AN ACCOUNT OF THE USE OF ETISUL IN THE TREATMENT OF LEPROSY IN THE NORTHERN REGION OF NIGERIA

by C. M. Ross, O.B.E., M.B., D.T.M., C.P.H. and J. F. Telfer, M.B., D.T.M. and D. D. Hilton, M.B., D.P.H.

Introduction: Material and Methods

In view of the favourable results of Etisul treatment reported by Davey and Hogerzeil (1959) we decided to investigate whether Etisul would be practical for use in outpatients by our trained auxiliary staff. We used Etisul by inunction on 38 patients during the period July to December 1959, comprising 18 outpatients at the Kaduna and Kano Area Clinics, 5 at the Zaria Provincial Leprosy Hospital, 6 at the Albarka Mission Leprosy Village, and 9 at the Katanga Native Authority Leprosy Treatment Village at Azare in Bauchi Province. We found that the treatment became popular and attendance was regular, except in one clinic. Etisul was supplied in unit dose tubes containing 5 g. of diethyl dithiolisophthalate in a suitable cream for percutaneous use, and we gave the inunction of the unit dose of 5 g. in three groups, namely twice weekly, thrice weekly, and daily. For children and young adults half the dose was given. The thrice weekly method seemed to us the most practical for our patients. With daily inunction the patient carried with him an unmistakable odour from the preparation and imparted this odour to his environment. There was little of this with the twice or thrice weekly inunction. We also noted that careless or inefficient inunction gave rise to body and environmental odour, which provided us with a very useful check on the thoroughness of the administration. At the beginning of the trial each patient was given a supply of weak Dettol, but this was soon found not to be necessary. The best sites for rapid absorption were the abdomen and chest, and about 20 minutes sufficed for the inunction.

Fall in Bacterial Index during Treatment

DAVEY and HOGERZEIL¹ and DAVEY^{2,4} describe the comparative speed of fall in the B.I. in patients treated with Etisul, as against treatment with other drugs. This decline was also noted in the patients in our trial. We used the method of estimating the Bacterial Index similar to that used in Uzuakoli of the Eastern Nigerian Leprosy Service, save that we differed in the number of smears taken and the sites of the body from which they were taken. We took smears from an ear lobe, a leprosy lesion, and the skin, and left out nasal smears as they presented difficulties. The average B.I. in the Kaduna and Kano group was 1.6 in June 1959 and 0.6 in December 1959. The Albarka group had an average of 2.0 in May and 0.8 in December 1959. The Azare group declined from 3.5 in July to 0.8 in December 1959. We did not have a record of the B.I. in a control group, as most patients were selected because difficulty in treatment had been met with, or for the type of infection, or for complications of the disease. We noted morphological changes in *M. leprae* after 3 to 4 months of treatment, and decline in the number of bacilli showed itself first in the smears from the skin, to be followed by a reduction in the smears from actual leprosy lesions. The bacillary numerical reduction was very much slower in smears from the ear lobe and resolving nodules on the ear lobes, and in several cases these sites remained strongly positive persistently. These persistent cases were mainly new cases, who began with Etisul treatment alone or Etisul combined with DDS. This feature in several cases kept the overall B.I. from declining completely.

Results

On the whole the response was satisfactory. Patients became negative who previously had had 2 or 3 years of DDS treatment and yet persistently positive smears. Several young people of the Zaria and Albarka groups, who had early lepromatous macules or diffuse lepromatous infiltration, made a good response or became negative. A young female outpatient of the Kaduna group, who had indeterminate progressing to diffuse lepromatous leprosy, became negative and showed signs of resolution of the disease. The best bacteriological response was seen in cases established on regular DDS treatment.

Other satisfactory clinical results were seen in addition to the bacteriological changes. There were cases of marked resolution of peripheral nerve lesions and of improved state of the hands and feet. Furthermore, there were cases of malignant lepromatous leprosy who showed marked clinical improvement, with abatement of their lepromatous reaction (Erythema Nodosum Leprosum) and their progressive lepra fever.

Northern Nigeria is a large territory, with many races and tribal groups with different social customs, climatic conditions, and nutritional status. Variations can be expected in the incidence of lepromatous leprosy and in the deformity rate (Ross³). These factors influence the mass treatment of leprosy and make it difficult. In the Azare District the leprosy populations show a marked susceptibility to involvement of peripheral nerves and to the malignant forms of leprosy.

Further Clinical Details: (a) Resolution under Etisul of Peripheral Nerve Complications (b) Resolution under Etisul of Lepromatous Lepra Reaction, Erythema Nodosum Leprosum, and Progressive Lepra Fever.

