



# Serological Profiles of HBV Among HIV-Infected Patients in Istanbul, Turkey

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## INTRODUCTION

Coinfection with HBV is frequent in HIV-infected patients due to common transmission routes. There is insufficient data from Turkey on HIV/HBV coinfections. We aimed to determine the serological profiles of HBV among HIV-infected patients in Istanbul, Turkey which is classified as an intermediate HBV, low HIV endemic region.

## METHOD

A multicentre observational retrospective study has been conducted by ACTHIV-IST study group, including 4 centres following-up HIV patients in Istanbul. Patients followed-up between January 2006-November 2012 were enrolled in this study. Demographic and laboratory data were collected retrospectively from the patients' files and transferred to an HIV data base system. Serological profiles of HBV were classified into four groups; current HBV infection, isolated anti-HBc, past infection and vaccinated.

## RESULTS

A total of 567 HIV/AIDS patients were included in this study. Mean age was 38.5 years  $\pm$  11.2 (range: 18-79) and 81.5% were male. Four hundred twenty nine patients were tested for all HBV markers such as HBsAg, anti-HBc IgG, and anti-HBs. Serological profiles of these patients were shown in table 1: 8.4% had current HBV infection, 9.3% had been vaccinated and 16.8 % had past infection.

Table 1. Serological profiles of HBV infection in patients infected with HIV

HBV infection status	n	%
No HBV infection [ HBsAg (-), anti-HBc IgG (-), anti-HBs (-) ]	223	52.0
Current HBV infection [ HBsAg (+), anti-HBc IgG (+), anti-HBs (-) ]	36	8.4
Past infection [ HBsAg (-), anti-HBc IgG (+), anti-HBs (+) ]	72	16.8
Isolated anti-HBc seropositivity [ HBsAg (-), anti-HBc IgG (+), anti-HBs (-) ]	58	13.5
Vaccinated [ HBsAg (-), anti-HBc IgG (-), anti-HBs (+) ]	40	9.3
Total	429	100.

Of 58 (13.5%) patients with isolated anti-HBc, 29 were tested for serum HBV DNA and 3 of them were positive. The relationship between serological profiles of HBV and patient baseline characteristics were shown in table 2.

Table 2. The relationship between serological profiles of HBV and patient baseline characteristics

Characteristics	Group 1 (Current HBV infection) n=36	Group 2 (Past infection) n=72	Group 3 (Isolated anti-HBc) n=58	p Group 1 vs Group vs Group 3
Age	40.2 13.8	40.3 10.9	39.7 11.4	0.95
Gender (M/F)	31/5 (86.1%/13.9%)	59/13 (81.9%/18.1%)	50/8 (86.2%/13.8%)	0.76
Transmission routes				
Homo/bisexual contact	8 (22.2%) 22 (61.1%)	18 (25.0%) 41 (56.9)	22 (37.9%) 31 (53.4%)	0.16 0.76
Heterosexual contact	0	2 (2.8%)	1 (1.7%)	NA
Injecting drug use	0	0	0	NA
Blood products	0	0	0	NA
Maternal	0	2 (2.8%)	0	NA
Unknown	1	2	0	NA
Miscellaneous				
HCV coinfection (anti-HCV +, HCV RNA +)	0	2 (2.9%)	1 (1.7%)	0.60
CD4 cell counts				0.032
< 200/mm <sup>3</sup>	8 (22.9%)	32 (45.1%)	15 (27.3%)	1 vs 2: p=0.026
> 200/mm <sup>3</sup>	27 (77.1%)	39 (54.9%)	40 (72.7%)	1 vs 3: p=0.64 2 vs 3: p=0.040
Log HIV RNA	5.15 0.98	4.98 1.17	4.60 1.76	0.51
ALT	159.1 423.0	28.4 21.6	31.2 25.9	0.004 1 vs 2: p=0.005 1 vs 3: p=0.009 2 vs 3: p=0.99

## DISCUSSION

Current HBV infection and isolated anti-HBc prevalences are high among our HIV-infected patients. Parameters associated with current HBV infection were lower CD4 counts and increased ALT levels. Occult HBV infection was identified in 10.3% of patients with isolated anti-HBc tested for HBV DNA.

In conclusion, serological profiles of HBV must be assessed among HIV-infected patients and HBV vaccination must be offered in those without HBV markers. Determination of HBV DNA should be performed in patients with isolated anti-HBc to rule out the presence of occult infection.