Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies ***NLM ID:*** *101716117*

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr Index Copernicus value = 85.10

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Original Research

Evaluation of 54 cases of leprosy- A clinical study

[1]Parul Aggarwal, [2]Dhwani Gupta

[1]Assistant Professor, Department of Dermatology, Venereology and Leprosy, Narayan Medical College and Hospital, Sasaram, Bihar, India

ABSTRACT:

Background: Leprosy, an ancient infectious disease of chronic evolution, affects mainly the skin and peripheral nerves, leading to deformities and permanent physical disability. The present study was conducted to evaluate cases of leprosy. **Materials & Methods:** 54 clinically confirmed cases of leprosy of both genders were included. Slit skin smear was performed in each case at the time of diagnosis and later on 6 months follow up. **Results:** Out of 54 patients, males were 30 and females were 24.34 patients were of primary cutaneous and 20 were of primary neuritic. Among primary cutaneous most common variety was TT seen in 11 and in primary neuritic was PN seen in 11 patients. The difference was significant (P< 0.05). Grade 1 deformity was seen in 8 and grade 2 in 3. Lepra reaction type 1 was seen in 2 and type 2 in 7 patients. The difference was significant (P< 0.05). **Conclusion:** Maximum case were of primary cutaneous type.Histopathological examination is essential for confirmation of diagnosis of leprosy.

Key words: Leprosy, Mycobacterium leprae, primary neuritic

Received: 22 September, 2020 Accepted: 25 October, 2020

Corresponding author: Dhwani Gupta, Assistant Professor, Department of Dermatology, Venereology and Leprosy, Narayan Medical College and Hospital, Sasaram, Bihar, India

This article may be cited as: Aggarwal P, Gupta D. Evaluation of 54 cases of leprosy- A clinical study. J Adv Med Dent Scie Res 2020;8(11): 277-280.

INTRODUCTION

Leprosy, an ancient infectious disease of chronic evolution, affects mainly the skin and peripheral nerves, leading to deformities and permanent physical disability, related to late diagnosis.Leprosy is a chronic infectious disease caused by Mycobacterium (M.) leprae. While the exact route of transmission remains unknown, nasal droplet infection is thought to be most likely. The pathogen primarily affects the skin and peripheral nervous system.[1] The disease course is determined by individual host immunity. Clinically, multibacillary lepromatous variants are distinguished from paucibacillary tuberculoid forms. Apart from the various characteristic skin lesions, the condition is marked by damage to the peripheral nervous system.[2]

Leprosy was announced as a curable disease with the discovery of multidrug therapy (MDT). The WHO guidelines recommend a 3-drug regimen of rifampicin, dapsone and clofazimine for Multibacillary (MB) leprosy patients, and a 2-drug regimen of rifampicin and dapsone for Paucibacillary (PB) leprosy patients.Mycobacterium leprae is a non-motile, acid-fast rod, 4–7 µ m long.[3] Microscopically, M. leprae appears red on Ziehl-Neelsen stain as the dye carbolfuchsin cannot be washed out by hydrochloric or sulfuric acid.[5] Mycobacterium leprae cannot be cultured on any known medium but only in animal cultures.[4] Using animal cultures, the pathogen only grows in mouse paws and the nine-banded armadillo. Low temperatures facilitate the growth of M. leprae, which grows slowly and divides only about every twelve days. [5] The present study was conducted to evaluate cases of leprosy.

MATERIALS & METHODS

The present study consisted of 54 cases of leprosy of both genders. All agreed to participate and gave their written consent.

Data such as name, age, gender etc. was recorded. A careful examination was performed. Family/contact history was also noted. Slit skin smear was performed in each case at the time of diagnosis and later on 6 months follow up. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 54		
Gender	**Males**	**Females**
Number	30	24

Table I, graph I shows that out of 54 patients, males were 30 and females were 24.

