

Community-based epidemiology of hepatitis B virus infection in West Bengal, India: prevalence of hepatitis B e antigen-negative infection and associated viral variants.

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Community-based epidemiology of hepatitis B virus infection in West Bengal, India: prevalence of hepatitis B e antigen-negative infection and associated viral variants.

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Abstract

BACKGROUND AND AIMS: There is a paucity of population-based epidemiological information regarding hepatitis B virus (HBV) infection in India. The present study was planned to outline the magnitude and pattern of HBV infection, hepatitis B e antigen (HBeAg)-negative infection and the associated viral mutants in India.

METHODS: A community-based epidemiological study of HBV infection was carried out in West Bengal, India. Serological markers of infection and potential risk factors for HBV transmission were determined. Among the infected individuals, HBV-DNA, genotypes and mutations in the precore (PC) stop codon and basal core promoter (BCP) regions were determined by DNA sequencing and polymerase chain reaction (PCR) restriction fragment length polymorphism methods.

RESULTS: Of the 7653 people included in the study, 227 (2.97%) tested positive for hepatitis B surface antigen (HBsAg), of whom 204 (90%) were HBeAg-negative and hepatitis B e antibody (anti-HBe)-positive, and 78% had normal alanine aminotransferase (ALT) levels. HBV-DNA could be detected by PCR in only 32% of people. G1896A PC stop codon mutants were present in 12% of people, BCP mutants in 18% and the remainder (70%) of the HBeAg-negative infections were associated with wild type sequences in these regions.

CONCLUSIONS: This first general population-based epidemiological study of HBV infection from India suggests that HBV acquisition starts in early childhood and peaks in adulthood. Most infections in the community are e-negative and inactive. The point prevalence of PC stop codon and BCP mutants is low in this primarily inactive and asymptomatic HBV-infected population sample in eastern India.

Reference:

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