Hepatitis B and C viruses and sexually transmitted disease patients in Jamaica

M Smikle, G Dowe, T Hylton-Kong, E Williams

Objectives: To determine the prevalence of hepatitis C virus (HCV), hepatitis B virus (HBV), human immunodeficiency virus (HIV) infections, and risk factors for HCV and HBV infections in sexually transmitted disease (STD) clinics in Jamaica.

Methods: A prospective observational cohort study was carried out. Blood was collected from 485 consecutive patients attending the comprehensive health centre in Kingston, Jamaica. Serum was tested using commercially prepared reagents and standard procedures for antibodies to HCV (anti-HCV), hepatitis B core antigen (anti-HBc), hepatitis B surface antigen (HBsAg), HIV-1 infection, and syphilitic infection. Sociodemographic and sexual characteristics of the patients were recorded for assessment as risk factors for HCV and HBV infections.

Results: None of the patients had anti-HCV, 21.0% had anti-HBc, 3.2% HBsAg, 2.5% tested positive for HIV-1, and 5.2% had reactive serological test for syphilis. Age was the only independent risk factor identified for anti-HBc positivity.

Conclusions: The data obtained in this study were not in support of sexual transmission of HCV or HBV infections in Jamaica. Carefully designed multicentre studies could provide more consistent information on the transmission of these viruses by sexual routes.

Introduction

The modes of transmission of hepatitis C virus (HCV) have not been completely identified and differ between countries. In countries where antibody screening is done most new infections of HCV and hepatitis B virus (HBV) are related to injecting drug use. Whereas HBV has been shown to be mostly sexually transmitted, in some countries, the role of sexual behaviour in the transmission of HCV is controversial.

We report a study of HCV and HBV infections in a sexually transmitted disease (STD) clinic population in Jamaica where donor blood is screened for HBV but not HCV.

Patients and methods

During 1998–9, after ethical approval and informed consent were obtained, a structured questionnaire was administered to 485 (197 males, 288 females; mean age 28 years; range 15–75 years) consecutive patients presenting at the comprehensive health centre, the STD clinic in Kingston. The questionnaire pertained to sociodemographic characteristics; medical history; sexual practices and behaviours; and history of illicit drug use by the patients and their sexual partners. Blood samples (10 ml), collected from each participant, were tested for syphilitic infection using the venereal disease research laboratory test and reactive results confirmed by the fluorescent treponemal antibody absorption test; antibodies to HCV (anti-HCV); HIV-1; hepatitis B core antigen (anti-HBc) and hepatitis B surface antigen (HBsAg) by EIA (Abbott Diagnostics, Abbott Park, IL, USA). Anti-HCV and anti-HIV-1 positivity were confirmed by western blot (Murex Diagnostics, Columbia). The SPSS-8 statistical package was used to analyse the data.
Results
None of the patients tested positive for anti-HCV. Anti-HBc antibodies were found in 21.0% and HBsAg in 3.2%; 5.2% were syphilitic and 2.5% tested positive for HIV-1. The characteristics of the patients are shown in table 1. Anti-HBc positivity correlated with increasing age (11.3% in those under 24 years vs 22.0% in those over 24 years; \( \chi^2 = 9.5; \) p<0.002), repeat STD clinic visits (13.0% vs 22.0%; \( \chi^2 = 5.7; \) p <0.02), and condom use (19.2% vs 14.7% vs 34.8%; \( \chi^2 = 6.67; \) p <0.036 for those who never used condoms, used condoms some of the times or always used condoms, respectively). Multivariate regression analyses identified age as the only independent risk factor for anti-HBc positivity (adjusted odds ratio 0.45; 95% confidence interval, 0.2715–0.7565).

Discussion
Anti-HCV positivity in this large group of STD clinic patients was rare. Similar prevalences (0–0.5%) were reported in pregnant women and blood donors in Jamaica. The prevalence of anti-HBc resembled that observed in low risk groups, but was lower than that reported in commercial sex workers. Our results may be explained partially by the low prevalence of history of blood transfusion, injection drug and crack/cocaine use. Black race has been cited as a risk factor for HCV infection making the absence of anti-HCV in Jamaican STD patients more striking.

The results were not consistent with transmission of HCV or HBV in Jamaica by sexual routes. The risk of sexual transmission of HCV and HBV seem to vary with the population studied.

1 Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic diseases. MMWR 1998;47.
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