CASE REPORTS

REPORT OF THREE CASES HAVING PRIMARY DAPSONE RESISTANCE IN PAUCIBACILLARY LEPROSY

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Three cases of primary dapsone resistance in paucibacillary leprosy are reported from Trivandrum. All these 3 cases of indeterminate leprosy deteriorated on supervised dapsone monotherapy, but responded well to combined treatment with rifampicin and clofazimine.

Key words : Leprosy, Resistance, Dapsone.

It is more than 20 years since the first report of secondary dapsone resistance appeared in the literature.[1] Since then, many reports on dapsone resistance have come from many countries including India.[2-10] Many reports of primary dapsone resistance in multibacillary cases based on mouse foot-pad studies appeared in the literature, but reports based on clinical studies are few.[2-5] Reports on primary dapsone resistance in paucibacillary leprosy are still less. This is probably because of the difficulty in proving dapsone resistance suspected on clinical grounds. Twenty one cases of probable dapsone resistance have been detected in a population of 2000 paucibacillary leprosy in Ethiopia.[10] In this paper we are reporting 3 cases of probable primary dapsone resistance in paucibacillary leprosy.

Case Reports

Case 1

A 21-year-old male developed a hypopigmented, ill-defined patch measuring 4 cm × 2 cm, on the extensor aspect of the left forearm during the last 2 months. Perception of heat and cold sensations was lost, touch sensation was impaired and pain sensation was present over the patch. The nerves were not thickened. There was no history of familial or extra-familial contact with leprosy patients. Systemic examination was normal.

Skin smears for AFB from the patch and the ear lobe were negative. Biopsy of the skin lesion revealed patchy infiltrate consisting of lymphocytes and histiocytes in the dermis. Mononuclear aggregates were seen around the sweat glands. There was perineural collection of lymphocytes. Fite stain did not show any AFB. Lepromin test was negative. With a diagnosis of indeterminate leprosy, the patient was put on 100 mg of dapsone daily from 28-10-83. But in spite of taking the medicines regularly, there was no improvement and the lesion continued to increase in size and became raised. On 20-6-84, the original lesion had developed two satellite lesions measuring 0.5 cm around the patch. The patient was now given dapsone 100 mg daily under supervision. After 3 months, the satellite lesion increased to 1 cm in diameter and two new lesions were seen on the dorsum of the left middle finger about 1 cm × 1/2 cm and another on the left lumbar region about 2 cm in diameter. The left ulnar and the left radial cutaneous nerves were also thickened. A biopsy repeated from the original lesion showed slight atrophy of the epidermis and a diffuse infiltrate of epithelioid cells, a few foam cells and lymphocytes in the dermis. Fite stain

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did not reveal any AFB. A histopathological diagnosis of borderline (BB) leprosy was made. A repeat lepromin showed a 2+positive reaction.

On 5-12-84, the patient was given rifampicin 600 mg daily and clofazimine 100 mg daily for 2 weeks followed by rifampicin 600 mg once a month supervised and clofazimine 100 mg alternate days unsupervised. Within 1 month, the lesions stopped spreading and showed signs of regression, and by 2 months all the lesions became flattened. After 6 months, only some hypopigmentation remained. However, the treatment was continued for 1 year, when only a slight atrophy was visible at the original site. The treatment was stopped and the patient is still under follow up.

Case 2

A 12-year-old female patient weighing 30 kg had an ill-defined hypopigmented patch 3 cm in diameter on the extensor aspect of the right shoulder of 8 months duration. Perception of the touch and temperature sensations was impaired. There was no history of contact with leprosy. Intradermal histamine test showed absence of flare reaction. Lepromin test was negative. Biopsy from the lesion revealed a patchy infiltrate of lymphocytes around the nerve fibres. A diagnosis of indeterminate leprosy was made and she was put on 50 mg of dapsone daily from 10-9-83. The lesion however did not show any improvement. On 4-4-84, she had 2 new lesions, one on the right side of the face measuring 1 cm in diameter, and another hypopigmented lesion with a slightly raised border, measuring 1.5 cm in diameter on the right arm. The original lesion had increased in size with 2 satellite lesions 0.5 cm in diameter. A biopsy from the original lesion at this stage showed histopathological features of borderline tuberculoid leprosy. She was put on 450 mg rifampicin once a month and clofazimine 100 mg on alternate days. After 2 months, the lesions showed signs of regression and after 6 months, in October 1984, the lesion on the face had disappeared. The other lesion had flattened and the hypopigmentation was less. The patient continued treatment for one year. The cutaneous sensations returned and all the lesions disappeared.

Case 3

A 10-year-old male weighing 25 kg, was seen with a hypopigmented, ill-defined, oval patch measuring 3 cm $\times$ 1.5 cm on the medial aspect of the right thigh of $1\frac{1}{2}$ years duration. There was impairment of sensations. Histamine flare was decreased and lepromin test was negative. Biopsy showed an infiltrate of histiocytes and lymphocytes around the dermal appendages and nerve fibres. A diagnosis of indeterminate leprosy was made and the patient was put on dapsone 50 mg daily. After 6 months, the patient returned with a well-circumscribed lesion with a sloping margin, measuring 1 cm in diameter on the lateral aspect of the right thigh. The original lesion had remained the same. A biopsy from the new lesion showed features of borderline tuberculoid leprosy. The patient was given rifampicin 300 mg daily for 3 weeks and clofazimine 100 mg on alternate days under supervision. After this, rifampicin 300 mg was repeated every month and clofazimine was continued. After 3 months, the second lesion subsided and the first lesion showed decrease in hypopigmentation. The treatment was continued for 1 year. At this time, the lesions had subsided completely.

Comments

All the 3 cases failed to show any improvement with a regular full dose of dapsone for 6 months or more. The first case had 3 months supervised dapsone therapy, in addition to the 6 months unsupervised therapy. In the other 2 cases, the intake of dapsone was supervised by their mothers. All the 3, developed new lesions and the first 2 showed an increase in the size of the original lesions. Repeat biopsy

showed BB in the first case and BT in the other two cases. The possibility of a reaction in these cases was excluded because there was no acute exacerbation and the biopsies were not suggestive of reaction. So these cases had progression of the disease in spite of regular dapsone treatment. They all responded to combined therapy with rifampicin and clofazimine, but failed to respond to dapsone alone. So these 3 cases were likely to be primary dapsone resistant cases.

Even though there is no report of dapsone resistance from Kerala, we get many cases of relapse of leprosy in multibacillary cases. We feel that at least some of them are dapsone resistant cases and such cases may be the source of infection in primary dapsone resistance.

Even though multi-drug therapy has been agreed in principle by every body, it has not yet been made available to all patients. To our knowledge, the only government institution where multi-drug therapy is given on a regular basis, is for the zonal cases in Urban Leprosy Centre attached to Medical College Hospital Trivandrum where MDT was started from 1-6-1985 onwards. Our cases indicate that we should give MDT to all patients.

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