

THE
TREATMENT OF LUPUS ETC. BY DR. KOCH'S
METHOD.

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THE announcement in the papers that the fluid for carrying out Dr. Koch's treatment could be obtained from Dr. Libbertz has brought medical men from all parts of the world to Berlin, in the hope of obtaining some of the magic elixir. This statement, however, is absolutely contrary to fact at present, and probably will be for some time to come, the limited supply now available being reserved for those gentlemen personally known to Dr. Koch, whom he has appointed to demonstrate his method. In England, as I have no doubt you will be informed from other sources, the two fortunate gentlemen selected are Dr. Heron and Mr. Watson Cheyne. Although the distribution of the fluid is at present thus restricted, the demonstration of the method is freely thrown open to all medical men desiring to see it, and it is that which I have thus witnessed that I am about to relate. As it is impossible to do more than repeat what one is told as regards phthisical cases, I propose to restrict myself to lupus cases.

As Dr. Koch's announcement to the world is so recent, I need only make a few general statements as to the method of procedure, to save repetition in individual cases. In any local tuberculosis, such as lupus, enlarged lymphatic glands or bone disease, the first injection is one cubic centimetre of a 1 per cent. solution, or, as it is expressed here '001 of a cubic centimetre of the original fluid. In an hour or two the temperature begins to rise, reading within twelve hours from about 39°C. (102.1°F.) to 41°C. (105.4°F.) accompanied by the other symptoms which generally accompany this state of high fever, shivering or vomiting being frequent prominent symptoms, and, at the acme of the fever, profound sleepiness. A couple of hours later the temperature is falling, and within twenty-four hours usually, but sometimes longer—in one case forty-eight hours—the temperature has become normal, and the attendant general symptoms have disappeared. As a rule, the fever is in proportion to the amount of tubercle; but in certain cases the temperature has risen to the extent above mentioned, where there has been but little recognised tubercular deposit—e.g., in one lymphatic gland. In non tubercular disease the small amount, '001 cubic centimetre, produce no febrile reaction, hence the diagnostic value of the method. As the destruction of the tubercle bacilli, or more precisely of their nidus, proceeds, the febrile reaction gets less, or even disappears, and then a large dose, '02 to '06, or even more, is injected, and when such doses no longer produce any febrile symptoms, the direct tubercular element of the disease is destroyed, and the secondary effects, if any, have alone to be dealt with. Dr. Cornet having kindly permitted full notes to be taken of a case in his clinique, I will give it as an example.

The patient was a woman aged twenty-nine, with lupus of thirteen years' duration, affecting the whole right side of the face, and encroaching on the neck, for which she had undergone much previous treatment with unsatisfactory results. The second injection of '015th grm. was given on Nov. 14th, the first having been '001 before admission, and the temperature prior to the injection being 35.8°C. In two hours it was 39.4°C.; five hours later it was 38°C., and in eleven hours from the time of injection it was 36.7°. On the 16th an injection of '02, and the temperature rose in one hour to 37°, in the second hour it was 38°, in the third 39.5°; two hours later it was 38.5°, and a few hours after this it was 36.4°.

She was injected a fourth time in my presence with '02 of the 1 per cent. solution, the point of insertion being between the shoulders at the upper part on the right side, the left side, where she was injected the day before, being slightly tender; but there is never any inflammatory or other reaction at the point of injection if the syringe is duly disinfected. No reaction followed this; at five o'clock the temperature had not been above 37°C. The local effect is

that wherever there is lupus tissue there is redness and swelling of the diseased area and its neighbourhood, attended with copious serous exudation, which oozes out on to the surface and dries into a yellowish crust. This crusting was the condition on the morning of the 17th, before her fresh injection.

In Dr. von Bergmann's *clinique* was a boy of fourteen with lupus at the tip of the nose, who was injected at 10.30 A.M. on the 16th; at 3 P.M. his temperature was 41°, and he vomited at 8 o'clock. When Dr. von Bergmann gave his demonstration his nose was swollen over three parts of its extent, and he was sleeping very heavily. His pulse was 150, his respiration 36 to the minute, at 10 A.M. on the 17th. In a man aged fifty-eight, with a lupus patch covering the nose and cheeks, which had been present twenty-nine years, who had been injected the day before, the whole face was swollen, the cheeks much crusted with exudation, while the nose, which had been to a great extent cicatrised, was swollen, slightly livid, while the epidermis was evidently loosening. From the right side of the patch going down to the lower jaw was a reddened band about one-third of an inch wide, which I was informed was an indication that the lymphatics in this band were filled with tubercle bacilli, and therefore gave an inflammatory reaction.

