.

Effect on Surgical Cases.

In both the gland cases (neck and axilla) the glands healed by first intention. At the time of admission both were in a bad state of health generally. They were given hypodermic injections of sodium morrhuate every four days, beginning with 0.5 c.c. and raising it to 2 c.c. gradually at the rate of 0.25 every third time. I am glad to say they did very well under the treatment. Both shook off their fever and put on weight rapidly. Unfortunately, they were not weighed before as well as at the time of their discharge from the hospital. So far as the general health is concerned, even the Bania girl—the elbow case—at present undergoing treatment, is markedly improving.

Effect on Pulmonary Cases.

In advanced—i.e., the so-called third stage—cases, with distinct cavities in the lung, the treatment does not do much good. In the early and so-called second stage, cases with high and hectic type of fever, the improvement is marked and fairly rapid. The temperature begins to go down almost after the first two or three injections by slow degrees. The large hectic range between the low subnormal morning temperature and the high fever in the evening, begins to contract at both ends, until at the end of about 15 to 20 injections it steadies at normal or slightly above, throughout the day and night. The reduction in temperature is noticeable even in very advanced cases.

Reaction.—There is generally a reactionary rise in temperature after each injection. This is never more than a degree and it takes place either on the same day or on the following. It begins to fall from the next day. The fall in temperature is gradual and lasts for about three days, so that
if the injection is not repeated for five days the usual evening rise of the
disease shows itself clearly. I therefore usually repeat the injection on the
fourth day (in the laryngeal case there has never been any reactionary
rise. He has had by this time 80 injections, and he is given 1 c.c. hypo-
dermically every alternate day).

Cough and Expectoration. — With the fall in temperature there is
simultaneous improvement in the cough and expectoration. The spasms
of cough decrease in number and in force. The expectoration becomes
distinctly diminished, so much so that in almost all improving cases there
is hardly any cough or expectoration during the day or night except a
little in the early morning after waking up. The frequent clearing of the
throat during the day, however, continues for a long time.

Weight. — With the improvement in the temperature and cough the
patient soon begins to put on weight and gather energy and strength.
The increase in weight is slow but marked. In all my cases the maximum
weight put on by any one of my patients was about 2 lb. in a week. But
this is an exception and never uniformly maintained. Half a pound in a
week has been fairly common. Three of my cases, all young adults when
brought to me, were hardly able to walk or support themselves in the
erect position. After a course of about 20 injections they were able
to walk nearly a mile without being fatigued. The change in them was
striking, and made a good impression on the people in general. The
apathy and indifference so common in tuberculosis gave place to application
and interest in reading.

Pulse. — The characteristic quick pulse remains obstinate. Even with
the improvement in temperature and cough and sleep the pulse rate does
not much improve. There is improvement in the tone but even that is
not well marked. Until the pulse regains its normal condition I do not
think the case can be regarded as cured or out of danger of a relapse.

Night Sweats and Sleep. — Both improve with the fall in temperature.

Effect on the Tubercle Bacilli. — Sodium morrhuate, given hypoder-
ically or intravenously, produces marked changes in the bacilli. The
sheaves are broken soon after commencement of the injections. In fact
after a course of about six or eight injections, I never noticed a sheaf in a
single case. The bacilli themselves undergo degeneration, from the slight
curved and unbroken appearance they become beaded and broken. In
every case I have been examining the sputum at the commencement of
the treatment, and from month to month while the treatment is going on.
I am sorry to note, however, that in no case even after so many as 80
injections have the bacilli disappeared. This is a disappointing feature
of the treatment.

The treatment, though very promising, needs backing with open air,
good and nourishing food and tonics like hypophosphites, quinine,
strychnine, iron, cod-liver oil, malt extract, &c.

In the laryngeal case — himself a medical man — there has been no
fever for more than twelve months. His cough is just the same and
hoarse voice unaltered. He has put on weight from 136 to 154 lb.
(18 lb. in about nine months). The bacilli are still present, though they
have undergone degeneration. He is living in ideal conditions so far as
possible.