Clinical Profile of Leprosy Patients in DMCH

Khatun M[1], Sayed MMA[2], Sultana T[3]

Abstract

Leprosy is a chronic granulomatous infectious disease caused by Mycobacterium leprae, primarily affecting the skin and peripheral nerves. To find out the clinical profile of leprosy patients the cross sectional observational type of study was carried out in outpatient Dept of Dermatology and Venereology at DMCH, Dhaka. Total 30 cases were included in this study. The mean age was found 28.7±11.3 years. Male were 21(70.0%) and female were 9(30.0%). it was observed that 10(33.3%) patients were diagnosed as having borderline tuberculoid, 5(16.7%) as tuberculoid, 1(3.3%) as borderline, 6(20.0%) as borderline lepromatous and 8(26.7%) as lepromatous. Eighteen (60.0%) patients had mutibacillary and 12(40.0%) had paucibacillary. 28(93.3%) patients had hypopigmented, 27(90.0%) had marked anaesthesia, 26(86.7%) had macule & patch, 18(60.0%) had obvious margin and 9(30.0%) had plaque. Majority patients had symptoms during 6 months to 1 year. Common clinical manifestations of leprosy were obvious margin, hypopigmented, marked anaesthesia, macule and ear lobe enlargement.

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Introduction

Leprosy is caused by a slow growing, weakly acid fast, Gram positive obligate intracellular bacilli, Mycobacterium leprae. The oldest civilization of China, Egypt and India feared leprosy was an incurable, mutilating and contagious disease. But leprosy is not that contagious. About 90% of the population is not susceptible to infection. There is a variability in susceptibility and resistance depending upon genetic and environmental factors, specific HLA typing and also some drugs, eg anti TNF antibodies and HAART.[1]

Spread requires 3 factors: a contagious form of the disease, a susceptible person and close or intimate contact. Lepra bacilli remains viable in dried secretion up to 7 days. Inoculation is via nasal mucosa or less commonly from eroded skin by oral and nasal droplets of a bacilliferous patient. Incubation period varies widely from month to years even up to 30 years, but average incubation period for tuberculoid cases is 2-5 years and 8-12 years for lepromatous cases.[2] Correct labeling of paucibacillary and multibacillary cases is prerequisite for the adequate treatment. The Ridley and Jopling scale classifies cases based on clinical, bacteriologic, immunologic and histopathologic features, named paucibacillary and multibacillary. However, the spectrum of leprosy has two stable poles, the tubreculoid (TT) and the lepromatous forms (LL).

In between two polar form the borderline forms remain eg. borderline tuberculoid (BT), borderline leprosy (BB), borderline lepromatous leprosy (BL). Out of them BT is the most common variety followed by indeterminate leprosy.[3] Diagnosing and treating leprosy is usually done on clinical basis but it may be sometimes problematic. A study denotes 75% clinically suspected leprosy cases are confirmed by histopathological examination. So the most accurate way to diagnose leprosy is histopathological examination.[4] Health workers are trained to diagnose leprosy based on finding at least one of three cardinal signs

1. * *Dr. Masuda Khatun, Associate professor, Department of Dermatology and Venereology, Dhaka Medical College.*

2. *Dr. M. M. Abu Sayed, Senior Consultant, National Institute of Cancer Research and Hospital.*

3. *Dr. Tahmina Sultana, Assistant Registrar, Department of Dermatology and Venereology, Dhaka Medical College.*

***Address of correspondence**
Mobile: 01710956555
E-mail : masudakhatun64@gmail.com

of leprosy: one or more hypo-pigmented, anesthetic skin patch (often using photos of typical lesions as a guide); .one or more thickened peripheral nerves and a positive skin smear. The drug used and the duration of treatment for Leprosy is determined by the bacterial load the patient exhibits.[5]

Methods: The cross sectional observational type of study was carried out in outpatient Dept of Dermatology and Venereology of DMCH, Dhaka. Total 30 cases were included in this study to find out the clinical profile of leprosy patients. Patients attending the outpatient and Inpatient Dept of Dermatology and Venereology and clinical diagnosis of leprosy (WHO guideline) were included in this study and patients with clinical diagnosis of leprosy not supported by subsequent investigations were excluded in the study. Complete history taking & clinical examination was done and recorded in data collection sheet by the investigator himself. Diagnosis of leprosy was based on WHO guideline. Data analysis was include the measurement of distribution of different demographic and clinical factors in leprosy patients.

Result

Table 1: Source of the study patients (n=30)

Source	Number of patients	Percentage
Skin outpatient department	25	83.3
Medicine indoor	5	16.7

Table 1 shows source of the study patients. It was observed that majority 25(83.3%) patients was found in skin outpatient department and 5(16.7%) in medicine indoor.

