

Results of Long-term Domiciliary Dapsone (DDS) Monotherapy for Lepromatous Leprosy in Gudiyatham Taluk, South India¹

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The Schieffelin Leprosy Research and Training Centre, Karigiri, has used dapsone (DDS) monotherapy in the treatment of leprosy patients for over 20 years. Formerly, patients attended the center to be examined and to collect a month's supply of DDS tablets. Beginning in 1963, however, the leprosy control program extended these services to the villages of Gudiyatham Taluk. Fairly extensive records of treatment and progress are available for each patient, and a well-equipped base hospital serves the program.

This background made it convenient to study the present status and past history of lepromatous leprosy (LL) patients who had been treated with DDS for >20 years.

PATIENTS AND METHODS

All surviving LL patients registered for treatment in 1960 or earlier and resident in Gudiyatham Taluk, India, were enumerated in March 1981. Data on each of these patients were assembled from the individual patient record. Skin smears had been taken, generally at one-year intervals, and read by trained personnel. A record was kept of the amount of DDS collected by the patient on each visit to the clinic.

RESULTS

Fifty-eight patients with the clinical diagnosis of lepromatous leprosy (LL) at registration have been included. They had all

been registered in 1960 or earlier, and were still alive in March 1981.

Only seven of these 58 patients remained smear positive in 1981. Four of these seven patients were subjected to the mouse foot pad test for the detection of DDS-resistant *Mycobacterium leprae*. All 4 yielded *M. leprae* resistant to 0.01% w/w DDS in mouse diet but, during subsequent DDS monotherapy, the number of bacilli in successive annual skin smears was found to be increasing in only 2 of these patients and decreasing in the other 2. Of the remaining 3 patients, 1 was absent from treatment, while 2 were improving on DDS monotherapy.

Among these 58 patients, of 36 who had at some point in treatment been continuously absent for ≥ 6 months, 6 (16.7%) were found to be smear positive in 1981. Of the 22 who had not been absent, only one (4.5%) was found to be smear positive. This difference is not statistically significant.

Among these 58 patients, 32 had at some time a Bacterial Index (BI) $\geq 2+$. Seven (21.9%) of the 32 were found to be smear positive in 1981. Among the remaining 26 patients who had had a maximum BI $< 2+$, none were found to be smear positive in 1981 ($p < 0.05$).

DISCUSSION

DDS monotherapy is found to be effective among LL patients, even when the results 20 years after the start of treatment are considered. Fifty-one of the 58 patients were smear negative and clinically inactive in 1981. The findings of this community-based study appear more favorable than the report from a clinic-based study in the United States (¹), where only three out of 13 LL patients who were alive 30 years after starting on sulfone therapy could be pronounced inactive.

Patients whose BI had at some point been $\geq 2+$ were found smear positive in 1981

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significantly more often than those whose BI had always been $>2+$. Although all of the 58 patients had been clinically classified as lepromatous before 1961, it seems likely that some had a more profound deficit in their specific immune response to *M. leprae* than others. It appears possible that even within the BL-LL group of patients, patients nearer the lepromatous pole of the immunological spectrum run an appreciably higher risk of remaining smear positive during chemotherapy than others. Further studies are needed to evaluate this possibility.

SUMMARY

At the Schieffelin Leprosy Research and Training Centre, Karigiri, India, data were assembled on all 58 living patients with lepromatous leprosy residing in Gudiyatham Taluk who had been registered in 1960 or earlier. They had received domiciliary oral DDS monotherapy for >20 years. Fifty-one of the 58 patients were currently smear negative and clinically inactive. Patients with a Bacterial Index that had at some time been $\geq 2+$ were currently found smear positive more frequently than the remaining patients.

RESUMEN

En el Centro Schieffelin de Investigación y Adiestramiento de la Lepra, Karigiri, India, se recopilaron los datos sobre 58 pacientes con lepra lepromatosa (LL)

residentes de Gudiyatham Taluk, quienes habían sido registrados en 1960 mas temprano. Ellos habían sido tratados por más de 20 años solamente con dapsona (DDS) oral. Cincuenta y un pacientes resultaron bacteriológicamente negativos en el momento del estudio y clínicamente inactivos. Los pacientes con un Índice Bacterial que en algún tiempo fue de $2+$ or mayor, tuvieron preparaciones de linfa cutánea positivas con más frecuencia que los pacientes restantes.

RÉSUMÉ

Au Schieffelin Leprosy Research and Training Centre de Karigiri, en Inde méridionale, on a rassemblé les données se rapportant à l'ensemble des 58 malades atteints de lèpre lépromateuse, résidant dans le Gudiyatham Taluk, et recensés dans ou avant 1960. Ces malades ont été traités à domicile par monothérapie dapsone (DDS) per os pendant >20 ans. Parmi ces 58 malades, 51 présentaient actuellement des frottis négatifs, et étaient cliniquement inactifs. On a constaté que les malades ayant présenté à ce moment ou à un autre un Index Bactérien $\geq 2+$ étaient plus souvent positifs à l'examen des frottis cutanés, que les autres malades.

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