ORIGINAL ARTICLE

Clinical observations in Leprosy cases treated at Diamer district of Gilgit-Baltistan, Pakistan

Abdul Salam Ghayas,[1] Muhammad Saaiq,[2] Mahmood-ur-Rahman[3]

Abstract

Objective: To document clinical status and disabilities among live treated leprosy patients.

Methods: The observational, descriptive study was carried out at the Leprosy Field Clinic, Diamer, Gilgit-Baltistan, Pakistan, over a period of six months from April 1, 2009 to September 30, 2009. All leprosy patients of either gender and all ages presenting at the centre were included. Diagnosis was made through detailed history, physical examination and leprosy-specific investigations including skin, nasal and ulcer smears for Bacterial Index of M. leprae. The sociodemographic profile of the patients, type of leprosy, previous treatment received, persisting disabilities were all recorded on a proforma. SPSS 10 was used for statistical analysis.

Results: Of the total 186 cases in the study, 141 (75.80%) were males and 45 (24.20%) were females. The age range was 14-91 years with a mean of 53±13.20 years. Borderline Tuberculoid leprosy was the most frequently found subtype of leprosy (n=81; 43.54%), while Midborderline leprosy was the least common variety (n=17; 9.13%). The cases had received multi drug therapy for a least 12-18 months previously.

Conclusion: Leprosy was prevalent in the study area. A significant number of treated leprosy patients continue to have disabling sequelae of the disease.

Keywords: Leprosy, Borderline Tuberculoid Leprosy, M. Leprae. (JPMA 63: 1415; 2013)

Introduction

Leprosy is a chronic infectious disease that predominantly affects the skin and peripheral nerves. The onset is slow with the first signs appearing 2-10 years after infection. The clinical spectrum of leprosy varies from a single skin patch to widespread damage to nerves, bones, and the eyes. Hence, it can lead to the development of crippling disabilities.[1-5]

The disability rate is variably reported by various studies ranging from 16%-56% and is reduced with the institution of multi drug therapy (MDT).[6-8]

The present study was undertaken to document the clinical status and disabilities among live treated leprosy patients in district Diamer of Gilgit-Baltistan, Pakistan, and to collect evidence that could better guide management strategies for such patients.

Patients and Methods

This observational, descriptive study was carried out at the Leprosy Field Clinic, Diamer, Gilgit-Baltistan, over a period of six months from April 1 to September 30, 2009.

[1]Provincial Leprosy/TB, Leprosy/TB Control Programme/CDC, Gilgit Baltistan, [2]Pakistan Institute of Medical Sciences, (PIMS), Islamabad, [3]Department of Community Medicine, Armed Forces Postgraduate Medical Institute (AFPGMI), Rawalpindi.

Correspondence: Abdul Salam Ghayas. Email: drabdulsalam73@gmail.com

All leprosy patients of either gender and all ages who were diagnosed by our study criteria were included. The diagnosis was made by history, thorough physical examination and leprosy-specific investigations, including skin, nasal and ulcer smears for Bacterial Index of M. leprae. Patients not consenting to participate in the study were excluded.

The sociodemographic profile of the patients, type of leprosy, previous treatment received, persisting disabilities were all recorded on a proforma. SPSS version 10 was used for statistical analysis. Nominal variables were reported as frequency and percentages, while numerical data was reported as mean ± standard deviation.

Results

The study comprised 186 diagnosed and treated cases of leprosy who had received MDT treatment for at least 12-24 months previously. There were 141 (75.80%) males and 45 (24.20%) females. The patients' age ranged from 14 to 91 years. The overall mean age was 53±13.20 years.

Borderline Tuberculoid (BT) leprosy was the most frequently found sub-type of leprosy (n=81; 43.54%), while Midborderline leprosy (BB) was the least common variety (n=17; 9.13%). The highest number of cases were from Chilas (Table-1).

Clinical features and disabilities observed among the patients were noted separately (Table-2). There was no

Table-1: Area-wise distribution of leprosy subtypes (n=186).

