

## Prevalence of Hepatitis B Virus in Liver Diseases in Bahawalpur

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### Summary

*To assess the prevalence of Hepatitis B virus infection in liver diseases in Bahawalpur area, 198 patients with acute viral hepatitis, cirrhosis liver and hepatocellular carcinoma were studied by testing Hepatitis B surface antigen (HBs Ag). Prevalence rate for HBs Ag was 67% in viral hepatitis, 73% in cirrhosis liver and 62% in hepatocellular carcinoma with an overall prevalence of 68%.*

### Introduction

Viral Hepatitis is a common public health problem in tropical countries. It can be caused by Hepatitis A Virus (H.V.A.) or Hepatitis B Virus (H.B.V.) or non-A non-B Virus. Of these H.B.V. infection can be detected by a serological marker, Hepatitis B surface Antigen (HBs Ag) which is commonly used in epidemiological surveys.

HBs Ag is the earliest marker of acute H.B.V. infection. Serum titres begin to rise several weeks to months before symptoms appear, perhaps as early as one week after exposure<sup>4</sup>. HBs Ag is usually cleared during the convalescent phase of acute infection following the formation of immune aggregates of HBs Ag and it's antibody anti Hbs<sup>7</sup>.

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About 10% of patients with Hepatitis B do not clear Hbs Ag from the serum within six months. These patients are called carriers. Chronic liver disease is associated with persistent antigenaemia. These patients may remain asymptomatic throughout their life or may develop chronic active hepatitis (C.A.H.), macronodular cirrhosis or hepatocellular carcinoma (H.C.C.)<sup>8</sup>.

Although studies on the prevalence of H.B.V. infection as a cause of liver disease have been done in Islamabad and Karachi but no such study has been previously done in Bahawalpur which is geographically situated midway between Karachi and Islamabad. This study was, therefore, done with a view to find out H.B.V. as a cause of viral hepatitis, cirrhosis liver and hepatocellular carcinoma (H.C.C.) in this part of Pakistan.

### **Material and Methods**

Cases included 198 patients of either sex admitted to two medical units of Bahawal Victoria Hospital, Bahawalpur during the period of June, 1987 to December, 1988. Out of these, 138 had acute viral hepatitis, 52 had cirrhosis liver and 8 were suffering from H.C.C. The diagnosis of these diseases was made from history, physical examination, liver function tests, diagnostic examination of ascitic fluid where required, ultrasonography of the abdomen and in certain cases needle biopsy of the liver and serum alpha-fetoproteins.

HBs Ag was tested by agglutination method using kits (Human, West Germany) having latex particles coated with Gamma globulins from rabbits containing highly purified antibodies with high reactivity for Hbs Ag. This test is a third generation test according to the specifications of F.D.A.

### **Results**

Among 198 patients with liver disease overall prevalence rate for Hbs Ag was 68%. Prevalence was highest among patients with cirrhosis liver (73%), followed by acute viral hepatitis (67%) and lowest among H.C.C. (62%) as shown in Table-I.

**TABLE-I**  
**PREVALENCE OF HBs Ag IN LIVER DISEASES**

Diagnosis	No. of Cases	No. Hbs Ag Positive	Prevalence Rate
Viral Hepatitis	138	92	67%
Cirrhosis Liver	52	38	73%
Hepato-cellular Carcinoma	8	5	62%
Total	198	135	68%

### Discussion

Prevalence of H.B.V. as a cause of acute viral hepatitis, cirrhosis liver and H.C.C. varies in different parts of the world. In acute viral hepatitis, as compared to a prevalence rate of 67% for HBs Ag in our study, results from other studies indicate prevalence rate of 63% in Karachi<sup>10</sup>, 32% in Peshawar, Pakistan<sup>1</sup>, 50% in Los-Angeles, USA<sup>3</sup>, 57% in Gotenborg, Sweden<sup>5</sup>, 80% in Athens, Greece<sup>6</sup>, 54% in Kenya, 62% in Uganda, 82% in Tanzania and 94% in Ghana. Prevalence of HBs Ag in cirrhosis liver in Uganda was 31%<sup>2</sup> compared to 73% in our study. Our study shows that prevalence of H.B.V. as a cause of acute viral hepatitis in Karachi and Bahawalpur, Pakistan is almost similar. The number of patients with H.C.C. in our study is, however, too small to give a definitive conclusion.

Our study indicates that H.B.V. infection is a common cause of viral hepatitis and cirrhosis liver in this part of Pakistan. Although the prevalence of Hepatitis B carriers is low in this area, possibly due to high degree of immunity<sup>9</sup>, it is suggested that contacts of patients with acute Hepatitis-B (particularly spouses) and peoples looking after them (health care workers) should be given Hepatitis-B vaccine to avoid acute as well as chronic complications of H.B.V. infection.

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