

Very low prevalence of hepatitis B and C Co-infection in HIV-positive medical inpatients in a tertiary care hospital in Agra (UP), Northern India

Sir,

Human immunodeficiency virus (HIV), hepatitis B and C viruses (HBV and HCV) are the three most common chronic viral infections having similar modes of transmission, may have a good chance to co-infect the human beings.^[1] Therefore, this study aimed to examine HBV and HCV co-infection in HIV-positive medical inpatients admitted in different medical wards in a tertiary care hospital in Agra, India, in order to recognize the prevalence rates and their involving demographic factors.

The present study is a type of retrospective study. All consecutively confirmed HIV-positive serum samples of patients admitted in various medical departments in 2 years (September 08 to August 10) were included in this study and were anonymously tested for hepatitis B surface antigen (HBsAg) and anti-HCV antibodies by third generation enzyme linked immunoassay (J. Mitra). Socio-demographic characteristics of all the study subjects were noted and analyzed using SPSS software -14.0 version.

During study period, a total of 8858 medical inpatients were screened for HIV and sera of 358 (4.04%) were turned out as HIV-positive. Overall, prevalence of HBsAg and anti-HCV antibodies was 6/358 (1.7%) and 4/358 (1.1%) in HIV-positive

patients, and none was triply infected. All co-infected patients were married male of 15-39 years age group, and mode of transmission was heterosexual in 100%. Tripathi *et al.* also found a lower prevalence of HBV and HCV co-infection as 2.25% and 1.61%, respectively, and mode of transmission in that study was mainly sexual in most co-infected person.^[2] Another study from India also found that the co-infection among patients attending STD clinics was 0.2% with HIV-HBV, 0.1% HBV-HCV, and 1.0% with HIV-syphilis.^[3] The mean CD4 count of these co-infected patients was 175/mm³. During study period, 7 out of 10 patients (70%) were on ART. An increasing prevalence was noted among HIV-infected patients with increasing age: 15-19 years age 4/212 (1.9%), 20-24 years age 26/212 (12.2%), 25-29 years age 46/212 (21.6%), 30-34 years age 58/212 (27.3%), and 35-39 years age 78/212 (36.7%), respectively. Out of the 358 patients, 268 (74.8%) were males and 90 (25.2%) were females, 91.6% were married and 8.4% were unmarried. The mean age of the married study group was 36.93 years and unmarried was 20.13 years. The route of transmission was mainly heterosexual (97.2%), followed by parental (1.7%) and blood transfusion (1.1%). Literacy seems to be the major factor for acquiring HIV positivity in present study; 89.1% of those positive were either illiterate or below 8th standard. Females (26.7%) were more illiterate than males (21.6%), but the difference was not statistically significant. A study from Brazil also reported that 74% of the HIV cases informing the educational level were illiterate or had completed only middle school.^[4]

Co-infections of HBV and HCV with HIV have been reportedly associated with reduced survival, increased risk of progression to liver disease and increased risk of hepatotoxicity associated with anti-retroviral therapy.^[5] Therefore, knowledge of co-infection in a patient of HIV is vital. In our case, there is very low prevalence of these viral infections in HIV-positive patient; therefore, the present study does not stress the need for early investigation of these viral infections in low risk population in order to decrease the economic burden of developing countries like India; however, this needs further exploration by nationwide multicentric epidemiological study. Moreover, continuous stress on education is necessary in order to decrease the illiteracy rate subsequently to decrease HIV prevalence.

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