Graph I Distribution of patients

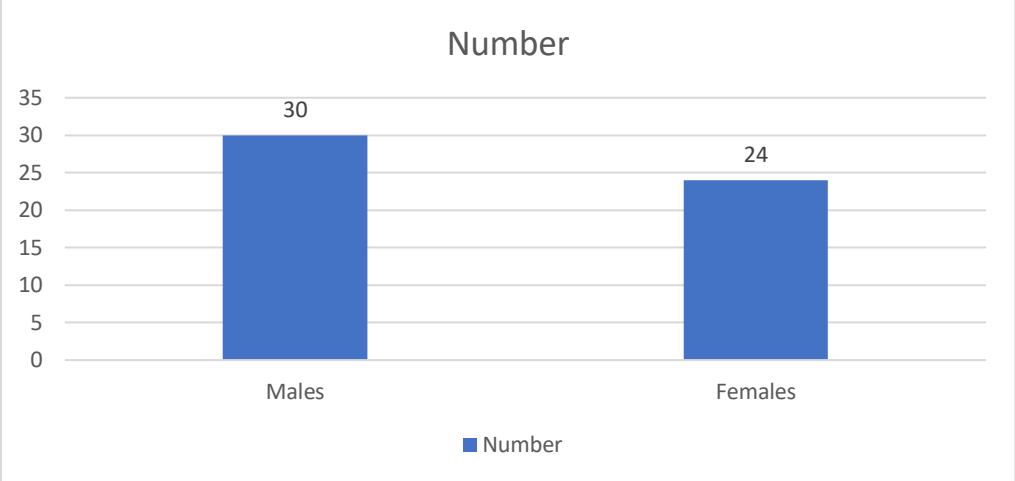

Table II Clinical profile of patients

Parameters	Variables	Number	P value
Primary cutaneous (34)	IL	7	0.01
	TT	11	
	BT	4	
	BB	3	
	BL	3	
	LL	6	
Primary neuritic (20)	MN	5	0.05
	PN	11	
	Primary neuritic withskin lesions	4	

Table II, graph I shows that 34 patients were of primary cutaneous and 20 were of primary neuritic. Among primary cutaneous most common variety was TT seen in 11 and in primary neuritic was PN seen in 11 patients. The difference was significant (P< 0.05).

Graph I Clinical profile of patients

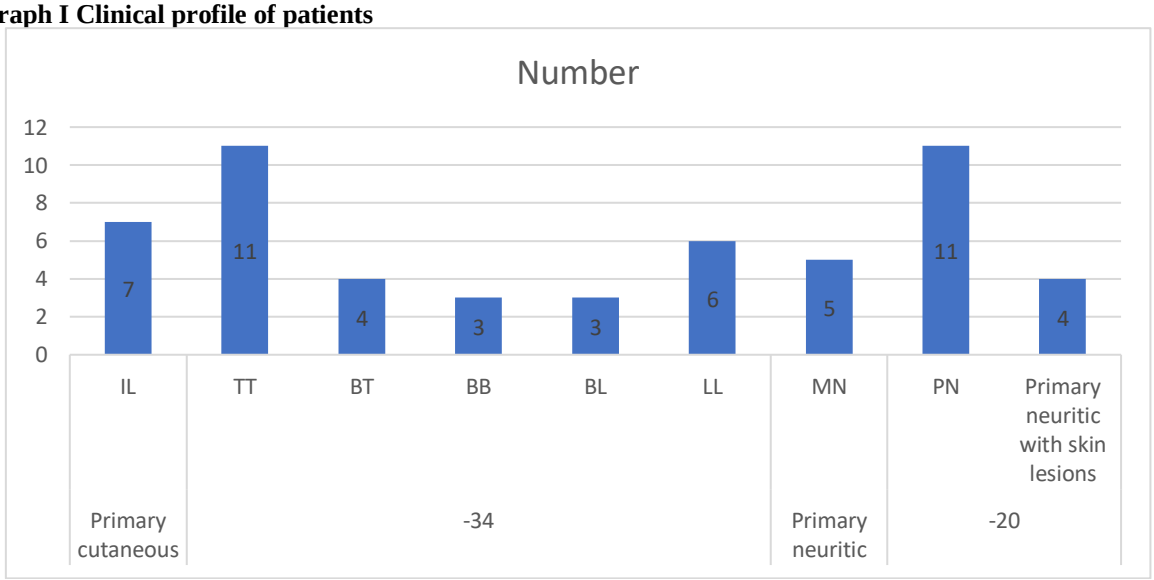

Table III Assessment of deformity and lepra reaction

Parameters	Variables	Number	P value
Deformity	Grade 1	8	0.05
	Grade 2	3	
Lepra reaction	Type 1	2	0.01
	Type 2	7	

Table III shows that grade 1 deformity was seen in 8 and grade 2 in 3. Lepra reaction type 1 was seen in 2 and type 2 in 7 patients. The difference was significant (P< 0.05).

