

ACUTE SPORADIC VIRAL HEPATITIS-A SERO MARKER STUDY IN 50 CONSECUTIVE CASES

Pages with reference to book, From 231 To 233 .

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Abstract

Fifty cases of sporadic acute viral hepatitis were studied for various hepatitis markers. There was only one case of hepatitis A. Eight percent of the acute cases were due to hepatitis B but 48% of the patients showed evidence of exposure to B virus. Seventy Six percent of the cases were due to hepatitis non-A, non B. This is the commonest type in our study. The incidence of this form of hepatitis is much higher than that reported in Western countries(JPMA 37: 231 , 1987).

INTRODUCTION

Acute viral hepatitis is a common problem in Pakistan. It can be caused by different viruses. The clinical features and biochemical parameters do not differentiate between various types of acute viral hepatitis. Serological markers are extremely useful for this purpose¹.

We have carried out a serological study of 50 consecutive cases of acute viral hepatitis admitted in a local military hospital.

MATERIAL AND METHODS

Fifty consecutive cases of acute viral hepatitis, seen during the period 1984-1985, were included in this study. All patients were diagnosed on the basis of history, physical examination and routine laboratory investigations.

Routine blood studies performed on all patients included complete blood count, differential, haemoglobin estimation, prothrombin time, serum bilirubin, alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase, albumin and globulin estimation.

Serological assays for HAV infection included tests for antibody to hepatitis A virus (anti-HAV) by radioimmunoassay (HAY AB:

Abbot Laboratories), as well as specific IgM antibody to HAV by the same technique.

Serological tests for hepatitis B included tests for hepatitis B surface antigen (HBs Ag), antibody to HBs Ag, antibody to hepatitis B core antigen (Anti-HBc) and IgM antibody to hepatitis B core antigen (IgM Anti-HBc) All the tests were performed on the sera stored at -20°C. Radioimmunoassay was used for estimation of all these markers.

RESULTS

All patients were male, with median age of 28 years. All had symptomatic jaundice. On the basis of serological results, the patients were divided into three groups (Table).

TABLE
Serological Results of 50 Consecutive Cases of
Viral Hepatitis.

Group I (n = 1)	Group II (n = 11)	Group III (n = 38)
HBs Ag= -ve IgM HAV = +ve	HBs Ag= +ve IgM HAV = -ve IgG HAV= +ve	HBs Ag= -ve IgM HAV = -ve IgG HAV = +ve IgM HBc = -ve

There was one case of acute VHA. He showed IgM antibodies 'to HAY in the serum. The remaining 49 patients were divided into two groups on the basis of HBs Ag status. There were 11 HBs Ag positive patients and 38 HBs Ag negative patients.

Out of the 11 HBs Ag positive patients, four were also positive for IgM anti HBc. These were unequivocal cases of acute VHB. The remaining seven were negative for IgM anti HBc and these were not assigned to any specific group.

The third group included 38 patients of, non A non B hepatitis. They were negative for Hbs Ag, IgM anti HBc, IgM anti HVA and positive for IgG anti HVA.

Out of this group 13 were positive for IgG anti HBc. This indicates previous exposure to HBV in these patients.

DISCUSSION

Acute viral hepatitis is a common problem of many developing countries including Pakistan. The disease is caused by different viruses with distinct morphology, mode of infection, epidemiology and sequelae¹. It is important to distinguish between these entities for evaluation of potential long term sequelae and for proper understanding of the methods to reduce eradicate this problem on a scientific basis.

The last 30 years have seen remarkable advance in our understanding of viral hepatitis. The major breakthrough was made by the discovery of HBs Ag by Blumberg and Co-workers in the early 1960.² In 1973, agent of type A hepatitis was visualized by electron microscopy³ The availability of tests to identify hepatitis caused by HAY, HBV and other viruses led to the discovery of non A, non B viruses.⁴ The clinical and biochemical features, though showing some differences, do not enable differentiation between these related viral disorders with certainty. The serological markers have proved useful and specific for this purpose^{5,6}

Until recently hepatitis A was considered to be the most common type of acute viral hepatitis in

Pakistan. In this study, only one case (2%) was due to hepatitis A. Forty nine (98%) patients showed the presence of IgG type of antibodies to hepatitis A virus in their sera, indicating previous exposure and development of immunity to hepatitis A. This indicates that hepatitis A is rare in our adult population and most of the adult population is immune to hepatitis A due to exposure during the early years of life. Eleven patients (22%) showed the presence of HBs Ag in their sera. Four of them were also positive for IgM antibodies to hepatitis B virus core antigen. These four patients (8%) were considered unequivocal cases of acute hepatitis B. This percentage is lower than that observed by other workers (Zuberi-Personal communication). It is possible that this may be due to a greater number of non A non B cases in our study because of seasonal variation in the incidence of non A non B hepatitis.⁷

No definite diagnosis could be made in the seven patients, without IgM antibodies to core antigen, in their sera. They could be patients of non A non B hepatitis or even that of hepatitis B.

Although the number of acute hepatitis B cases were not many, 48% of cases showed exposure to B virus. All of these patients showed IgG antibodies to HBc antigen for the presence of B surface antigens. In view of the fact that virus B can persist for long periods of time and can cause chronic liver disease as well as Hepatocellular carcinoma, it is a very serious situation. It calls for further studies to document the epidemiology of this type of hepatitis.

Seventy Six percent of our patients were due to hepatitis non A non B. This rate is much higher than the reported incidence of 22-26% in the USA^{5,8}. The incidence of non A non B hepatitis in U.K. is also low and the rate of 13% has been reported in London⁹. It is more in conformity with the reported incidence of 58% in India¹⁰. The reason for higher percentage of non A non B hepatitis is not definitely known. It may be due to almost complete exclusion of hepatitis A in the adult population. It is also probable that the disease in the West is caused by an entirely different virus^{11,12,13}. The disease in the developing countries seems to be transmitted through oro-faecal route as compared to the parenteral route of transmission observed in Western countries^{14,15,16}.

In view of the unsatisfactory hygiene and lack of pure water supply, it is not surprising that incidence of non A non B hepatitis should be so high in these countries.

It is important to study the epidemiology, clinical features and long term sequelae of non A non B hepatitis in this country. This is important for prevention of non A non B hepatitis and for assessing the extent of potential hazard of the chronic disease.

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