

## The Prevalence of HBS antigenemia in patients with HIV infection in Shiraz, southern Iran

### Dear Editor,

Serological markers of past or present HBV infection were reported in 4-90% of HIV infected patients<sup>1</sup> and a significant association was reported between serologically positive HIV infection and detectable HBS Ag and anti-HBC.<sup>2,3</sup> As HIV positive men with HBV infection are at increasing risk of liver related mortality,<sup>4</sup> the present study was conducted to determine the seroprevalence of HBS Ag in patients with HIV infection in Shiraz, southern Iran.

A total of 228 patients with HIV infection from Center for Counseling for Behavioral Changes, in Shiraz, southern Iran, were screened for HBS Ag and their demographic data were recorded. HIV infection was confirmed by ELISA (BIORED, France), blot tests (GENELABS, Singapore) and HBS Ag by ELISA (BEHRING, Germany). The patients aged from 18-65 years with a mean of  $35.5 \pm 9.8$ SD. Table 1 shows that 17 patients were tested positive for HBS Ag, which was 8.2% in males, 10.37% in those aged from 30-39 years, and 53% in single patients ( $P=0.001$ ). Lodenyo et al.<sup>5</sup> found a much higher (40%) HIV-HBV co-infection rate. It is important to note that HBS antigenemia indicates a carrier state or an active infection. Studies demonstrating serological markers of past HBV infection such as anti-HBS and anti-HBC showed a much higher prevalence of HBV infection among HIV infected patients.<sup>2,3</sup> The common mode of transmission of HIV and HBV contributes to the significant association between HBV and HIV. Co-infection of HIV and HBV has raised a considerable interest regarding the direct or co-factorial role of HBV in HIV infection.<sup>6</sup> Recent evidences have shown that infection of lymphocytes by HBV could lead to synthesis of a protein, which activates HIV-1 replication.<sup>6</sup> HIV positive patients coinfecting with HBV are at increasing risk of liver related mortality due to chronic hepatitis and hepatocellular

carcinoma.<sup>4,7</sup> Thus, there is an urgent need to consider anti-HBV therapy in addition to antiretroviral treatment in those with dual infection. The rate of co-infection was higher in males who are less likely to clear HBS Ag and have a higher risk of progression to cirrhosis. The highest rate of HBS antigenemia in 30-39 year-old groups may be attributed to very low number of subjects in that age group. Co-infection rate was also higher in single patients that are probably related to having multiple sexual partners. In conclusion, there is a higher HBV co-infection rate in our HIV infected patients compared to HIV negative individuals. Therefore, there is a crucial need to screen all HIV infected patients for HBS Ag and to implement HBV vaccination for all HBS Ag and anti-HBS negative patients.

**Table 1:** HBS Ag seropositivity among HIV infected patient in relation to age and sex

AGE (years)	Total	Sex		Total positive (%)
		Male	Female	
≤ 19	1	0	1	0 (0)
20-29	54	48	6	2 (3.7)
30-39	102	96	6	11 (10.7)
40-49	57	51	6	3 (5.26)
50-59	10	8	2	0 (0)
≥ 60	4	2	2	1 (25)
Total	228	205	23	17 (7.45)

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