Table 2: Demographic profile of the study patients (n=30)

Demographic profile	Number of patients	Percentage
Age (years)		
<20	3	10.0
21-30	5	16.7
31-40	10	33.3
41-50	7	23.3
>50	5	16.7
Mean±SD	28.7±11.3	
Range (min-max)	(12-65)	
Sex		
Male	21	70.0
Female	9	30.0

Table 2 shows demographic profile of the patients. It was observed that 10 (33.3%) patients were belonged to age 31-40 years. The mean age was found 28.7±11.3 years with ranging from 12 to 65 years. Male was found 21(70.0%) and female were 9(30.0%). Male-female ratio was 2.3:1.

Table 3: Duration of symptoms of the study patients (n=30)

Duration of symptoms	Number of patients	Percentage
<6 months	1	3.3
6 months to 1 year	15	50.0
<1 to 5 years	9	30.0
>5 years	3	10.0
Unknown	2	6.7

Table 3 shows duration of symptoms of the patients. It was observed that 15(50:0%) patients had symptoms during 6 months to 1 years, 9(30.0%) <1 to 5 years. Other results are depicted in the table.

Table 4: Classification of leprosy cases (n=30)

Classification of leprosy	Number of patients	Percentage
Tuberculoid (TT)	5	16.7
Borderline tuberculoid (BT)	10	33.3
Borderline (BB)	1	3.3
Borderline lepromatous (BL)	6	20.0
Lepromatous (LL)	8	26.7

Table 4 shows classification of leprosy of the patients. It was observed that 10(33.3%) patients were diagnosed as having borderline tuberculoid, 5(16.7%) as tuberculoid, 1(3.3%) as borderline, 6(20.0%) as borderline lepromatous and 8(26.7%) as lepromatous.

Table 5: Type of leprosy (n=30)

Type of leprosy	Number of patients	Percentage
Multibacillary (MB)	18	60.0
Paucibacillary (PB)	12	40.0

Table 5 shows type of leprosy of the patients. It was observed that 18(60.0%) patients had mutibacillary and 12(40.0%) had paucibacillary.

Table 6: Clinical manifestations of leprosy (n=30)

Characters of lesions	Number of patients	Percentage
Hypopigmented	28	93.3
Marked anesthesia	27	90.0
Macule and patch	26	86.7
Obvious margin	18	60.0
Plaque	9	30.0
Unclear margin	8	26.7
Ear lobe enlargement	7	23.3
Ulcer	7	23.3
Heavy infiltration	6	20.0
Moderate infiltration	6	20.0
Nodule	5	16.7
Erythematous	4	13.3
Wrist drop	3	10.0
Claw hands or feet	2	6.7
Mild infiltration	1	3.3
Shortening of finger	1	3.3
Foot drop	1	3.3
Saddle nose	1	3.3
Leg edema	1	3.3

Table 6 shows clinical manifestations of leprosy. It was observed that 28(93.3%) patients had hypopigmented, 27(90.0%) had marked anaesthesia, 26(86.7%) had macule & patch, 18(60.0%) had obvious margin and 9(30.0%) had plaque. Other results are depicted in the table.

Discussion

The cross sectional observational type of study was carried out Inpatient and outpatient Dept of Dermatology and Venereology of DMCH, Dhaka. Total 30 cases were included in this study to find out the clinical profile of leprosy patients. In this study it was observed that majority 25(83.3%) patients was found in skin outpatient department and 5(16.7%) in medicine indoor.

In this present study it was observed that 10 (33.3%) patients were belonged to age 31-40 years. The mean age was found 28.7±11.3 years with ranging from 12 to 65 years. In study of Quyum et al.[6] proportion of cases under 15 year age was 8.7%. Most of the patients (26.9%) belonged to 15-29 year age group. Majority of affected patients were in their productive phase of life with a peak in the 15-29 year age group. Mathan and Devan[7] study showed the highest incidence of leprosy was seen in the age group of 21-40 years. This is similar to finding reported by Jindal et al.[8]. Seshadri et al.[9] the age of the people interviewed ranged from 14 to 60, with a mean of 30.9 years. The majority (60%) were between 14 and 30 years old. In the Swarnakumari et al.[10] study, the youngest patient was 3 years old and the oldest was 85 years. Santaram and Porichha[11] found the disease to be more common in the age group of 21-40 yrs. Singh et al.[12] found the disease in 53% of patients belonging to age group of 21-40 yrs. Thus the age incidence observed in the present study correlates well with that of the other studies. The disease is more common in this age group indicates vulnerability because of greater mobility and increased opportunity for contact in big population. Kadam et al.[13] study observed that the maximum 21 (50%) patients belonged to age group 15-35 years.

