

Treatment in Leprosy.

COMPLICATIONS AND SEQUELÆ.

By R. G. COCHRANE, M.D., M.R.C.P., D.T.M. & H.

Sometimes the complications and sequelæ which arise in leprosy give rise to a certain amount of anxiety. Especially is this the case where treatment is carried on, as it often is, by a layman. It is hoped that this article will assist the lay worker in his efforts to do all he can for the lepers who are under his care. It is not intended at present to deal with accompanying diseases, but only with those complications and sequelæ which are due to leprosy.

It will perhaps lead to clarity if this subject is divided into (A) those complications that are the direct result of what is known as "Lepra-reaction," and (B) those complications which arise in the course of the disease apart altogether from any reactions which may occur.

(A) Complications due to Lepra-Reaction.

Lepra-reaction itself may be called a complication of the disease, because it gives rise to fever and much debility at times. Lepra-reaction is an important condition which should be recognised by all who treat lepers. It occurs in both the treated and untreated cases, but is seen in its more severe forms, as a rule, in those cases which are under treatment, especially is this the case in certain patients who are being treated with potassium iodide. The nature of the phenomena of lepra-reaction is imperfectly understood, some consider that it is largely due to allergy, and is analagous to the sensitisation phenomena seen in a number of other diseases. Others consider that the reactions are exaggerated stages of the leprous process. These and other theories have been propounded as to the nature of lepra-reaction, but whatever the explanation be it is most important to be able to diagnose this condition and treat it effectively. Lepra-reaction is generally ushered in by a rise in temperature, and in skin cases especially fresh eruptions are apt to break out. Even though the patient is running a comparatively high fever, he frequently has a feeling of well being; this unique experience is occasionally found in those who suffer from tuberculosis. In lepra-reaction, therefore, subjective signs cannot always be relied on. In early nerve cases which have multiple depigmented patches a bout of fever may be the determining factor in the spread of the disease and causing

such cases to pass into the skin stage. The depigmented patches become raised and red, and bacilli are now found where they were not demonstrable before. These eruptions may be erythematous, papular, vesicular or nodular. One type of eruption is seen in the form of small red nodules, which appear under the skin, but not in it; these disappear again in a few days. When the attacks are mild and the patient in the stage of subsidence of the disease, the sharp fever induced by a reaction is often beneficial. But in its more severe forms, and especially in the invasion period when the disease is beginning to get a grip on the body severe reactions are harmful, and if these are repeated or last for some weeks a definite cachetic condition may set in. Lepra-reaction does not only manifest itself in fever with exacerbation of skin symptoms, but rheumatic pains, neuritis, orchitis, or adenitis may all be found. The neuritis which is sometimes seen, especially in nerve cases undergoing iodide treatment, may be very severe, and the nerve may become painful and swollen and an abscess result.

Mild attacks of lepra-reaction can only be detected by keeping regular records of the temperature, and as mild attacks may usher in a more severe one, it is important when giving potassium iodide to keep a watch on the daily temperature and regulate the doses accordingly. It is those patients who will not or are unable to take active exercise that the most severe forms of lepra-fever are frequently found. In these more severe cases the patient should be put to bed and his bowels should be well opened by a saline aperient. If headache is severe aspirin or phanacetin may be given. Sodium salicylate combined with large doses of sodium bicarbonate is sometimes useful for rheumatic pains. For the neuritis which is so often seen 10m. or 1 in 1,000 adrenalin hydrochloride given subcutaneously sometimes has a marked effect. Recently ephedrine hydrochloride has been found more certain and lasting in treating these painful nerve affections. One half-grain is dissolved in a drachm of water and administered, and this dose is repeated in 10-15 mins. if pain has not been relieved. As a rule there is a marked relief after the first dose, and complete relief after the second dose. Sometimes in those cases where the nerve is found to be hard and indurated, then the ephedrine is used with 5 c.c.s. of saline and injected underneath and around the painful nerve; this has been found to answer in the few cases that have not responded to ephedrine given by the mouth. When a nerve abscess is formed or in danger of forming then the nerve sheath should be opened and dissected off for about four inches. This relieves the pressure and as a result the pain

disappears. Ephedrine frequently relieves the joint pains which accompany leper fever. Adenitis can be helped by painting the affected parts with a mixture of equal parts of glycerine and belladonna; if there are sinuses this can be packed into the sinus. If the fever is high and lasts more than a week, especially if the patient shows signs of intolerance to the reaction, then 0.02-0.04 gm. potassium antimony tartrate given intravenously every other day will frequently bring the fever to an end. During the acute febrile stage a plain diet should be given and plenty of milk should be taken if the patient can obtain it. As often the successful treatment of leprosy depends on the efficient control of lepra-reactions, it will be realised that this condition should be carefully studied by all who are treating the disease.

