

CHILDHOOD LEPROSY--A CLINICO-EPIDEMIOLOGICAL STUDY FROM PONDICHERRY

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Children numbering 9795 were examined. The prevalence of leprosy among children was 7.2 per thousand. The youngest patient was 2-year-old. The ratio between boys and girls was 1.3 : 1. History of contact was present in 23.9% cases. The lowest age at onset recorded was one year and eight months. The commonest type of leprosy found in this study was BT. Single patch was seen in 57.7% cases. In 65.9%, a single patch was present on the exposed parts. Leprosy disability rate was 8.5%.

Key words : Childhood, Leprosy, Prevalence, Disability rate.

Leprosy frequently starts in the childhood, but it has a marked tendency for spontaneous healing in the majority of children. Though leprosy has been studied extensively in the adults, the literature on leprosy in children is scanty.¹⁻⁷ This study was undertaken to determine the prevalence and define the varied early manifestations of leprosy in children under the age of 14 years.

Materials and Methods

Material for the present study consisted of all the children aged 14 years and below who attended the outpatient of our hospital from April 1985 to September 1986 for any skin disease. Children with a previous history of anti-leprosy treatment were excluded from this study. A thorough examination of the entire body was undertaken in daylight and any suspected lesion was subjected to further clinical tests. Relevant investigations including slit smear, biopsy and lepromin test were performed. All the clinical and laboratory findings were recorded in the prescribed proforma and the cases were classified according to Ridley and Jopling.⁸ Cases having no skin lesions but nerve involvement were classified as pure neuritic

leprosy (Indian classification)⁹ and the early leprosy lesions were grouped under indeterminate type as defined by Ridley¹⁰ and later on adopted by the Indian leprologists.

Results

Out of 9795 children screened, 71 were having leprosy giving a prevalence rate of 7.2 per thousand. During the same period, the total number of new leprosy cases registered in our clinic was 1183. Thus, children suffering from leprosy formed 6% of the total new leprosy patients.

In the 10-14 year age group there were 50.7% cases and combined with the 6-9 year age group, these accounted for 93.0% of leprosy cases in children. Thus the majority of children having leprosy belonged to the 6-14 age group (Table I). The youngest case when seen by us

Table I. Age and sex distribution of the leprosy cases.

Age group in years	Number of cases		Total	Percentage
	Males	Females		
Less than 3	—	1	1	1.4
3-5	2	2	4	5.6
6-9	20	10	30	42.3
10-14	19	17	36	50.7
Total	41	30	71	100.0

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was 2-year-old. The difference in the sex prevalence was statistically not significant.

History of contact was present in 17 (23.9%) cases. In all cases, the contacts were multi-bacillary. It was difficult to ascertain the age of onset of leprosy in these children because of their ignorance. As per their statements, the onset in a majority of children was between 5 and 12 years age and the lowest age at onset was 1 year and 8 months.

Paucibacillary leprosy was very common (97.2%) in children, tuberculoid and borderline tuberculoid types forming the majority (68.3%) (Table II). No child was having LL type. Type I reaction was noticed in one BT patient. The lesions were indurated in 50% and 48.5% of TT and BT cases respectively. The skin alone was involved in 76.1% cases, nerves in addition to the skin were involved in 21.1%, while 2.8% cases were having purely nerve involvement.

Single lesion was present in 57.3% of the children. Only 14.1% cases were having more than three lesions. The single lesion was located on the exposed parts in 65.9%.

Disability was detected in 6 out of 71 patients, the disability rate being 8.5%. In the 10-14 year age group, 4 (11.1%) children were disabled, while in the 6-9 year age group, 2 (6.2%) had disability. Ulnar clawing was present in 2

cases, plantar clawing in 3 cases and foot drop in 1 case.

Slit smear was positive in only 2 (2.8%) cases having BB and BL leprosy respectively.

Comments

The prevalence of leprosy in children in this study is 7.2 per thousand and this is comparable to other studies^{5,6,11-13} except two studies.^{14,15}

In the present study majority of the cases were in 6-14 year age group which is similar to the findings of others.^{2,7,16,17} A 7% incidence in less than 5 year age group in our study is similar to Ganapati² and Keeler⁷ but differs from Das¹⁶ who reported 26.4% cases in this age group. The apparent similarities and differences observed in these various studies quoted are not statistically significant as these studies were not conducted in age and population matched groups. However, these studies do reflect a common trend in the rate of incidence.

A positive history of familial or other contacts has varied in different studies.^{17,18,19} As Pondicherry is a highly endemic area, it is very likely that the maximum source of contact is extra-familial. It is difficult to define the source in an endemic area.

The epidemiological significance of the age at onset of leprosy is paramount, especially for

Table II. Type of leprosy.

Age groups in years	Paucibacillary				Multibacillary	
	I	TT	BT	Neuritic	BB	BL
Less than 3	1	—	—	—	—	—
3—5	1	—	3	—	—	—
6—9	8	8	13	1	—	—
10—14	10	6	17	1	1	1
Total	20 (28.2%)	14 (19.7%)	33 (48.6%)	2 (2.8%)	1 (1.4%)	1 (1.4%)

detection of family contacts, but this aspect has not been studied in children²⁰ unlike in adults^{21,22} where some reports are available.

The types of leprosy reported by Kishore¹² and Keeler⁷ are broadly consistent with our study. A higher percentage of I cases in our study may be due to a greater awareness of leprosy in an endemic area.

More cases of BT in our study, are due to the fact that we have included most of the single and double patches under BT because of partial sensory loss, BT histopathology and moderately positive lepromin test. Primary polyneuritic leprosy is uncommon in children. Bachelli et al²³ reported 65 cases of primary polyneuritic out of 610 leprosy children, compared to 2 (2.8%) cases recorded by us. Regarding the reactions, only one case of type I reaction in our study shows the rarity of this complication in children.^{24,25}

Single lesion (57.1%) of the skin was the commonest finding in this study similar to other reports.^{3,5,17,19,23,26} Contrary reports^{6,27} also exist where a large majority of children had multiple lesions. The epidemiological significance of a solitary lesion is paramount since a single lesion can be easily ignored by the patient or missed by the examiner during mass school surveys, leading to under-detection or late detection. The distribution of lesions varies from study to study^{4,6,12,17,19,28} without any consistent pattern. Bedi et al³⁰ were able to establish a correlation between the clothing pattern and the distribution of the single tuberculoid lesion in the adults.

The disability rate of 8.5% observed in this study is similar to Wakhlu et al¹⁷ while Koticha⁴ and Reddy¹⁹ reported a lower rate. In children, disability rate is low as compared to adults³⁰ because of shorter duration and the milder form of the disease and the infrequent occurrence of reactions in children.

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