In this current study it was observed that male was found 21(70.0%) and female were 9(30.0%). Male-female ratio was 2.3:1. Quyum et al.[6] out of 722 patients, 390 (54%) were males and 332 (46%) were females. Male-female ratio 5:4. Swarnakumari et al.[10] the male patients comprised 136 (70.1%) and female patients were 58 (29.89%). The male to female ratio was 2.3:1. Santaram and Porichha[11] found the disease in 80% of males and 20% of females. Singh et al.[12] found the disease in 69% of males. The results of the present study are close to the above mentioned studies with regard to the sex. This can be explained as a fact that males go for

outdoor work more compared to females hence have the higher chance of getting the infection. Mathan and Devan[7] showed out of 168 cases, 108 were males, 58 females and 2 were male children. In the Kadam et al.[13] study gender wise marginal male predominance was observed with male to female ratio of 1.33:1.

In this study it was observed that 15(50.0%) patients had symptoms during 6 months to 1 years, 9(30.0%) <1 to 5 years. Quyum et al.[6] showed their study duration of symptoms varied from 1 month to 15 years, but the majority (53%) had symptom duration from 6 months to 1 year. Seshadri et al.[9] study showed the duration of leprosy symptoms before diagnosis varied from 2 weeks to 15 years, with a mean of 20 months (median, 12 months). Twenty one percent of patients had symptoms for more than 2 years before diagnosis. In study of maximum number of patients 96(49.5%) in this study had the duration of less than 6 months, it was between 1-5 yrs in 51(26.3%) and 6-11 months in 40(20.6%). Van Brakel et al.[14] found the duration of disease to be upto 6 months in 30%, 7-12 months in 32%,13-24 months in 17%, 25- 36 months in 9.3 %, 37-60 months in 6.3% and more than 60 months in 5.4%. In study of Kadam et al.[13] showed the most commonly noted type was borderline tuberculoid leprosy (35.7%) followed by tuberculoid and indeterminate type (19%).

In this present study it was observed that 10(33.3%) patients were diagnosed as having borderline tuberculoid, 5(16.7%) as tuberculoid, 1(3.3%) as borderline, 6(20.0%) as borderline lepromatous and 8(26.7%) as lepromatous. Quyum et al.[6] showed borderline tuberculoid was the most common form of the disease (81.0%) followed by tuberculoid (9.3%), lepromatous (4.3%), borderline lepromatous (3.5%), borderline (1.8%) and pure neural (0.1%). Another study Swarnakumari et al.[10] showed out of 194 cases 102 (52.57%) patients were diagnosed as having borderline tuberculoid leprosy, followed by 30 patients (15.46%) as poly neuritic leprosy, 23 (11.85%) as lepromatous leprosy, 13 (6.7%) as borderline leprosy, 10 (5.15%) as type 2 lepra reaction, 8 (4.12) as type I lepra reaction, 3 (1.54%) as indeterminate leprosy, 3 (1.54%) as borderline borderline leprosy and 2 (1.03%) as tuberculoid leprosy. In study of Mathan and Devan[7] based on Ridley-Jopling classification, there were 100 borderline tuberculoid cases, 12 borderline lepromatous, 4 lepromatous leprosy, and 21 cases were tuberculoid. The most frequent morphological type in our study was borderline tuberculoid (59.5%) which is similar to observations made by Tiwary et al.[15].

In this current study It was observed that 18(60.0%) patients had mutibacillary and 12(40.0%) had paucibacillary. In study of Quyum et al.[6] PB presentation was more common than MB presentation 77.6% and 22.4%, respectively. In 2013, among the new cases number of multibacillary leprosy was 1380 (43.9%).[16] Overall prevalence of reaction was much higher in multibacillary in relation to paucibacillary patients, which is similar to that reported by Teixeira et al.[17]. Mathan and Devan[7] study there were 98 multibacillary cases and 70 were paucibacillary. The percentage of MB cases was higher than paucibacillary cases in our study. This is similar to the study made by Mohite and Durgawale.[18]

In this study it was observed that 28(93.3%) patients had hypopigmented, 27(90.0%) had marked anaesthesia, 26(86.7%) had macule & patch, 18(60.0%) had obvious margin and 9(30.0%) had plaque. Quyum et al.[6] macule was found 68.4%, plaque 29.6%, nodule 3.6%, ulcer 3.0%, hypopigmented was 94.3%, marked anesthesia 88.2%, obvious margin 97.1%, erythematous 8.9%, ulcer margin 5.5%, some anesthesia 12.7%, heavy infiltration 9.5%, moderate infiltration 19.4%, mild infiltration 19.4%. Murthy[19] study showed the disease manifests in the skin as macules, papules, nodules, plaques or infiltration. Hypopigmented or erythematous skin patches with definite sensory deficit is one of the clinical cardinal signs by which one can make a definite diagnosis.

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