(a) Dr. Telfer of Azare General Hospital in Bauchi Province conducted the trial in the group at the Azare Treatment Village.

This village is the centre of a network of clinics attached to the Local Authority Dispensaries and the village gives temporary accommodation to patients who need specialised treatment. At the end of the Etisul trial Dr. Telfer remarked that he found the most convincing clinical sign of efficacious action by Etisul lay in the resolution in peripheral nerves, and lesions caused by their involvement. This opinion coincided with the findings in the other two groups.

Remarkable resolution of painful, tender, enlarged ulnar and peroneal nerves, and in swelling of hand and foot occurred in 7 Azare and 4 Albarka patients and 2 Kaduna outpatients. Minor degrees of contracture were corrected, and in the absence of joint fixation movement became normal and muscle tone was improved. One of the Kaduna outpatients, who was a female of 9 years with borderline leprosy, and the early stage of claw hand with minor degrees of contracture of digital and palmar tissue, showed correction of the hand condition at the end of treatment. The active movements became almost normal and there was great improvement in the muscle tone of forearm and hand.

In active lepromatous infiltration, with swelling and thickening of the joints and phalanges of the hands and feet, the danger of dislocation and bone injury was largely averted by the subsidence of the erythematous swellings of the subcutaneous tissues and subsidence of the pathological changes in the joints and thickened phalanges. The hands showed very great improvements in mobility and active movements in lepromatous cases without gross shortening of the fingers and disorganisation of the bones and joints of the hands.

(b) Difficulty in induction and maintenance of treatment by DDS caused the selection of three Azare patients and one Kaduna outpatient. Also the cases were selected for repeated reaction, persistent erythema nodosum leprosum, progressive lepra fever, and intolerance to any but minute doses of DDS which had prevented any response to therapy and caused deterioration of the patient's general condition and morale. Such patients had been given trial of other antileprosy drugs but with unsatisfactory results. The Azare patients were treated with Etisul alone, the Kaduna outpatients with small doses of DDS combined with Etisul. Inunction of the Etisul was thrice weekly. At the end of the trial there was resolution of the typical ruddy erythema (resembling an allergic urticaria) and resolution of the signs of progressive leprosy fever. There was a residual minor degree of erythema nodosum leprosum, without the typical severe associated symptoms. The patients had a sense of well-being and cheerfulness. In each case there was bacteriological and clinical improvement. The Kaduna patients were able to tolerate after four months a gradual increase of DDS dosage. A female aet. 12 years of the Azare group had a large sore on her elbow resembling a tuberculous lesion, with a septic dermatitis

possibly originating in a scabies infection, and both these conditions resolved during Etisul treatment.

Side Effects

There were two patients, both of borderline type, who had a localised reaction in their lesions, which became erythematous and swollen, but this quickly subsided on suspending treatment and no harmful result followed the reaction.

Summary

1. We tried Etisul as a treatment in 38 patients, both outpatients and a few inpatients, in separated regions of Northern Nigeria, and excellent results were obtained, the administration in inunction clinics being well within the competence of trained auxiliary leprosy workers. The period of the trial was July to December 1959. Clinical improvement was good, and the Bacterial Index fell markedly, viz. 1.6 to 0.6 in one group, 2.0 to 0.8 in another group, 3.5 to 0.8 in a third group.

2. Etisul has a useful and practical part to play, even in outpatient treatment. In countries like Northern Nigeria, where there is a high endemic rate of leprosy, the rapid decline under Etisul of the Bacterial Index of bacilliferous cases is of vital importance to the control of leprosy.

3. With Etisul hope begins to appear for the satisfactory treatment of the malignant forms of leprosy, such as show intolerance to standard treatment. With the help of Etisul there may be attained a gradual induction of standard treatment and a possible decline of the Bacterial Index in a comparatively short time. We need further trials of Etisul to explore the possibility of corticosteroids being replaced by Etisul in the treatment of these malignant forms.

4. We found resolution of peripheral nerve involvement and its concomitant lesions, with favourable results on active movements of the small joints of the hands and feet and muscle action of the limbs, so that joint fixation and tissue contracture and impairment of muscle function are all rendered avoidable.

5. We think that deformity may be prevented under the influence of Etisul by the early resolution of lepromatous pathological conditions affecting bone and joint tissue of the hands and feet. We observed an Etisul action which is quite specific in clearing up swollen hands and joints and in preventing thereby the progressive shortening and disorganisation of the hands and feet.

6. We found that when the patient cooperates and makes effort in the thorough inunction required for Etisul, he gets the benefit of valuable additional exercises and movements, as well as elevation of morale.

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