

Serological Profile of Hepatitis B infection in Healthcare Workers at Royal Irrigation Hospital

Hattapornsawan Y

ABSTRACT

Background: The hepatitis B is a serious disease caused by hepatitis B virus (HBV). Hepatitis B infection is transmitted through contaminated blood and body secretion. The HBV infection poses problems not only in high risk group of patients but in healthcare workers. Therefore, this study was aimed to evaluate the prevalence of HBV infection in healthcare workers at Royal Irrigation Hospital.

Methods: A cross-sectional study of 544 healthcare workers over 15 years of age at Royal Irrigation Hospital was conducted during January to March 2007. Blood samples of all subjects were checked for hepatitis B profile.

Results: There were 457 females and 87 males with an average age of 40.38 (ranging 21 to 60). Among these subjects, 303 (55.69 %) personnel were HBsAg negative and Anti HBs negative (no immune status) and 27 (4.97%) personnel were HBV carriers.

Conclusion: A large percentage of healthcare workers at Royal Irrigation Hospital have no immunity against hepatitis B infection. Therefore, this is important to promote education and HBV vaccination in healthcare workers.

Key words : hepatitis B, HBV, healthcare workers

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INTRODUCTION

Hepatitis is an inflammatory process of liver disease that can be caused by various viruses such as hepatitis A, B, C, D, E and etc. The hepatitis B virus (HBV) is one of the most common caused, Around the world, 400 million people are chronically infected with HBV.⁽¹⁾ Hepatitis B infection is a highly prevalence that approximately 5 million of carriers found in Thailand. Hepatitis B infection is transmitted through contact with

contaminated blood and body secretion. For example mother to child transmission, sexual transmission, intravenous drug used and parenteral route.⁽²⁾ Approximately 95% of the people who expose HBV in adult period are able to spontaneously eradicate the virus from their own immune systems without complications. The remaining people become to carriers or chronic hepatitis which increased risk of developing chronic liver disease such as cirrhosis or hepatocellular carci-

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noma.⁽³⁾ Hepatitis B related liver disease leads to death in 15% to 25% of patients with chronic infection. An effective vaccine is available for protection against HBV and should be given to all infants and adolescents up to 18 years old. Moreover, any high risk adults should be vaccinated.

In the hospital, healthcare workers are at high risk of exposing HBV infection.^(4,5) To prevent infection, any healthcare workers who have no antibody to hepatitis B virus should be given hepatitis B vaccine.^(6,7)

In order to evaluate and determine the prevalence of hepatitis B in Royal Irrigation Hospital. We designed a cross sectional study and screened our personnels for hepatitis B profile, to find out the HBV infection status. For whom positive HBV infection, they were referred to a medical specialist for HBV treatment. The others who were not infected or previous immunization, vaccination was given.

PATIENTS AND METHODS

This study was a descriptive cross-sectional study. The study was conducted to evaluate and determine the prevalence of hepatitis B immune status of healthcare workers at Royal Irrigation Hospital during January to March 2007. The study populations consisted of the high risk healthcare workers from several health service departments of the hospital, such as Out-patient department, In-patient department, Emergency department, Operation department, Labor room, Central supply department, Pharmaceutical department, Laboratory room etc. Healthcare workers from each health service departments were enrolled. Education program by a medical specialist was done such as learning about hepatitis B and vaccination, keeping a healthy

lifestyle, eating healthy food, avoiding alcohol drinking and adequate sleep. Blood samples of all subjects were checked for hepatitis B profile (HBsAg, AntiHBs). Data collected including patient's demographics and results of hepatitis B. Healthcare workers who had positive for HBs Ag were referred to a medical specialist for treatment and follow up, whereas healthcare workers who were not infected were vaccinated on schedule.

RESULTS

In the Royal Irrigation Hospital, there were 996 personnel dividing into 812 healthcare workers and 184 officers. In 812 healthcare workers, there were 50 physicians, 13 dentists, 14 pharmacists, 286 nurses and others.

There were 544 healthcare workers enrolled during the study, the mean age was 40.38 (range 21-60 years) and 457 healthcare workers (84%) were females. The screening tests for HBV infection are summarized in Table 1. According to the findings, 303 healthcare workers (55.69%) were not infected or immune to hepatitis B virus (HBs Ag: negative / AntiHBs: negative) and 214 healthcare workers (39.34%) were immune to hepatitis B virus (HBs Ag: negative / AntiHBs: positive). There were 27 healthcare workers (4.97%) found hepatitis B infection (HBs Ag: positive/ AntiHBs: negative).

DISCUSSION

Hepatitis B is a serious disease caused by hepatitis B virus that infected the liver. The hepatitis B virus can cause cirrhosis, liver cancer, liver failure and death.

Table 1. The results of hepatitis B profile among healthcare workers

Hepatitis B profile	Male (n, %)	Female (n, %)	Total (n, %)
HBs Ag : positive / AntiHBs : negative	8 (1.47 %)	19 (3.50 %)	27 (4.97%)
HBs Ag : negative / AntiHBs : positive	30 (5.52 %)	184 (33.82%)	214 (39.34%)
HBs Ag : negative / AntiHBs : negative	49 (9.00%)	254 (46.69%)	303 (55.69%)
Total	87 (16.00%)	457 (84.00%)	544 (100%)

Hepatitis B vaccine is the best prevention of hepatitis B infection. In the hospital, healthcare workers are at high risk of exposing HBV infection but they are often unaware of this infection. They are unaware and ignore their hepatitis B immune status. To prevent this infection, healthcare workers who have no antibody to hepatitis B virus should be given hepatitis B vaccine. In our study showed that more than fifty percent of healthcare workers in Royal Irrigation Hospital at high risk of exposing HBV infection were not immune to hepatitis B virus. Our infectious control committee concern this issue and provide vaccination to these groups. Whereas personnel who had hepatitis B infection were referred to a medical specialist (Gastroenterologist) for definite treatment and follow up.

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