# A PRELIMINARY REPORT ON THE TREATMENT OF LEPROSY WITH ETISUL IN A RURAL LEPROSY CENTRE

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## Introduction

Sodium ethyl thiosulphate was first tried in leprosy by BERTACCINI in 1957 on 21 leprosy patients by the oral methods, and the results in the treatment of leprosy were encouraging. Also in 1957 T. F. DAVEY *et al.* of the Leprosy Research Unit, Uzuakoli, Eastern Nigeria tried Etisul first in one group of 18 patients and then in 22 patients, and reported a marked chemotherapeutic action and an apparent drug resistance after 3 months of the drug. There was no toxic action, but the odour of the drug was unpleasant (1959. Since then various workers have tried the drug, alone or combined with DDS, and reported favourably, such as C. M. ROSS *et al.* and M. F. LECHAT in 1960. The first report from India was that of N. MUKERJEE and S. GHOSH in October, 1960, who after a 6 months trial of the drug in 3 cases reported no appreciable improvement. DHARMENDRA—*et al.* also tried Etisul alone or combined with DDS and reported no accelerated bacteriological improvement except in 1 case, nor accelerated clinical improvement except in 2 nodular cases on Etisul combined with DDS. However we in this Centre, encouraged by the reports of DAVEY *et al.* began to try Etisul here at the end of 1959. The supply of the drug was small, so we began with only a few cases and were able to add a few more later.

## The Aims of Etisul Therapy

Though the sulphones have become established as cheap, effective, and suitable for mass therapy, we have found a few disadvantages, viz. (1) The period of treatment needed to reach bacterial negativity is rather prolonged; (3 to 7 years); (2) the frequency of lepra reactions under sulphone therapy. Under Etisul we hoped to study and compare the pace of bacterial and clinical improvement in the lepromatous and intermediate kinds of leprosy and to find out if Etisul is better tolerated and less causative of reactions in lepromatous leprosy. We also hoped to find out if clinical improve-

ment of non-lepromatous cases is quicker with Etisul than with the sulphones.

**Material for Study**

We chose 17 patients of whom 9 were advanced lepromatous, 4 were lepromatous cases whose treatment had often been interrupted, 2 were non-lepromatous with marked lesions, and 2 were intermediate types (borderline or indeterminate). Most of all these patients had previous treatment for short or long periods. In 1959 we put 4 patients on Etisul treatment, 11 in 1960, and 2 in 1961. As regards drug combinations with Etisul, there was DDS in 7 cases, aqueous sulphetrone injections with INH in 4 cases and DPT in 2 cases. The *method* of Etisul therapy was by twice weekly inunction, first of half a tube twice a week, then a whole tube twice a week. In a very few cases, daily inunction of one tube was tried. A practical detail was that because of the unpleasant odour of the Etisul, the patients were found to be too eager to take a bath after inunction, hence a bath on the same day had to be forbidden for the bi-weekly inunctions and delayed to the evening in the case of daily inunctions.

**Duration of Treatment**

This was decided from observation of each individual case, and in effect the minimum period was 12 weeks and the maximum 65 weeks.

**Results**

The results were assessed clinically and bacteriologically. It was found that daily treatment with Etisul did not produce any better results than bi-weekly treatment. Combination with aqueous Sulphetrone did not seem to produce any difference in the pace of improvement. Etisul alone and Etisul combined with other drugs seemed about equal in this respect. The cessation of Etisul even for a short time seemed to worsen the condition. To use Etisul for a prolonged period does not seem to be beneficial, for after a rapid preliminary improvement, a stationary stage seems to develop. It was found that previous treatment with DDS seems to be better than starting with Etisul from the beginning. One fact which emerged clearly is that the clinical and bacterial improvement with Etisul is very rapid in comparison with sulphone therapy in lepromatous cases. In the 2 borderline cases there was very rapid clinical and bacterial improvement, which was more than could be expected from sulphones alone. Though this is only a preliminary report, we find that the results of treatment with Etisul are very encouraging.

**Some Further Results, and Comparison with Sulphone Therapy**

Of the 17 patients, there were 8 who had very little or practically no treatment prior to Etisul therapy, and of these 1 macular lepromatous patient had Etisul bi-weekly for 6 months. The clinical improvment in this patient was moderate and the bacterial index became reduced to one third of the original index by the 6 months of treatment. There was one lepromatous patient (L3) on bi-weekly Etisul, and DDS (irregularly), for 1 year, whose clinical improvement was slight but the bacterial index became reduced to one half of the original index. In a lepromatous case L2 on daily Etisul and DDS the clinical and bacterial improvement was slight. On the other hand, a borderline case in this group on bi-weekly Etisul plus DDS orally became free of signs and bacterially negative in 5 months. Similar remarkable bacteriological improvement in 5 months of Etisul (the index came from 2.2 to 1.6) was shown in a lepromatous case who had previously obtained a reduction from 3.75 to 2.2 in 18 months of treatment with DPT. There was another borderline case who became free of signs and negative bacterially after 5 months of bi-weekly Etisul in combination with daily injections of 0.5 ml. of 50% aqueous Sulphetrone, and INH orally in 150 mg. doses. In a lepromatous patient with repeated lepra reactions on previous sulphone therapy these were the same with Etisul therapy. One patient with tuberculoid leprosy showed remarkable improvement after 6 months of Etisul therapy, for seven eighths of the lesion area healed. On the whole, in these cases who had very little sulphone therapy prior to Etisul, only 2 out of the 5 lepromatous cases failed to respond satisfactorily these being cases of frequent lepra reactions. Thus 3 of the lepromatous cases showed good bacteriological improvement. The clinical and bacterial improvement in the 2 borderline cases was so good, as to attain negativity inside 6 months, and the tuberculoid case also attained very good clinical improvement in 6 months.

Of the 5 lepromatous cases who had Etisul bi-weekly or daily in combination with DDS, and in a few cases with aqueous Sulphetrone and INH, only 2 cases did not respond satisfactorily and these were lepra reaction cases of the frequent type.

*Comparing the results of Etisul therapy with Sulphone therapy* we studied the records of this Centre and found in 50 lepromatous cases on sulphones the average time to reduce the bacterial index to half the original was 22.3 months, and 44 months to reduce it to one quarter. Comparing this with our short series of cases on Etisul there has been a remarkably quick improvement in the bacterial condition of lepromatous cases, for the index reached one third of the original in 6 months and to half the original in 14 months time. For borderline cases in this Centre on sulphones it took an average of 29 months to reach bacterial negativity and 43 months for clinical

negativity, whereas, with Etisul, borderline cases became clinically and bacterially negative in a period of 5 months. The non-lepromatous cases have also responded with good clinical improvement in the short period of 6 months. However in reactive lepromatous cases of leprosy Etisul seems to have been no better than the sulphones. On the whole we conclude that Etisul therapy gives very quick and encouraging results in comparison with the sulphones. We bear in mind that a longer period of time is required for the full assessment of this drug, because there are the problems of drug resistance and relapses. The patients will be kept under observation, and further studies made and reported.

**References**

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[*Editor's Note:* The authors of this paper provided much other material in the shape of case notes, discussion of cases, illustrations etc. but under modern conditions of pressure on space it is regretted that much has had to be excluded. However it may be taken that their paper was presented well-documented in the original. *Editor*].