

Observations in 11 patients with leprosy and human immunodeficiency virus co- association

Sir,

Human immunodeficiency virus (HIV)-acquired immunodeficiency syndrome, the established epidemic, has spread its tentacles in the course of many medical conditions. India being an endemic region for leprosy and HIV, the interaction between HIV and leprosy is a matter of great concern and much debate. The association between HIV and tuberculosis is well known while that between HIV and leprosy is uncertain.

At the Main Referral Centre of the Bombay Leprosy Project in Mumbai, several patients are referred with clinical problems including those with leprosy and HIV seropositivity. We therefore decided to make observations by following them up after being released from treatment (RFT) for leprosy on the association between these two co-existing illnesses with respect to the occurrence of relapses. Relapse was considered in those patients who have completed the standard course of multidrug therapy (MDT) and rendered smear negative and, during follow-up, reported as smear positive associated with fresh lesions clinically. We report our findings related to 11 patients with a combination of HIV–leprosy who presented at our center. These cases were seen over a period of two decades from 1992 to 2010, with the earliest patient registered on 24th December 1992 and the latest on 15th January 2010. Of the 11 cases, six were males and five were females, with age ranging from 18 to 44 years. All patients were confirmed for leprosy on clinical criteria/smear positivity and/or histopathological examination and for HIV by enzyme-linked immunosorbent assay. Eight patients were multibacillary (MB) leprosy, of which four were smear positive and three were paucibacillary (PB) leprosy.

Of the 11 cases, six (patients 5, 7, 8, 9, 10 and 11) had developed leprosy before they were diagnosed as being HIV positive. Patient 5 was started on MB-MDT for leprosy, after which he was diagnosed with HIV. He also developed a Type 1 reaction in course of therapy and relapsed clinically and bacteriologically 6 months after RFT. MB-MDT was restarted and the patient developed Type 1 reaction again within 6 months. Patient 8 developed neuritis after 2 years and also developed fresh active bacteriological relapse 5 years and 2 months after becoming smear negative and was restarted on MB-MDT. Patient 9 who was smear negative initially relapsed bacteriologically after RFT within a short period of 1 month; the patient also developed neuritis during the course of therapy. The patient died 4 years later after relapse. Patient 11 was treated for leprosy with standard therapy but relapsed bacteriologically 3 years after becoming smear negative; he also developed Type 2 reaction in the course of his illness. Patient 7 did not show any evidence of relapse but developed erythema nodosum lesions with neuritis. Patient 10 died during therapy.

The other five patients (patients 1, 2, 3, 4 and 6) developed leprosy after they were diagnosed as being

HIV positive. Of the five, two were PB leprosy and three were MB leprosy. All received antiretroviral treatment (ART) for HIV. Two patients out of the five developed Type 1 reaction in the course of their treatment.

Two patients (patients 3 and 6) did not have any evidence of reaction or relapse in the course of their illness or treatment. Both these patients are under follow-up.

It is observed from the above investigation that out of 11 patients, four (36.4%) were found to have relapsed with the disease after an average period of 2 years and 2 months after smear negativity, indicating that relapses might occur earlier. It is observed and documented that relapse rates are low and onset of relapse is much later (>5 years) in HIV seronegative patients.^[1]

It is interesting to note that out of the four patients, three were not on ART and one patient relapsed in spite of being on ART. Sarno *et al.* studied the effect of Highly Active Anti Retroviral Therapy (HAART) on the course of leprosy in a Brazilian cohort, wherein they found that the proportion of relapses was higher (3.4%) in co-infected patients than in seronegative patients (1.0%).^[2] A study done by Lienhardt *et al.* at Mali claimed that HIV infection might be associated with an increased frequency of relapse.^[3] A write-up about relapses by Ramu stated HIV infection as a possible precipitating factor for leprosy relapse.^[4] Pönnighaus *et al.* reported a relapse rate of 16.7% in HIV-positive patients in their study at Malawi.^[5] After an extensive search of the available literature, only a few of the above-quoted studies were found addressing the issue of HIV–leprosy co-infection and relapse, but none of the studies commented on the duration and onset of relapse.

There have been many studies performed elsewhere that have suggested that the course of leprosy is not influenced by HIV infection.^[6-8] Still conclusive studies of the association between HIV and leprosy are lacking. It would take long years of detailed randomized controlled studies on a larger scale to study the clinical aspects, presentations, diagnosis and management strategies of HIV–leprosy co-infection and to establish a definitive association between these two conditions.

ACKNOWLEDGMENT

We gratefully acknowledge the assistance provided by Dr.

Vikram Rathod, Medical Officer, and Mr. Sanjay Kulkarni, Computer Assistant, in preparing the manuscript.

**Vivek V. Pai, Pritam U. Tayshetye,
Ramaswamy Ganapati**

Department of Dermatology, Bombay Leprosy Project, 11, Vidnyan Bhavan, V.N. Purav Marg, Sion, Chunabhatti, Mumbai - 400 022, Maharashtra, India

Address for correspondence: Dr. Vivek V. Pai, Bombay Leprosy Project, 11, Vidnyan Bhavan, V.N. Purav Marg, Sion, Chunabhatti, Mumbai - 400 022, Maharashtra, India.
E-mail: blproject@vsnl.net

Access this article online	
Quick Response Code:	Website: www.ijdvl.com
	DOI: 10.4103/0378-6323.86494

REFERENCES

1. Pai VV, Ganapati R, Rao R. Development and evolution of WHO MDT and newer treatment regimens. In: Kar HK, Kumar B, editors. IAL Textbook of Leprosy. 1st ed. New Delhi: Jaypee Brothers; 2010. p. 353-67.
2. Sarno EN, Illarramendi X, Nery JA, Sales AM, Gutierrez-Galhardo MC, Penna ML, *et al.* HIV-M. leprae interaction: Can HAART modify the course of leprosy? Public Health Rep 2008;123:206-12.
3. Lienhardt C, Kamate B, Jamet P, Tounkara A, Faye OC, Sow SO, *et al.* Effect of HIV infection on leprosy: A three-year survey in Bamako, Mali. Int J Lepr Other Mycobact Dis 1996;64:383-91.
4. Ramu G. Clinical features and diagnosis of relapses in leprosy. Indian J Lepr 1995;67:45-59.
5. Pönnighaus JM, Mwanjasi LJ, Fine PE, Shaw MA, Turner AC, Oxborrow SM, *et al.* Is HIV infection a risk factor for leprosy? Int J Lepr Other Mycobact Dis 1991;59:221-8.
6. Ustianowski AP, Lawn SD, Lockwood DN. Interactions between HIV infection and leprosy: A paradox. Lancet Infect Dis 2006;6:350-60.
7. Lockwood DN, Lambert SM. Human immunodeficiency virus and leprosy: An update. Dermatol Clin 2011;29:125-8.
8. Kar HK, Sharma P. Does concomitant HIV infection has any epidemiological, clinical, immunopathological and therapeutic relevance in leprosy? Indian J Lepr 2007;79:45-60.