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Leprosy in Post Elimination Period: An Experience in a Single Tertiary Care Centre in Kathmandu, Nepal

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Abstract

Introduction: Leprosy elimination was declared by Government of Nepal almost a decade back.

Objective: To evaluate the clinical and epidemiological profiles of leprosy patients in post elimination period

Material and Methods: Analysis of medical records of all clinically diagnosed and newly registered cases of leprosy attending Dermatology outpatient department of Tribhuvan University Teaching Hospital, Kathmandu, Nepal from 1st April 2017 to 31st March 2018 was done.

Results: Hospital based prevalence of Leprosy was found to be 0.24%, with males outnumbering females (63.6% vs 36.4%). The most common age group affected was 45-59 years with hypo-aesthetic patches/plaques and erythematous anaesthetic /hypoaesthetic patches (36.4% each) being the most common presentation. Overall, borderline leprosy was the most common diagnosis (borderline tuberculoid ,29.5% , borderline borderline, 6.8%, borderline lepromatous,11.36%). Slit skin smear positivity was found in 50% of cases.

Conclusions: Leprosy still remains a challenge for clinicians in Nepal though elimination has been achieved. A constant evaluation, monitoring and case detection should be still pursued with health education in order to make timely diagnosis and prevent deformities.

Key words: Leprosy; Nepal; Public health

Introduction

Leprosy is a major public health problem in many countries including Nepal even though its elimination was declared on 19th January 2010.[1] The objective of this study was to evaluate the clinical and epidemiological profiles of leprosy patients in post elimination period among those attending Dermatology outpatient department of Tribhuvan University Teaching Hospital, Kathmandu, Nepal, the largest referral centre of the country.

Materials and Methods

Retrospective analysis of the medical records of all clinically diagnosed and newly registered cases of leprosy attending the Dermatology outpatient department of Tribhuvan University Teaching Hospital from 1st April 2017 to 31st March 2018 was done. The study was approved by the institutional review board. The data were analyzed for age and sex distribution, clinical features at presentation, nerve involvement, reactions, deformities, history of contact, slit skin smear positivity and histopathological diagnoses.

Results

A total number of 44 (0.24% of total new cases attending Dermatology outpatient department, Tribhuvan University Teaching Hospital during the study period) patients were diagnosed as Leprosy

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in this period with 63.6% (n=28) males and 36.4% (n=16) females. The most common age group affected was 45-59 years constituting about 36.4% of cases (Table 1). Hypo-aesthetic patches/plaques (36.4%), erythematous anaesthetic /hypoaesthetic patches (36.4%)was the most common presentation (Table 2). Multiple lesions were seen at first presentation in 27 patients (61.4%) and single lesion in 17 patients (38.6%). Multiple nerves were involved in 19 (43.2%) patients, single in 10 (22.7%) patients and none in 15 (34.1%) patients. Type1 reaction was seen in seven cases and type 2 reactions were seen in three cases of patients at presentation. Claw hands alone were seen in three cases, both claw hands and lagophthalmus was seen in one case while lagophthalmus alone was seen in only one case. History of contact with Leprosy patients was present in three cases, family members were involved in two cases, one being a three-year old child. History of neighbor taking multidrug therapy (MDT) was present in one case only. Slit skin smear was positive in 50% of the cases. Histopathologically, Tuberculoid leprosy was diagnosed in 33% of the cases.

Discussion

Our study reviewed hospital based clinical presentation of leprosy in one year period after declaration of elimination of leprosy by Government of Nepal, where we found hospital based frequency of leprosy to be 0.24%. This prevalence is similar to one of the study done in another tertiary centre of Kathmandu by Joshi S, who found it to be around 0.2%.[2] Males outnumbered females similar to the findings from other studies by Swarnakumari G et al, Santaram and Porichha, and Singh et al. [3-5]This could be because males work outdoor and gets exposed to the disease. The youngest patient in our study was of threee years, son of affected father, which indicates ongoing transmission of the disease in the community.

Table 1: Age group of patients with Leprosy

Age Group	Number	Percent
≤14 yrs	3	6.8
15-29 yrs	14	31.8
30-44 yrs	8	18.2
45-59 yrs	16	36.4
≥60 yrs	3	6.8
Total	**44**	**100.00**

Table 2: Clinical feature at presentation

Clinical Diagnosis	Slit skin smear						Total
	Negative	1+	2+	3+	4+	6+	
Indeterminate (11.3%)	5	0	0	0	0	0	5
TT (25%)	8	0	3	0	0	0	11
BT (29.5%)	8	1	2	2	0	0	13
BB (6.8%)	0	0	3	0	0	0	3
BL (11.36%)	0	0	2	1	2	0	5
LL (13.6%)	0	0	0	0	3	3	6
Pure Neuritic (2.2%)	1	0	0	0	0	0	1
Total	**22**	**1**	**10**	**3**	**5**	**3**	**44**

Table 3: Clinical diagnosis versus slit skin smear positivity.

Presentations	Number	Percent
Hypopigmented anaesthetic/hypoaesthetic plaques	16	36.4
Erythematous anaesthetic/hypoaesthetic plaques	16	36.4
Painless ulcers/bullae	5	11.4
Tender nodules	3	6.8
Asymptomatic erythematous papules and plaques	3	6.8
Others	1	2.3
Total	**44**	**100**

Around 36.4% of patients presented with hypo -pigmented hypo-aesthetic patches/plaques and 36.4% presented with erythematous anaesthetic patch/plaque with clinical diagnosis of Indeterminate in (11.3%), Tuberculoid (TT) in (25%), borderline tuberculoid (BT) leprosy (LL) in (29.5%), borderline (BB) in (6.8%), borderline lepromatous(BL) Leprosy in (11.36%), Lepromatous (LL) in (13.6%), and pure neuritic leprosy in (2.2%) (Figure 3). This observation differs from different studies, however, the borderline leprosy (BT and BL), seems to be more common form of presentation in all studies. The fact that lepromatous leprosy though less in number compared to tuberculoid pole in our study, constituting one of the major bulk of patient is alarming to us, as they are the main source of transmission in the community. Furthermore, slit skin smear being positive in 50% (Table 3), ie. multibacillary cases, supports the above observation.

Type 1(15.9%) reaction was more common than type 2 (6.8%) reaction in our study similar to that found by Arora et al, well explained by the fact upgrading reactions were present in majority of our cases of BT, BB, and BL patients.[6]

Out of 44 cases we had five (11.36%) cases of deformities. In a study done by Bhattarai S et al in eastern part of Nepal, a significant high number (37.4%) of disability, higher than our study was seen.[7] Deformities in these two studies can be attributed to delay in diagnosis or delay in health seeking behavior in these patients despite the advocacy of the state for early detection of this disease.

The data represents retrospective data in a single centre for just a period of one year. Though the frequency appears to be 24 per 10000 people, a quite alarming figure, the results cannot be generalized unless we carry out a prospective study in multi -centre in co-ordination with Government of Nepal.

Conclusion

Leprosy still remains a challenge for clinicians in Nepal though elimination has been achieved. Childhood case detection shows ongoing transmission in the community whereas detection of deformities points towards delay in diagnosis. We still need to work for case detection and prevention of transmission and prevention of leprosy in Nepal.

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