

## The Prevalence of Occult Hepatitis B Virus Infection in a Single Hemodialysis Unit

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**Background :** Despite the hepatitis B virus (HBV) vaccination, HBV infections are still a threat in the dialysis unit. A possible contributing factor is the presence of occult HBV, defined as serum HBV-DNA positive in patients with negative serum hepatitis B surface antigen [HBsAg]. There are reports that the occult HBV infection can be transmitted and may lead to complications such as cirrhosis and hepatocellular carcinoma. Thus, in this study, we evaluated the prevalence of occult HBV infection in a single hemodialysis unit.

**Methods :** 114 patients, who were receiving hemodialysis at the Bun Dang Cha General Hospital, were selected. There were 57 males, and mean age was 55.7 years. Serum samples were collected and tested for the HBsAg. Four patients showed positive reaction for HBsAg (3.5%), and the remaining 110 patients were negative. For control, 120 healthy subjects from the routine health examination, who were negative for HBsAg, were selected. The nested polymerase chain reaction (PCR) using primers of surface region and core region were performed to test the HBV-DNA. The sample had to show positive reaction for both the S- and C-region in order to be positive for HBV.

**Results :** 18 of 110 hemodialysis patients (16.4%) were tested positive for the HBV-DNA, compared to 3 of 120 control (2.5%) using the nested PCR ( $p < 0.05$ ).

**Conclusion :** HBV viremia is approximately 4 to 5 times more prevalent in dialysis patients than the results of standard HBsAg testing would suggest. Therefore, screening with sensitive PCR-based assays should be performed in susceptible dialysis patients for HBV-DNA.