

A Study of Primary Neuritic Leprosy in Oman

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ABSTRACT -A study of Primary Neuritic Leprosy in Oman revealed that it accounts for 6.2% of all leprosy cases. There was high incidence of deformity and atypical presentation was common. The study confirms the need for high degree of awareness and clinical suspicion for an early diagnosis.

Neuritic Leprosy in Oman Introduction

The prevalence of Leprosy in Oman is 0.44/10004 and thus Oman is not an endemic area for Leprosy. Still, it is an important public health problem, particularly because of the large expatriate population from the Indian Subcontinent.

Pure Neuritic Leprosy, also called Primary Neuritic Leprosy, which is prevalent in certain regions of the world, constitutes an important problem because of its often atypical presentation, presentation to other specialities and high deformity rate. A study was conducted to know the various epidemiological parameters and the significance of the problem in Oman.

Material and Methods

Material for the study, which is a retrospective analysis, was drawn from the cases, both old and new, registered at Leprosy clinic, Al Nahdha Hospital.

The following definition was adopted to

identify Pure Neuritic Leprosy:- Pure Neuritic Leprosy is the type of leprosy with clinical involvement of nerves, without presence of or history of presence of skin lesions. (Dharmendra 1978).

All selected cases were analysed with reference to: Age, Sex, Nationality, Marital Status, Address, Clinical Presentation, the Nerves involved, Presence of Reaction, Presence of deformities, and any other associated features. Routine investigations including Smear studies for *M. Leprae* were performed in all cases. As recommended by Dharmendra (1978), routine Nerve biopsy was not performed in all cases and diagnosis was based on clinical findings.

Observations

Out of a total registered 651 cases, 41 cases (6.2%) belong to neuritic type. Of these 26 (7.1%) were Omani Nationals. While there were 12 Indians, 3 patients were from other nationalities. Male to female ratio was 2.5:1.

Most patients (70%) were adults in 3rd and 4th decades. There were no children.

Presenting Complaints

Most patients (59%) presented with typical complaints of sensory or motor disturbances. eight patients presented with deformity or trophic ulcer as the main complaint. In five patients, pain due to neuritis was the main complaint. One case had been treated as periarthritis left shoulder, while another patient was treated for pain, right leg for 1-1/2 months before the diagnosis. One case was treated surgically by the neurosurgeon for 'Neuroma of Ulnar Nerve' before Histopathology established the diagnosis. In one other case too, being treated for osteomyelitis, histopathology established the diagnosis. Duration of symptoms varied from 20 days (in a case of footdrop) to 10 years (in a case of claw hands).

Nerves Involved and Type of Neuritic Leprosy

24 cases were of mononeuritic type with single Nerve involvement. seventeen cases were of Polyneuritic type, with multiple Nerve involvement. Ulnar and Common Peroneal nerves were the most commonly involved nerves, as shown in table¹.

Deformities

Table 2 shows the various deformities present. As can be seen 25 patients had deformities of various grades. There were four cases of footdrop, and 10 cases of claw hand.

Other Features

Six patients developed reaction, four at the

Table 1
Initial Diagnosis

Diagnosis	No.
Neuropathy	5
Leprosy?	30
Periarthritis Shoulder	1
Neuroma?	1
Nerveabscess	1
Osteomyelitis	1
Carpal Tunnel Syndrome	2

Table 2
Clinical Diagnosis

1. Mononeuritic Leprosy	: 24 cases
Ulnar N	: 12
Common Peroneal N	: 9
Radial Cutaneous N	: 3
2. Polyneuritic Leprosy	: 17 cases
Ulnar N	: 14
Common Peroneal N	: 14
Radial Cutaneous N	: 2
Greater Auricular	: 2
Median N	: 1
Radial N	: 1

time of presentation and two subsequently during treatment. Reaction was diagnosed when patient had severe tender, swollen nerves. All patients improved well with steroid therapy.

Three patients developed rapid paresis of

Table 3
Deformities

Grade of Deformity				
	I	II	III	IV
Hand	6	5	4	1
Feet	3	2	4	0

muscles without obvious signs of neuritis and were diagnosed as Quite Nerve Paralysis.

Associated Features

Three patients had G6PD Deficiency and could not be given Dapsone. One case had associated Diabetes Mellites and another had Psoriasis. In two patients, contact cases could be traced in the family.

Treatment

Of 41 patients, 13 patients are undergoing treatment and 28 have stopped treatment. There have been no relapses.

Table 4
Involvement of Nerves in Leprosy

Nerves	Present Study Total 41 cases Percentage	Indian Study Total 1024 cases Percentage
Ulnar Nerve	58.3	56.9
Common Peroneal Nerve	56.2	53.5
Greater Auricular Nerve	5	18.9
Radial Nerve	2.5	9.6
Dorsal Cutaneous Nerve	12	2.7
Others	5	11.7

Analysis of Findings

In the present study, the prevalence of PNL is 6.2%. Higher rate (16%) has been reported from South India (Noordeen 1972). However, prevalence rates of PNL are not likely to be accurate, as many cases subside spontaneously (Dharmendra 1978).

The predominant adult population in this group of Leprosy has been reported in other studies. Noordeen (1972) reported increasing incidence with advancing age². Male preponderance, as in this study is also a well documented fact².

Table 1 gives the percentage of involvement of different nerves in the present study and an Indian study¹.

Deformity rate in this study was nearly 60% - a very high figure when compared to rate of 15.5% amongst all leprosy patients in Oman⁴, a fact which emphasizes the need for earlier recognition. Similar high figures have been reported from Taiwan (80%) and Mexico (42%)³.

While most cases in the study conformed with typical findings, there were atypical presentations such as Neuroma, Quite Nerve Paralysis, pain in the leg and shoulder.

Nearly 20% of PNL Omani patients had reaction - a figure which is high when compared to 4% incidence amongst Leprosy patients in general⁴.

Response to treatment has been good.

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CERTIFICATE

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