

Leprosy in the Village of Kattupulam in Jaffna

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Summary

A new pocket of leprosy cases was discovered in the Jaffna District at Kattupulam. In this village with a total population of 514, there were 57 cases of leprosy - 5 lepromatous and 52 tuberculoid. These cases were all confined to 29 families out of a total of 104. The commonest clinical manifestation was either single or multiple hypopigmented macular lesions with a variable loss of touch, pain and temperature sensation in the limbs.

Introduction

It is well known that cases of leprosy tend to occur in certain areas in clusters as pockets of infection. We are already aware of such pockets of infection in Jaffna, at Pungudutivu, Valvettithurai and Atchuvveli. Few years ago we noticed a number of new cases of leprosy arriving from Kattupulam a small hamlet at Thiruvadinalai 12 miles from Jaffna. These cases were referred to the clinic by patients or volunteer workers. A survey was organised in the village itself in February 81 to detect new cases and to study the clinical features. Suspected cases were further investigated at the leprosy clinic in General Hospital Jaffna. Slit skin smears were done in all cases. The cases already registered from the area are also included in this study.

Results

A total of 57 cases of leprosy were diagnosed from this area which has a population of 514 with 253 males and 261 females. Of these 27 were males and 30 females. The age distribution is given in Table I and familial incidence in 11 families with more than one case is given in figure 1. Of the total 104 families all the cases were confined to 29 families.

Table I

Cases of leprosy by age distribution

| Age | No. Cases |
|--------------|-----------|
| 0 — 10 Years | 9 |
| 11 — 20 | 13 |
| 21 — 30 | 15 |
| 31 — 40 | 4 |
| 41 — 50 | 4 |
| 51 — 60 | 7 |
| Over 61 | 5 |

Of the 57 cases 5 were lepromatous and 52 tuberculoid. The lepromatous cases were all males and included a father and son. Father was diagnosed in 1970 and son in 1979. Other cases were diagnosed in 1975, 1980, 1981. The tuberculoid cases number 52 and consisted of 22 males and 30 females.

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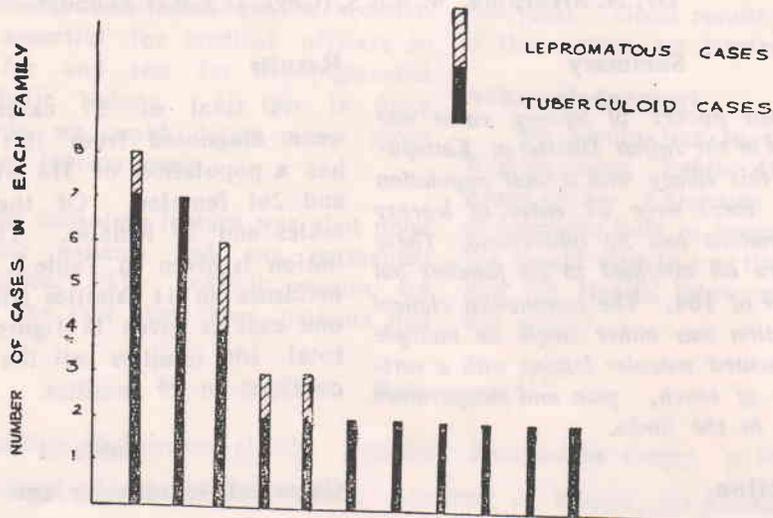


FIGURE 1 DISTRIBUTION OF CASES IN EACH OF THE
11 FAMILIES WITH MULTIPLE CASES

Commonest clinical presentation of the lepromatous cases was generalised nodular infiltrates with thickened ear lobes. The ulnar and greater auricular nerves were also thickened. All these cases had their slit skin smears positive for leprosy bacillus. These cases were already diagnosed and attending the leprosy clinic for treatment although not regularly.