In another man, aged twenty-four, the cure was the most advanced, and I was informed that it afforded the best results hitherto obtained. Between Nov. 6th and 17th he was injected every other day with the usual dose, and each injection was followed by a febrile reaction of from 39° to 40°C. Although the lupus tissue was apparently gone, he was injected for the sixth time as a test as to real cure, since there was still some general reaction, and locally there was increased redness and exfoliation of epidermis, and the cure was therefore considered not quite complete. The newspaper reports as to a complete cure of lupus in five days greatly overstates the results hitherto obtained. There was, however, a far better result than could have been obtained by any of the hitherto employed methods of treatment during the same or even for a much longer period.

I have only time now to mention one other case of interest in this clinique. It was a case illustrating well the exanthem which may follow the injection of the fluid. This exanthem Dr. Cornet informed me was rare, occurring in not more than 1 or 2 per cent. of the cases injected, and then generally of slight extent. This patient of Dr. von Bergmann was a woman of about thirty, suffering, I believe, from phthisis. She had had five injections of the '01 of 1 per cent. solution, the first on Nov. 6th, and each injection had been followed by the outbreak of the eruption. This was general in its distribution, though of varying extent in different regions. To my eye it did not resemble measles, but consisted in the occurrence of papules not more than a pin's point to a small pin's head in size, and of a pale-red colour. On the face they were comparatively sparse, discrete, and without any marked arrangement. On the arms and forearms they were also sparse and discrete, and not more on the extensor than the flexor aspect. On the trunk they were most developed and characteristic. The papules, grouped in a herpetiform manner, and with the surrounding hyperæmia of each papule, had coalesced into small irregularly shaped patches of from a quarter to half an inch in their largest diameter studded with small papular elevations. In addition, there were large pin-head pustules (a more advanced stage of the papules) sparsely scattered about the shoulders. The seat of these papules and pustules was apparently the hair-follicles. On the lower limbs the lesions were larger, flatter, more livid, red, and slightly scaly, but still situated at the hair-follicles, and very abundant. The eruption was attended with no itching or other subjective symptoms. In a case shown by Dr. Cornet there was only slight and sparse follicular hyperæmia.

The tubercular gland cases were also interesting to a visitor, as the changes could be more easily verified than in a necessarily hurried examination, but their consideration must be deferred. Briefly, the treatment is, as far as lupus vulgaris is concerned, more rapidly efficacious in removing the morbid tissue than anything that I know of, except an attack of erysipelas, which will sometimes produce an even more rapid and quite as extensive an improvement; but it is too dangerous an agent to employ

voluntarily unless attenuated in some way. Whether Koch's method cures lupus or any other tubercular affection permanently time alone can prove; at the same time it has fully established a claim to a most thorough and careful trial in all such cases. As far as I could learn, lupus erythematosus has not yet been treated by this method, as it is not generally considered to be a tubercular affection; but some authorities consider it to be allied in nature as well as name with lupus vulgaris, and the result of Koch's treatment would probably be a decisive test of this question. I send the syringe Koch recommends, as it is easily disinfected in absolute alcohol.

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EXPECTANT TREATMENT *VERSUS* OPERATIVE INTERFERENCE IN CASES OF TUBERCULAR JOINT DISEASE.

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(Concluded from p. 1030.)

As regards phthisis, I believe that it is not uncommonly the result of the local disease either by direct infection or by the local trouble so lowering the general condition of the patient as to render him more liable to fresh infection from without. That phthisis may arise by infection from the joint seems to me the only explanation of the fact that phthisis is most common in disease of certain joints, and not equally common in disease of all joints. Thus in my own statistics, and in almost all those in which the presence of phthisis is noted, I find that it is much more frequent in cases where the tarsus or carpus, and possibly the shoulder, are affected, than where any other joint is the seat of disease. That, apart from the question of auto-infection, the local trouble may predispose the lungs to disease is probable from the fact that marked improvement in the lung trouble, when it already exists, often follows amputation above a tubercular joint. At the same time, early operation does not by any means always rescue the patient from a subsequent death from phthisis, while, as in the last case, it may lead to the very danger it is designed to avoid. Thus, to mention one fact, Middeldorpf found after twelve years and a half that 16 per cent. of those amputated had died of phthisis, 14 per cent. of those excised, and 30 per cent. of those where caseous deposits were scraped out. As regards phthisis, therefore, I do not think that we would be justified in proposing operation with the sole view of preventing its occurrence, although I hold that this hope should have considerable weight where other circumstances are present which point to the desirability of operating—in other words, I think it may be allowed to turn the scale in favour of operation, where otherwise the decision might be doubtful.