(B) Complications which arise in the course of Leprosy.

Eye Infections.

Leprosy may attack the eye from without, producing a localised leproma which ultimately spreads to the component parts of the eye, or else the disease may affect the eye as the result of the bacilli being carried in the general blood stream and the whole uveal tract or any other part of the eye may be attacked. If the patient develops iritis or any inflammation of the eye during treatment, one must proceed carefully, lest the sight is speedily lost. In leprosy affections of the eye atropine can be used freely; in fact, one must strive to one's utmost to avoid adhesions forming, for once adhesions are firmly established the prognosis is decidedly bad. If there is any bulging of the anterior chamber a timely paracentesis may save the sight. Unfortunately, measures for the relief of eye symptoms are, as a rule, only palliative, for once the eye is attacked in leprosy the prognosis as to sight is bad. A simple iritis without gross infection of any other part of the eye frequently clears up. If the eye is attacked by the disease one must be careful to avoid reactions.

Treatment of Ulcers.

These are naturally divided into two types:—

- (1) True leprotic ulcers.
- (2) Trophic ulcers.

(1) *Leprotic ulcers*.—This type of ulcer is best treated by the application of hydrocarpus oil. When there is much induration one sometimes finds improvement setting in after curretting with a sharp spoon and freshening up the edges. Injection of hydrocarpus oil into the base frequently helps in the resolution of the nodules. The timely application of trichloroacetic acid may cause

resolution of the nodules and so prevent ulceration. Trichloroacetic acid should not be applied to open sores.

Ulceration of the nose often gives rise to troublesome symptoms. Crusts can be kept from forming and softened if they have formed by soaking gauze in liquid paraffin and applying night and morning. After this treatment the following prescription has been found useful:—

Camphor	Two drachms	ʒii
Creosote	Two drachms	ʒii
Hydnoc. Oil	One ounce	ʒi
Olive Oil	Two ounces	ʒii

(2) *Trophic ulcers*.—These occur typically in the advanced “so-called” burnt-out case, and therefore are not always dealt with on essays on treatment. Until a state can look after the crippled and maimed humanely and effectively the discharge of the advanced non-infective secondary anæsthetic case cannot be recommended. Unless home conditions are good and there are friends to care for the “burnt-out” cases he will only swell the ranks of the pauper begging class, and ultimately die a miserable death from sepsis as a result of ill cared for ulcers. In a leper home sometimes the cases that give rise to most anxiety are the advanced cases with bad ulceration. Therefore it may be a help briefly to describe some methods of treatment that have been found to be effective. The remedy which appears to do the most good is eucalyptus oil in which ten grs. of iodoform have been dissolved in every ounce. This is soaked on a piece of gauze, and applied to the ulcer after it has been cleansed with hot permanganate solution. As this remedy is somewhat expensive, it is better to use for clean ulcers gauze soaked in iodine made with methylated spirit and half the usual B.P. strength. Stronger iodine can be used, but it is more expensive. There is, however, no better remedy than the eucalyptus oil preparation for cleaning up foul and septic ulcers. Except for a preliminary cleansing with hot permanganate solution, watery dressing on account of the devitalised condition of the skin are to be condemned. If any sinuses form these heal rapidly if tincture of iodine is injected into the whole length of the sinus, and then packed with gauze soaked in eucalyptus oil. Diseased bone should be removed and indolent ulcers should be scraped with a sharp spoon and cauterised with copper sulphate. A timely amputation will save life in severe cases, but the decision to operate must be taken quickly, for once sepsis begins to spread it spreads rapidly in the already devitalised tissues. Provided the

condition of the skin is good, amputation wounds should heal by first intention, the presence of anæsthesia does not affect the healing power much. If the above methods are carried out, ulcers of the type described should heal, but they are always liable to break down again. While the treatment of trophic ulcers is the least pleasant part of the work in a leper home, yet the result in the morale of the patients when they see that their ulcers are kept clean and sweet amply repays one for the time and trouble taken to heal them.