The tuberculoid cases had single or multiple hypopigmented macular lesions with variable loss of touch, pain and temperature senses. Some of the lesions had a raised margin with central flat area. Few others had an erythematous appearance. The lesion was single in 25 cases. Of these 19 were found on the limbs, 4 on trunk and 2 on face. Other 27 had multiple lesions on trunk and limbs. The size of the lesion was

variable from a few millimeters to several centimeters. The shape of the lesion was oval or rounded. In 24 cases the nerves were thickened and palpable. Only ulnar nerve was thickened in 14 cases, greater auricular and ulnar nerves in 8 and lateral popliteal in 2. One case presented without any skin lesions with ulnar nerve thickening and palsy.

Duration of symptoms and signs at the time of diagnosis was under 6 months for 25 cases and between 6-12 months for 26 cases and 2 years for one case.

None of the cases had any permanent deformities.

Discussion

The number of cases of leprosy in the world is estimated to be around 15 million of which about 3 million are found in the Indian Subcontinent. Africa

has the greatest prevalence rate of 20-50 per thousand.¹ Prevalence rate for Sri Lanka is 0.74 per thousand² and that of Jaffna 0.57 per thousand.³ For Kattupulam the rate is 110 per thousand. Table II⁴ gives a few other comparable rates. These rates although not strictly comparable are very high. It is known that in certain villages in endemic areas virtually all the inhabitants contract leprosy sooner or later.⁵ This situation may occur at Kattupulam if active surveillance and treatment are not carried out.

Table II
Prevalence rates of leprosy in certain selected countries

| Country | Prevalence rate per 1000 population |
|----------------------------|-------------------------------------|
| Argentina (Chaco) | 5.6 |
| Thailand (Khonkaen) | 12.4 |
| Brazil (Candeias) | 10.6 |
| Cameroon | 25.8 |
| Northern Nigeria (Katsina) | 28.8 |
| Burma (Shewebo) | 32.6 |
| Burma (Myingyan) | 44.4 |

Leprosy can occur at any age. In our series the youngest was 3 years old and eldest 76. 47% of cases were clustered in the 11-30 age group. This tendency is seen in other series too.⁶ The possible reason for this is their greater exposure and greater susceptibility.

In this series all the lepromatous cases were males while in the tuberculoid cases 22 were males and 30 females. Leprosy in adults is more prevalent in males than in females. (1.6:1). Lepromatous rate is significantly higher in males than in females. However in

children there is no significant difference between sexes.⁷ The overall figures in our series are 27 males and 30 females.

21 cases (36.8%) were found in 3 families and the rest in 26 families. The current view explains this by a dual mechanism of heredity and contagious transmission. The disease is believed to appear in persons hereditarily susceptible when exposed to infection. This may have happened at Kattupulam. The two lepromatous cases discovered in 1971 and 1975 may have provided the source of infection for all these cases.

In this study 29 patients (50.9%) had skin lesions and nerve enlargement. 27 patients (47.4%) had only skin lesions and one (1.7%) had only nerve enlargement. In the WHO leprosy BCG study in Burma⁸ the corresponding figures were 9.8% : 79.5% : 10.6% respectively. The possible reason for the variance may be because most of the patients in WHO study were children. However the total number of patients with skin lesions was 98% compared to 90% in the WHO study.

Skin lesions may be single or multiple. In this study 25 patients (43.8%) had single lesions and of these in 19 (76%), the lesions were found on the limbs and in 4 (16%) on trunk and 2 (8%) on face. The comparable figures in the WHO trial, are given in Table III.

Table III
Distribution of single lesion compared with leprosy B. C. G. trial in Burma

| Area Involved | Kattupulam | Burma |
|---------------|------------|-------|
| Limbs | 76% | 84.6% |
| Trunk | 16% | 12.6% |
| Face | 8% | 2.5% |

These figures clearly show the ease with which these cases can be spotted. It is essential for medical officers to look for and test for hypopigmented anaesthetic lesions. If this is done routinely we could detect many more cases of leprosy early.

One consoling feature was that none of these patients had any permanent deformities. The possible reason for this is the fact that these patients had

contracted illness only within the last few years. Good results can be achieved if these cases are treated regularly.

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