S. No	Area	Subtype of Leprosy Number of Patients (Percentage)					Total No.
		LL	TT	BL	BT	BB	
1	Chilas	15(8.06%)	7(3.76%)	8(4.30%)	23(12.36%)	7(3.76%)	60(32.25%)
2	Darel	4(2.15%)	5(2.68%)	5(2.68%)	16(8.60%)	2(1.07%)	32(17.20%)
3	Tangir	4(2.15%)	13(6.98%)	9(4.83%)	20(10.75%)	2(1.07%)	48(25.80%)
4	Thore	6(3.22%)	5(2.68%)	7(3.76%)	22(11.82%)	6(3.22%)	46(24.73%)
		29(15.59%)	30(16.12%)	29(15.59%)	81(43.54%)	17(9.13%)	

LL: Lepromatous Leprosy. TT: Tuberculoid Leprosy. BL: Borderline Lepromatous Leprosy. BT: Borderline Tuberculoid Leprosy. BB: Midborderline Leprosy.

Table-2: Clinical features and disabilities.

S. No	Clinical Features	Number of Patients/ Percentage
1	Loss of sensations	107(57.52%)
2	Muscle wasting/ weakness	67(36%)
3	Cutaneous Patches / Lesions / Ulcers	47(25.26%)
4	Eye involvement:	
	Moderate visual impairment	21(11.29%)
	Severe visual impairment	13(6.9%)
5	Clawed hand	22(11.82%)
6	Foot drop/ Toe amputation	19(10.21%)
7	Nasal deformity	5(2.68%)

mortality during the study period.

Discussion

The study is the first reported series on leprosy from northern Pakistan, which is among those resource-limited developing countries that continue to have the highest burden of the disease.[9-11] The World Health Organization estimates that 685000 new cases of leprosy are diagnosed all over the world. The WHO leprosy elimination programme aims at bringing the prevalence to 1 per 10,000.[12-14]

In our study, male patients were greater in number than the female sufferers. Our finding conforms to that of several published studies which have reported similar findings.[15-17] More frequent involvement of the males further amplifies the devastating socioeconomic implications of the associated disabilities, particularly those affecting the hands and the feet.[15-17]

Besides, majority of the patients were relatively young. Though we had patients belonging to almost all age groups, there was more frequent involvement of relatively young adults. In fact no age is immune to leprosy, but more frequent affliction of the young adults is reported by other published studies as well.[15-17]

The overall rate of motor nerve disabilities and severe visual impairment was 29% with a number of treated patients having persistent disabilities, including claw hand, foot drop and severe visual impairment. Literature points out that leprosy sufferers usually have considerable disabilities before, during and after treatment.[18-21] There is considerable variation in the disability rates reported by different studies from different parts of the world.[6-8] A study from Iran has reported an overall disability rate of 84.4%, while other studies have reported it to be as low as 16%.[6,18,19] These reported variations in disability rates may be due to a number of reasons such as lack of a standardised reporting scheme, lack of proper assessment of disabilities, and issues with proper treatment.

In our study, 18.27% patients had moderate to severe visual impairment. Other published studies have reported eye complications ranging from 7% to 57%.[22,23] In one study, even higher frequency (73%) of ocular disturbances have been reported.[17]

In our study we found all five fundamental subtypes of leprosy in the population. BT was the most common, while BB was the least common.

Evidence suggests review of the local healthcare system and possible integration of leprosy control and rehabilitation programme. This will help to better control the disease as well as address the resultant crippling disabilities among the local population.

In terms of limitations, it was a clinic-based study and did not cover most of the epidemiological aspects of the disease. Also, we could not compare the disability rates among treated versus untreated/partially treated cases.

Conclusion

Leprosy was prevalent in the study area and a significant number of treated leprosy patients continue to have disabling sequelae of the disease.

