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Perspective

Infection Rates of the Hepatitis B and C Virus in Potential Blood Donors

Lindsey Kennedy*

Department of Internal Medicine, Institute of Baylor Scott & White Health, Texas, USA

DESCRIPTION

In developing nations where blood borne diseases are widespread, safe blood transfusion is always a difficulty. The prevalence of the real disease affects how quickly the hepatitis B virus spreads. The risk of transmission is quite high in places with a high prevalence of hepatitis B. On the other hand, low transmission means low occurrence of the disease. Hepatitis surface antigen is used to screen for Hepatitis B in the majority of developing nations (HBsAg). HBsAg sensitivity tests, however, are genotype-dependent. Standard blood donor screening tests, on the other hand, are likewise unable to identify people with HBV S gene mutations. Transmission of the infection can also take place at HBsAg-negative stages, such as the beginning or end of the disease. Occult Hepatitis B Infection (OBI) can be caused by avoiding mutations that are impeding antigen export, chronic low-level viral replication of recovered infections, decreased HBV replication following superadded Hepatitis C Virus (HCV) infection, or any of these factors. Hepatitis B core antigen is a marker for previous HBV infection (anti-HBc). People with Hepatitis B Core Antigen (anti-HBc) are prohibited from donating blood in affluent countries, although this policy is not followed in underdeveloped nations where HBV infection is quite widespread.

Recent studies on the significance of OBI and anti-HBc have brought attention to issues related to safe blood transfusion and OBI. According to research data, excluding blood that tests anti-HBc positively reduces the rate at which HBV infections spread. Nucleic Acid Amplification (NAT) technology allows for the highly accurate detection of OBI cases; people with a negative NAT status are potentially risk-free blood donors. However, NAT testing is extremely expensive for the ordinary public. Hepatitis B and hepatitis C virus infections can interfere with patient care in renal dialysis facilities and are significant causes of death in HD patients. Because of their low immunity, patients are unable to fight these viral infections. In HD centres, HCV infection is more common than HBV. HBV infections can be controlled through mass community vaccination campaigns, early diagnosis of HBV positive patients, and ongoing surveillance of HBV high risk individuals. Infections with both HBV and HCV enhance the severity of liver damage in patients. Despite the fact that outbreaks are still quite frequent and routine screening is still crucial, the prevalence of HBV infection has been significantly reduced as a result of the use of control strategies. Major factors in HBV epidemiology include chronically infected people, permucosal or percutaneous exposure to infected blood or body fluids, and HBV transmission by these routes.

In Hepatitis Diagnostic (HD) centres, HCV infection is more common than HBV. HBV infections can be controlled through mass community vaccination campaigns, early diagnosis of HBV positive patients, and ongoing surveillance of HBV high risk individuals. Infections with both HBV and HCV enhance the severity of liver damage in patients. Despite the fact that outbreaks are still quite frequent and routine screening is still crucial, the prevalence of HBV infection has been significantly reduced as a result of the use of control strategies. Major factors in HBV epidemiology include chronically infected people, permucosal or percutaneous exposure to infected blood or body fluids, and HBV transmission by these routes. The results of the current investigation showed that married people had higher rates of both forms of hepatitis. Additionally, a study revealed that intra family spread of HCV also occurs because people who live with an HCV-positive patient have seropositivity for anti-HCV that is 5–10 times higher than it is in the general population. So, the increased rate of intra-family transmission of hepatitis and the frequent occurrence of hepatitis in married people may be related to each other. Since sanitary conditions and educational attainment also have a role in the spread of hepatitis, prevention of the disease depends on raising public knowledge. According to the results of the current study, Hepatitis B and C are more common in 20- to 23-year-old men, married people without formal education, people living in rural areas, and those who are 20 to 23 years old. When compared to individuals using the right medicine, the prevalence rate was higher among those without a medical history. Therefore, educating the ignorant population and educating married individuals and those living in rural areas about cleanliness and attentive hepatitis prevention measures could be effective ways to reduce and manage the prevalence of hepatitis in these groups.

Correspondence to: Lindsey Kennedy, Department of Internal Medicine, Institute of Baylor Scott & White Health, Texas, USA, E-mail: Kennedy@gmail.com

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