

Prevalence of Antibodies to Hepatitis C Among Recently Treated Leprosy Patients in Senegal Parallels Those in Normal Populations

TO THE EDITOR:

Recent reports focused on a higher prevalence of hepatitis C (HCV) antibodies (Abs) in leprosy patients than in matched uninfected individuals (^{3, 5}). Having followed a 175-patient cohort under field conditions, we do not confirm a higher carriage of hepatitis C among leprosy patients in Sénégal, and we suggest that the high levels previously observed might rather be associated with epidemiological conditions within the populations studied.

Infection with *Mycobacterium leprae* is accompanied by a profound alteration of cellular immunity leading to the different aspects of the leprosy spectrum. Little is known about the exact influence of the lack of T-cell immunity observed in leprosy and the susceptibility to viral infections. In this line, we investigated the seroprevalence to HCV using sequentially 2 third-generation ELISAs (Ortho HCV 3.0[®]; Chiron Corp., Emeryville, California, U.S.A.; Murex anti-HCV version III, Templehill, England) and an immunoblot assay (Ortho RIBA 3.0[®]; Chiron). Genotyping of positive HCV sera was carried out using an ELISA revealing circulating antibodies to recombinant NS4

proteins (Murex HC02) (¹). Two other markers of viral infection were also examined, i.e., the presence of hepatitis B virus antigen (HBs Ag) and HIV antibodies using commercially available kits; Monolisa[®] and Elavia mixte[®], respectively (Sanofi-Pasteur, Marne la Coquette, France).

Subjects consisted of 147 newly diagnosed patients and 28 previously treated (monotherapy) patients entering a new survey for the efficacy of a fully supervised, intermittent, single-dose poly-antibiotherapy. Enrollment was done from March to December 1995; patients received full information regarding this investigation and an initial blood sample was taken at the time of the enrollment visit. During the survey, serum was kept in a dry sterile tube at 4°C (for approximately 12 hr) in the field and then frozen at -20°C until further assays.

A similar prevalence of the viral markers was found in sera from leprosy patients and a normal population. The HIV antibody prevalence reported here is in line with previous studies conducted on West African populations (^{2, 6}). Secondly, the HBs antigen carriage found in this study was not higher than that found in recent determinations

THE TABLE. Characteristics of the cohort of leprosy patients and results of the screening for antibodies to HIV and HCV and for HbS antigen.

	Patients		Type of leprosy		Positive serology		
	No.	Mean age	PB ^a	MB ^a	HIV-1	HCV	HbS Ag
Males	103	31	50 (48.5%)	53 (51.5%)	1	1 ^b	16 (15.5%)
Females	72	31	40 (55.6%)	32 (44.4%)	1	0	8 (11.1%)
Total	175	31 (6-65)	90 (51.4%)	85 (48.6%)	2 (1.1%)	1 (0.6%)	24 (13.7%)

^a PB = paucibacillary; MB = multibacillary.

^b PB leprosy (clinically BT).

that we carried out in the control population belonging to a matched study of hepatitis cases (19% of HBs+) (Renaudineau, Y. and Raphenon, G. Manuscript in preparation).

In addition, in contrast to data from others (^{3,5}), we did not find a higher level of prevalence of HCV in this leprosy population. Two explanations can be proposed: first, the use of third-generation ELISAs leads to more accurate results and probably eliminates false positives; second, the patients enrolled in this study did not live in conditions favoring transmission of HCV (such as observed in leprosarium) associated with promiscuity and/or with poor sanitary conditions (^{4,5}). As a matter of fact, using the third-generation techniques, a relatively low frequency was found recently in a cohort of Senegalese patients suffering from liver diseases (2 out of 67; the HCV+ patients had hepatocarcinoma) as compared to a control population (6 of 943 blood donors). In addition, the HCV antibody-positive leprosy patient was from serotype 2, which is the main circulating serotype since it is found in 80% of the confirmed HCV+ serologies in our overall studies (Renaudineau, Y. and Raphenon, G. Manuscript in preparation).

Taken together, our results suggest that energy or disorders of the immune system which accompany leprosy are not associated with chronic carriage of hepatitis C when epidemiological conditions for *M. leprae*-infected patients do not favor hepatitis C transmission.

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