

THE TRAGEDY OF DEFORMITY IN CHILDHOOD LEPROSY

Editor,

It is the deformity resulting from late or inadequate treatment which sets leprosy apart from other diseases in the minds of both the public and patients. Deformity is a preventable complication, given the powerful drugs available for cure, and is especially distressing when it occurs in children. Delay in seeking appropriate care being compounded by the social stigma of leprosy is mostly responsible for the continued incidence of deformity. The intention of this paper is to highlight the plight of the substantial number of children who must carry the burden of deformity lifelong despite widespread efforts to 'control' the disease.

Methods

All cases of child leprosy (under 15 years of age) attending Karigiri Hospital for diagnosis and treatment in 1997 were reviewed retrospectively. Information regarding age, sex, leprosy type, duration of symptoms, household contacts, deformity and details of any previous treatment was gathered. Information on subsequent therapy received from this institution was also noted, as well as any development of deformity during this period. Deformity for the purpose of this study included grade 2 of the WHO disability grading 1995¹ as well as muscle weaknesses objectively assessed.

Results

In all, there were 46 child leprosy patient charts. These were reviewed and the results summarized in Table 1.

Fifteen of 46 children (33%) had deformity ranging from abductor digiti minimi weakness to gross claw hand. Six of the 15 (40%) had grade 2 deformity, constituting 13% of all children: one while on treatment, one after being released from treatment and four presented for the first time.

Nine children had developed weakness of abductor digiti minimi, six presented for the first time with weakness while three developed weakness after RFT. MB patients and those above 10 years had significantly higher deformity rates ($p < 0.05$). Detailed findings are summarized in Table 2. Just two of these had been referred for corrective surgery from other institutions.

Another patient demonstrated worsening deformity whilst on MDT, initially presenting with a deep fissured anaesthetic right heel and started on PBR, returning 3 months later in reversal reaction with weakness of both hands and right foot drop.

Thirteen children reported a household contact with leprosy (28%), three of whom had deformity. A summary of these is given in Table 3.

The mean duration of symptoms before presentation amongst those without prior treatment was 172 months (range 3–60) in the nine with deformity and 99 months (ranges 1–48) in the 18 without deformity. Interestingly, two sisters whose mother and father were also leprosy patients had a duration of symptoms of only 2 and 12 months and presented without deformity.

Discussion

As this was a hospital-based study, the results may not reflect the status of leprosy as it affects children in a community. However, some conclusions can be drawn.

It is well recognized that generally, the lower the grade of disability at induction of patients for MDT, the lower the chances of new disability development.² Clearly, it is a preventable catastrophe if factors operate to dissuade children or their families from seeking help at an early stage. Anyone presenting with a grade 2 disability without previous treatment represents a serious shortcoming in the system of detection; nine cases in this series. Those whose first presentation to leprosy services was recorded in 1997 were those who had received no previous treatment; amongst these patients there was a significant difference in mean duration of symptoms between those with deformity and those without. The incubation period, although unknown, is in the order of years and hence diagnosis should be possible before deformity results in most instances.

Reaction episodes and disabilities are reportedly rare in children³ but are 30% and 32%,

Table 1. Deformity in children by age, sex, leprosy type and previous treatment

Characteristics	No. studied	Deformity			
		Gr. 2	Other	Total	
				No.	%
All	46	6	9	15	33
Age (years)					
0–4	1	—	—	0	0
5–9	14	—	2	2	14
10–14	31	6	7	13	42
Sex					
Male	23	4	4	8	35
Female	23	2	5	7	30
Type					
PB	28	2	4	6	21
MB	18	4	5	9	50
Prev. Rx with MDT*					
Yes	19	2	4	6	32
RFT	11	1	3	4	36
UT	4	1	—	1	25
Incomplete	4	—	1	1	25
No	27	4	5	9	33

*RFT: patients released from treatment; UT: patients under MDT at time of presentation; Incomplete: patients received an incomplete course previously (1–4 pulses); Prev. Rx: previous therapy.

Table 2. Nerve trunks involved in children with deformity by previous treatment and presentation in reversal reaction

Nerve trunk involved	No previous RX*		Previous Rx*	
	No.	No. RR**	No.	No. RR**
Facial only	2	1	0	0
Ulnar only	4	3	4	1
Median only	1	1	0	0
Ulnar & median	1	0	1	1
Ulnar, median & radial	0	0	1	1
Ulnar & post-tibial	1	1	0	0
Total	9	6	6	3

*No prev. Rx: Children presenting at initial diagnosis with no previous therapy.
 *Prev. Rx: Children having received some previous therapy (MDT).
 **RR: Reversal reaction.

Table 3. Deformity among household contacts

Contact	Contact		Patient symptom duration (months)
	Disease type	Disease status	
Mother	BT	UT	60 (Pat. no prev. Rx)
Father	Unknown	UT	48 (Pat. prev. incomplete Rx)
Brother	TT	RFT	48 (Pat. already RFT)

respectively, in this limited series. Not all these children are from the local district, but must represent a need not being met in their respective areas.

As with other infectious diseases, the rates of childhood leprosy are a helpful marker of incidence and prevalence trends in the population as a whole as they demonstrate current transmission. Larger proportions of children presenting at later, deforming stages of disease, even at a lower incidence, would suggest a certain reluctance to come forward and/or inadequate pick-up of early disease. Concern has certainly been expressed about hasty 'integration' of leprosy services in India to the detriment of patient care.^{4,5}

In the popular rush to declare leprosy 'eliminated', planning effective programmes to bring down the incidence of leprosy and its complications in children should become a top priority. The current scenario of a high deformity rate among children, and especially those with a household contact of leprosy, presents a grim picture. Greater vigilance should therefore be maintained not only as part of the health system but of any other child care programmes in nutrition, development etc. Prevention is always, and particularly in this situation, vastly superior and cost effective to curative or rehabilitation services.

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