DISCUSSION

Leprosy still continues to be one of the major public health problems in many countries including India.[6,7] Though in 2010-2011, Annual New Case Detection Rate (ANCDR) has been reduced to 4.12% from 10.93 during 2009-2010, there are still 48.6% of MB cases detected in 2010-2011.[8] The principle of reducing the load of infection is the cornerstone of leprosy control. Early diagnosis and early adequate drug treatment is very important aspect to reduce the load.[9] For this, most of the times, clinical judgment and skin smear examination is adequate. But in some cases, to label only on clinical bases is difficult.[10,11]The present study was conducted to evaluate cases of leprosy.

In present study, outof 54 patients, males were 30 and females were 24.Murto et al[12]investigated social and clinical factors associated with migration among individuals affected by leprosy. A cross-sectional study was conducted among those newly diagnosed with leprosy (2006-2008), in 79 endemic municipalities in the state of Tocantins, Brazil (N = 1,074). In total, 76.2% were born in a municipality different from their current residence. In the five years before diagnosis 16.7% migrated, and 3.6% migrated after leprosy diagnosis. Findings reflect aspects associated with historical rural-urban population movement in Brazil. Indicators of poverty were prominent among before-diagnosis migrants but not after-diagnosis migrants. Migration after diagnosis was associated with prior migration. The association of multibacillary leprosy with migration indicates healthcare access may be an obstacle to early diagnosis among before-diagnosis migrants, which may also be related to the high mobility of this group.

We observed that 34 patients were of primary cutaneous and 20 were of primary neuritic. Among primary cutaneous most common variety was TT seen in 11 and in primary neuritic was PN seen in 11 patients.Queiroz TA et al[13]identified the clinical and epidemiological profile of patients under treatment for leprosy-related reactions.Most individuals were males (57.38%), with low family income (50.82%) and incomplete elementary education (75.41%). In the moment of leprosy diagnosis, 52.45% of patients presented some degree of physical disability established. There was significant association between the observed clinic form and the moment of manifestation of leprosy reactions (p= 0.034). The residual analysis indicated that pure neural leprosy is associated to a manifestation of reactions before treatment and dimorphous leprosy was associated to manifestations during treatment.

We found that grade 1 deformity was seen in 8 and grade 2 in 3. Lepra reaction type 1 was seen in 2 and type 2 in 7 patients.Thakkar et al[14]assessed the therapeutic efficacy of anti-leprosy therapy. A total of 250 patients attended the clinic with male to female ratio of 1.7:1. The highest incidence was noted in 17-40 years of age group. In the clinical disease spectrum, 40% patients were in the borderline spectrum followed by tuberculoid leprosy (TT) (29.2%), lepromatous leprosy (LL) (26.8%), and 3.9% of indeterminate leprosy (IL). A total of 18% of patients were of primary neuritic leprosy. A total of 8.3% patients had definite history of contact in the family or neighbourhood. Clinicopathological correlation was noted in 60% of patients with maximum disparity (52.9%) in the borderline group of patients. A total of 52.8% were MB (Multibacillary) and 47.2% were PB (Paucibacillary) cases. Morphological index became negative after 6 months in all patients. Mean fall of bacteriological index after 6 months was 0.19, while after 1 year, it was 1.05.

Porto et al[15]investigated the social, clinical and laboratorial profile of leprosy patients. 103 men and 71 women were diagnosed, most of them were multibacillary. Mean age at diagnosis was 49 years; 2,2% were children; 70% had incomplete primary education; 50% were referred without diagnostic suspicion of leprosy. Mean time since first symptoms/signs and diagnosis was 2 years; 64% of patients had some degree of disability, and 26% had grade 2. 23 cases were diagnosed only after being summoned, and 80% of these had no disability. Agreement between the Ridley and Jopling and the WHO classification was 75%. Serology for IgM anti-PGL1 (87 patients) showed a mean value of 0.25, and an association between MB classification and test positivity.

CONCLUSION

Authors found that maximum case were of primary cutaneous type. Histopathological examination is essential for confirmation of diagnosis of leprosy.

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