The age of the patient is a very important factor. Apart from the fact that different bones and joints become affected at different ages, the age of the individual affects the decision in a number of ways. Thus below, say, twenty years of age, the chances of recovery without operation are much greater than when the patient is older, partly on account of the greater vitality of young tissues, partly because primary synovial disease relating to primary osseous disease is more frequent in early life than at adult age, and partly also probably because of the two types of primary osseous disease sequestra are relatively less frequent in children than in adults. Again, early life, by excluding certain operative procedures such as excision, affects the question, in that in cases occurring in childhood in which excision happens to be the only operation likely to do good, one must persevere much longer with expectant treatment than one would if the patient were an adult. For excision of joints in children leads to very serious interference with the growth of the limb, an interference due not only to loss or cessation of action of the epiphysal lines in the immediate neighbourhood of the joint affected, but also to trophic disturbance in the whole limb. The presence of a marked hereditary taint generally implies less resisting power against the inroads of the tubercular virus, and consequently in these cases there is often a great tendency for the morbid products to break down and caseate.

Hence the chance of recovery by expectant treatment in these cases is less, and the operative measures must often be radical. The existence of tuberculosis elsewhere, more especially the presence of phthisis, is a matter of great moment in considering the question of treatment. Where marked phthisis is present, the local trouble seems to exercise a very unfavourable influence on its course, while the complete removal of the local disease is often followed by a surprising improvement in the state of the lungs and in the general condition of the patient. Hence, under these circumstances, operative interference is often almost imperative, unless the general condition of the patient is so bad as to contraindicate it, and that operative interference must generally be of the most radical kind. The social position of the patient is also a factor of considerable importance. Apart from the possibility or impossibility of suitable attendance, good food, change of air, &c., a poor man, especially with others dependent on him, may require to get well quicker than a rich one, while in poor children under bad hygienic conditions the case is less likely to do well, and complete removal of the disease at a comparatively early period may be desirable. The advisability of early operative interference depends to some extent on the part affected both in relation to the greater ease and completeness with which we can eradicate the disease in one joint than in another, and also in relation to the subsequent usefulness of the limb. Thus, in the case of the hip-joint operative measure to be effectual must be severe, while a limb which recovers after expectant treatment in good position is, undoubtedly, in the majority of instances, a more useful limb than one which has been excised, and, therefore, in the case of hip-joint disease expectant treatment should be longer persevered in than in the case of almost any other joint. On the other hand, in the elbow-joint, for example, the parts are often more easily accessible without such a severe operation as excision; while it is frequently of great importance to have a movable joint, and therefore an operation may be performed in cases which would recover, but with a stiff joint, if treated by rest and other expectant measures. The local condition is a most important point in determining the question of expectant treatment *versus* operative interference. We may at once divide cases of tubercular joint disease into two great groups from the point of view of the question under consideration—viz., those in which chronic suppuration has occurred and those in which there is as yet no visible breaking down of the tubercular deposit. Cases in which chronic suppuration has occurred, leaving out of account for the present those in which the abscesses have burst before the patient came under notice, are no longer suitable for expectant treatment, for the day is now past when chronic abscesses should be allowed to burst or left in hope of their absorption. It is not part of my subject to go into the treatment of chronic abscesses, or indeed into any form of operative treatment; but I may say that while I do not at all agree with the dictum laid down by Mr. Barker that the occurrence of suppuration in hip-joint disease (I do not know whether he applies it to other joints or not) is an indication for excision, I think that when suppuration occurs the whole question of operative measures should be carefully considered, and in any case we can now procure more rapid and more certain recovery by operative measures of a somewhat more severe character than simple aseptic drainage, although by that method we have had many excellent results.

Excluding, then, cases in which suppuration has occurred, and leaving out of account in the meantime those in which septic sinuses are present, we have to determine in what of the remaining cases we should employ operative measures, and in what we should content ourselves with expectant treatment. I have already pointed out that the disease probably most frequently commences not diffusely over the whole joint, but at one part from which it spreads over the rest; and thus, in cases seen at an early stage, we may either find a localised swelling or a general thickening of the whole textures of the joint. This localisation of the disease in the first instance is, I think, a point of extreme importance, for if we get the cases before the whole joint has become involved, we may, by early and free removal of the affected portions, cut short the disease and restore the functions of the joint, and therefore it is of the greatest importance to recognise the early beginnings of the disease, and not allow the favourable moment to slip by. These