

## Type 1 lepra reaction presenting as immune reconstitution inflammatory syndrome

Sir,

There is an increasing awareness of the immune reconstitution inflammatory syndrome (IRIS) in patients initiating antiretroviral therapy. It is likely that there will be more reports of this phenomenon in patients co-infected with HIV and leprosy, especially from India, where there is a high prevalence of both the diseases and antiretroviral therapy is being made available for free by national organizations.

The article by Kharkar *et al.*<sup>[1]</sup> raises a number of interesting considerations:

1. Both cases presented in the article clearly appear to satisfy the clinical and pathologic criteria for the diagnosis of IRIS. However, early definitions of IRIS by French *et al.*<sup>[2]</sup> and subsequent validation studies by Robertson *et al.*<sup>[3]</sup> emphasize the need to demonstrate at least 1  $\log_{10}$  decrease in plasma HIV viral load. The fact that this test (HIV viral load) is not widely available in many countries emphasizes once again the need to develop diagnostic criteria and algorithms that may be universally applicable in all countries.
2. It was interesting to note that in Case 1, antiretroviral therapy using nevirapine was initiated at a CD4+ lymphocyte count of 299 cells/mm<sup>3</sup>. Although seen more frequently in females, the use of nevirapine in patients with CD4+ lymphocyte counts more than 250 cells/mm<sup>3</sup> is associated with an increased risk of hepatotoxicity, sometimes fatal.<sup>[4,5]</sup> This risk was potentially further increased after initiating rifampicin for treatment of leprosy. Hence, close monitoring and

follow-up of this patient was essential.

3. Patients co-infected with HIV and *Mycobacterium leprae* do not always develop the lepromatous spectrum of leprosy. Conversely, co-infected patients who have lepromatous leprosy (cell-mediated immunity defect), do not have a more rapid progression to AIDS. These observations suggest that *M. leprae* and HIV affect different CD4+/CD8+ lymphocytes subpopulations of the cell-mediated immune system. Hence, the immunopathogenesis of antiretroviral therapy-induced IRIS in leprosy needs to be investigated further.
4. Finally, it should be noted that the type1 lepra reaction itself is a form of IRIS known to occur in patients with the tuberculoid spectrum of leprosy when they are initiated on anti-leprosy medications.

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