A STUDY OF LEPROSY IN CHILDREN, FROM A TERTIARY PEDIATRIC HOSPITAL IN INDIA

Leprosy among children is a public health problem reflecting the disease transmission in community and the efficiency of control programmes. To evaluate the clinico-epidemiological and histopathological features of childhood leprosy, a retrospective study was undertaken at leprosy centre of Lady Hardinge Medical College and associated Kalawati Saran Children Hospital, New Delhi. The diagnosis in each patient was made by careful history, clinical examination and, if possible, slit-skin smear (SSS), and histopathological examination. The patients were classified according to the Ridley–Jopling criteria and designated as paucibacillary (PB) and multibacillary (MB) leprosy as per the WHO classification.

Amongst the 1115 leprosy patients (years 1992–2003), there were 86 children in the age group 0–15 years, constituting 7.71% of all cases. Of these patients 62% were in the 11–15 years, 30% in 6–10 and 8% in 0–5 years age groups. The earliest age of onset was 6 months in a child with borderline borderline (BB) leprosy. There were 60 boys and 26 girls with a M:F ratio of 2.3:1. Twenty-five (29%) patients gave a definite history of contact, out of which 23 (92%) were intrafamilial.

In the study, 54 (63%) patients had PB and 32 (37%) had MB leprosy. The average duration of disease in PB and MB patients was 1.56 and 1.6 years, respectively. The most common type seen was borderline tuberculoid (BT) in 63 (73%) patients. Seven (8%) patients each had BB and borderline lepromatous (BL) disease, four (5%) patients had lepromatous (LL), three had indeterminate (I) leprosy and one each had pure neuritic (N) and tuberculoid (TT) leprosy. Single skin lesion (SSL) was the commonest presentation, seen in 38 (44%) cases. Twenty-seven (31%) patients had nerve involvement, including 41 (76%) of PB and 19 (59%) of MB cases.

Of the 12 (13%) patients with deformity at presentation, grade 1 deformity was seen in five and grade 2 deformities in seven patients. The mean duration of disease in these children was 1.5 years. Claw hand was the commonest deformity, followed by trophic ulcer, foot drop, and wrist drop in that order. At presentation, none of the patients had reaction. Subsequent to the treatment, two patients with BB and LL diseases developed type 1 upgrading and type 2 reactions, respectively. The slit-smear could be performed in 64 patients, of whom 18 (28%) had positive smears; the positivity being 100% in LL and 71% in BL patients. Forty-eight patients consented to biopsy, only 29 (60%) of whom showed a clinico-histopathological correlation.

The study of leprosy in children helps to understand the natural history of disease. Children are more susceptible than adults, given their nascent immunity and possible intra-familial contact. Epidemiologically, childhood leprosy is an index of transmission of disease in population and allows identification of index case. Children under 15 years constitute approximately 30% of the population, and leprosy prevalence in school children is reported to be similar to that in adults, with 80% PB cases and up to 75% spontaneous resolution. The clinico-pathological correlation in childhood leprosy is low, at 45–63%. 

Letter to the Editor
The disease characteristics in children can be evaluated either with school surveys or hospital-based surveys with contact assessment. In our hospital-based study, 92% patients were of age 6–15 years, which is in agreement with previous studies. The age of onset of 6 months is earlier than a reported 9-month-old baby. M:F ratios similar to ours have been reported earlier. The prevalence of 7.71% is higher than another hospital-based study of 4.45%, lower than the national prevalence of 14.9%, but higher than the reported prevalence in Delhi (5.5%). This could be because ours is a referral hospital. The high incidence of intrafamilial contact highlights importance of eliciting a contact with leprosy patients to establish the source of infection in 30–70% of cases. Studies indicate that type of leprosy, in source as well as the distance to it, are important risk factors.

The finding of 63% PB and 37% MB patients in our study is in agreement with previous studies. Twenty-seven (31%) patients had more than five lesions, compared with 12.7% reported previously. Exposed parts were the most common sites, as has previously been demonstrated definitively. Nerve involvement in 70% is similar to the incidences of 66% and 55% reported previously. Deformities and disabilities are uncommon in children, and the high rate of 13% in this study compared with the reported prevalence of deformity in India (2.1%) and Delhi (7.1%) is probably a referral bias. Reactions were uncommon, with only two cases, which is supported by most studies. The observation of slit-smeads with 28% positivity is contrary to some studies, but in consonance with others. Low clinico-histopathological correlation has been reported previously.

Our study emphasizes that in children, leprosy is still a disease diagnosed through good clinical acumen. The large number of SSL cases and the predilection for exposed sites would make detection easier, while late diagnosis and inappropriate treatment would lead to a high rate of disability and unchecked transmission in the community.

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References