References

1. Murthy PK. Current epidemiology of leprosy. Indian Med Assoc

2004; 102: 672-3, 683.
2. Gill AL, Bell DR, Gill GV, Wyatt GB, Beeching NJ. Leprosy in Britain: 50 year experience in Liverpool. QJM 2005; 98: 505-11.
3. Monot M, Honore N, Garnier T, Araoz R, Coppee JY, Lacroix C, et al. On the origin of leprosy. Science 2005; 308: 1040-2.
4. Gawkrodger DJ. Tropical infections and infestations: leprosy. In: Dermatology: an illustrated colour text. 3rd ed. Elsevier: Churchill Livingstone 2003: 56-7.
5. Soomro FR, Pathan GM, Abbasi P, Bhatti NS, Hussain J. Deformity and disability index in patients of leprosy in Larkana region. J Pak Assoc Dermat 2008; 18: 29-32.
6. Zhang G, Li W, Yan L, Yang Z, Chen X, Zheng T, et al. An epidemiological survey of deformities and disabilities among 14,257 cases of leprosy in 11 counties. Lepr Rev 1993; 64: 143-9.
7. World Health Organization. Action Programme for the Elimination of Leprosy. Geneva, 1997.
8. Samuel S. Incidence of nerve damage in leprosy patients treated with MDT. Int J Lepr 1998; 66: 451-6.
9. Schipper A, Lubbers WJ, Hongeweg M, De Soldenhoff R. Disabilities of hands, feet and eyes in newly diagnosed leprosy patients in Eastern Nepal. Lepr Rev 1994; 65: 239-47.
10. Irgens LM, Skjaerven R. Secular trends in age at onset, sex ratio and type index in leprosy observed during declining incidence rate. Am J Epidemiol 1985; 122: 695-705.
11. Ulrich M, Zulueta AM, Caceres DG, Sampson C, Pinardi ME, Rada ME, et al. Leprosy in women: Characteristics and repercussions. Soc Sci Med 1993; 37: 445-56.
12. Fine PEM. Leprosy: the epidemiology of a slow bacterium. Epidemiol Rev 1994; 4: 161-87.
13. Leprosy. Fact sheet No. 101. Geneva, World Health Organization, January 2001.
14. Feenstra P, Pannikar V. Partnership for sustainable leprosy control beyond 2005. Lepr Rev 2005; 76: 194-7.
15. Farooq SK, Khan RF, Khan UA, Khan SJ. Clinical Observations in Leprosy at Mayo Hospital, Lahore. Ann King Edward Med Col 1999; 5: 142-3.
16. Noor SM, Paracha MM, Ali Z, Rauf A. Frequency of disabilities in newly diagnosed patients of Leprosy presenting to Lady Reading Hospital Peshawar. Ann Pak Inst Med Sci 2010; 6: 210-3.
17. Khan T, Awan AA, Kazmi HS, Shah AA, Muhammad S. Frequency of ocular complications of leprosy in institutionalized patients in NWFP Pakistan. J Ayub Med Coll Abbott 2002; 14: 29-33.
18. Reddy BN, Bansal RD. An epidemiological study of leprosy disability in a leprosy endemic rural population of Pondicherry (south India). Indian J Lepr 1984; 56: 191-9.
19. Rad F, Ghaderi E, Moradi G, Misph HS. The study of disability status of live leprosy patients in Kurdistan province of Iran. Pak J Med Sci 2007; 23: 857-61.
20. De Oliveira CR, De Alencar Mde J, De Sena Neto SA, Lehman LF, Schreuder PA. Impairments and Hansen's disease control in Rondonia state, Amazon region of Brazil. Lepr Rev 2003; 74: 337-48.
21. Ganapati R, Pai VV, Kingsley S. Disability prevention and management in leprosy: A field experience. Ind J Dermatol Vener Lepr 2003; 69: 369-74.
22. Bhagvat P, Ujjowala D. Ocular finding in leprosy patients in Nepal in the Era of multidrug therapy. Am J Ophtalmol 2004; 137: 888-92.
23. Ffytche TJ. The prevalence of disabling ocular complications of leprosy: A global study. Indian J Lepr 1998; 70: 49-59.