Prevalence of Viral Hepatitis B in BPKIHS, Dharan, Nepal

ABSTRACT:

Aim of the present study is to assess prevalence of viral hepatitis B in patients attending B. P. Koirala Institute of Health Science Dharan, Nepal. During a period of six months (Feb 1998 to July 1998) total 300 patients' sera were tested for hepatitis B surface antigen (HbsAg), of which 15 (5%) were found to be positive. The prevalence was higher (3.6%) in males than females (1.4%). The average age of males and females was 32 and 31 years respectively.

INTRODUCTION:

Viral Hepatitis, an acute inflammation of the liver, has emerged as a major public health problem occurring endemically throughout the world. Hepatitis B infection is acquired from blood and body fluids of an infected person, usually through sex or sharing injection needles. It can also be passed on from mother to baby. Besides producing a severe, and sometimes fatal liver condition, Hepatitis B can cause liver cancer. Hepatocellular carcinoma is common in South-East Asia Region and appears to be closely associated with the Hepatitis B surface antigen (HbsAg) carrier rate. health workers, intravenous drug users and sex workers are high risk groups for Hepatitis B virus infection. Mandatory screening of blood and blood products for (HbsAg) has been introduced in all the countries in South-East Asia Region, barring Bangladesh and Nepal.¹ Prevalence of Hepatitis B varies from country to country and depends upon a complex mix of behavioral, environmental and host factors. In general, it is lowest in countries or areas with high standards of living (e.g. Australia, North America, N. Europe) and highest in countries or areas where socio-economic level is lower (e.g. China, South-East Asia, South America).²

Globally, at least 350 million are chronic carriers of the virus. One quarter will die of liver cancer or cirrhosis of the liver. There are some 4.2 million acute clinical cases each year, sometimes causing jaundice and death of the patients. In the South-East Asia Region, every roughly 14 to 16 million people are infected with Hepatitis B virus. There are an estimated 80 million Hepatitis B virus carriers, representing more than 5% of the population in the Region.¹ In most industrial countries, the carrier rate of Hepatitis B is less than 1%, while in some areas of Africa and South-East Asia, it is higher than 30% .³

This study highlights the problem of viral Hepatitis B seropositivity of patients attending in the Hospital of B. P. Koirala Institute of Health Science Dharan, Nepal.

MATERIALS AND METHODS:

A total 300 blood samples were collected by vein puncture with disposable Syringe from patients attending B. P. Koirala Institute of Health Sciences Dharan, Nepal during Feb. 1998 to July 1998. All the serum samples were tested for hepatitis B surface antigen (HbsAg) by Elisa kit, HbsAg Quickchaser from Dr. Reddy's Laboratories Diagnostic Division. For detection of Hepatitis B antigen in serum.

RESULT:

In the period of six months total 300 patients sera were tested for hepatitis B surface antigen (HbsAg), of which 15 (5%) sera sample were found to be positive. In the positive cases number of males exceeded that of females 73% VS 27%. The prevalence in different age groups is shown in the fig.2. Majority of seropositive individual (3.6%) were in the 21-40 year age groups. The number of infected individual in other age groups 0-20 year age groups and 41-60 year age groups are 0.6% respectively.

DISCUSSION:

The hepatitis B occurs throughout the world. It has no seasonal distribution. In the developed countries, the incidence is more in adults than in children and more in urban than in rural areas. However, in Africa and the Far East, where it is transmitted from mother to offspring or through close personal contact, it is more common in infants and children. The reported prevalence of carriers in different populations varies very

widely from 0.1 per cent in the advanced countries to 20 per cent in the developing nations. The carrier rate is higher in the tropical than in the temperate regions, more in males than in females. Transmission is mainly by the percutaneous route. Besides blood transfusion, a number of therapeutic, prophylactic and diagnostic procedures can convey the infection. The virus is highly infectious and very minute amounts of some carrier sera (as little as 0.00001 ml) can transmit the disease. Therefore, any procedure that can convey traces of blood or serum from one person to another can serve to spread the infection. The disease is particularly common among drug addicts, prostitutes and male homosexuals. Certain groups and occupations carry a high risk of developing infection. These include medical and paramedical personnel, staff of blood banks and hemodialysis units, laboratory worker and staff of institutions for the mentally retarded. Outbreaks have occurred in hospital staff and patients.⁷

In this study, prevalence of viral hepatitis B was found to be 5% Similar study was done in Surkhet valley, HBsAg prevalence rate was found 8.8%, 6.6% in the hospital patients and general population respectively.⁴ Another study conducted in Kathmandu valley, prevalence of hepatitis B among commercial sex workers were found 10.9%, which is higher than this study because that study was done in higher risk groups.⁵

In this study prevalence was found higher in males (3.6%) than females (1.4%) which resembles to the report of Surkhet valley, where the prevalence of HBsAg was also higher in males (9%) than females (8.2%).⁴ In other populations studies, the HBsAg carrier rate is observed to increase directly with age up to a peak and the decline among the older age group (Szbness et al, 1997).⁶ The age specific prevalence in this study was also found to be higher (3.6%) in 21-40 year age groups.

CONCLUSION:

This study shows that prevalence of viral hepatitis B was 5% and most commonly observed in males. The incidence is higher in adult age groups. Since there is no specific treatment, prevention has been the major aim in managing viral hepatitis B. Both pre-exposure and post-exposure administration of hepatitis B vaccine has been recommended. Classical example of post-exposure prophylaxis are protection of newborn infants born to carrier mothers, and individuals accidentally exposed parenterally to HBV infection through transfusion, cut, injuries and needle-sticks. The policy to give pre-exposure prophylaxis to general population should be adopted as soon as possible, to prevent it emerging as a public health problem.

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