DIFFERENCES BETWEEN ANTIGEN NEGATIVE AND ANTIGEN POSITIVE HEPATITIS

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Abstract

Differences between 158 HBsAg negative and 96 HBsAg positive hepatitis were studied.

Antigen negative hepatitis occurred more frequently in younger patients, its onset was acute with severe prodromal symptoms. Elevation in the levels of bilirubin, SGOT and SGPT was not as marked as in HBsAg positive cases. Recovery period was also shorter in these cases.

Antigen positive hepatitis was seen in all age groups, its onset was incidious and the prodromal symptoms were not very severe. Various clinical and biochemical parameters took 1-5 weeks more to return to normal than the negative group (JPMA 29: 110, 1979).

Introduction

Infections with hepatitis viruses are widely prevalent all over the world. Two viruses, A and B which produce hepatitis are well recognised (Zukerman 1978) but there is a third group of Non A, Non B hepatitis which may be due to a transmissable agent (Hoofnagle et al., 1977) which has not yet been identified.

Differences have been observed in the etiological agents (Blumberg et al., 1968; Prince, 1968; Maynard, 1975) and clinical presentation (Sama and Tewari, 1974; Wewalka, 1974) of two types of hepatitis.

This report consists of differences observed in the two types of hepatitis seen at this Centre.

Material and Methods

One hundred and fifty-eight HBsAg positive and 96 HBsAg negative patients with acute viral hepatitis were examined.

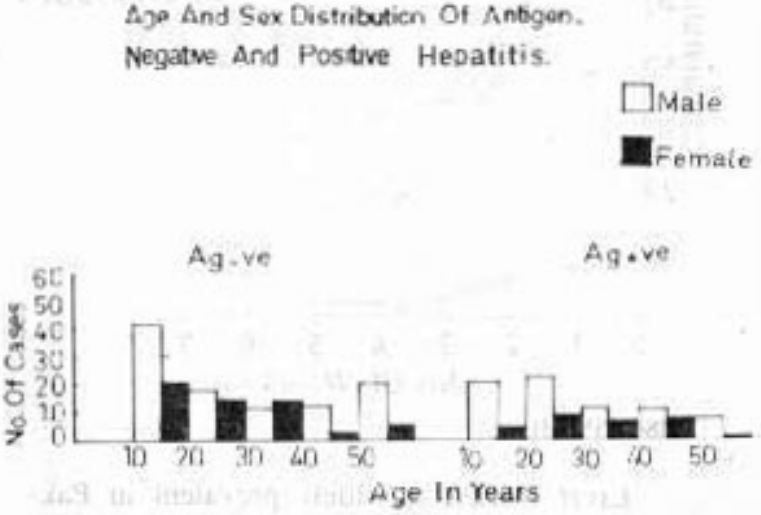
A complete history and physical findings were recorded. A past history of contact with hepatitis and jaundice and the history of blood transfusion, dental extraction, injections and operations was also obtained.

Blood was drawn for haematological and biochemical investigations and the patients were followed up at weekly intervals till they were clinically well and their biochemical tests returned to normal. Liver biopsy using menghini technique was done in all the cases to confirm the diagnosis.

Results

Age and Sex:

Fig 1 shows age and sex distribution in two groups. There were 179 males and 82 females. Upto the age of 20 years antigen negative hepatitis was more and above the age of 50 it was less frequent than the antigen positive group.



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Clinical Features:

Fever, anorexia, general malaise, pruritus and arthralgia were seen more often in antigen negative hepatitis and jaundice in the antigen positive group (Table I).

Table I. Symptomatology Differences Between Antigen —ve and +ve Hepatitis.

Symptoms	Antigen —ve Hepatitis (158)		Antigen +ve Hepatitis (96)	
	No.	+ve (%)	No.	+ve (%)
Jaundice	137	(86.71)	94	(97.92)
Anorexia	91	(57.59)	26	(27.08)
Abdominal Pain	127	(80.38)	72	(75)
Fever	143	(90.51)	47	(48.96)
General Malaise	70	(44.30)	26	(27.08)
Pruritus	51	(32.28)	21	(21.88)
Arthralgia	45	(28.48)	21	(21.87)

Past history of contact with hepatitis was present in 27% cases of antigen negative and 26% of antigen positive hepatitis. Previous history of jaundice (11%) was given more often by antigen negative than antigen positive (6.3%) group.

Fourteen per cent of patients in HBsAg positive group and 9% in HBsAg negative received blood transfusion within 3-6 months of onset of hepatitis.

Laboratory Investigation:

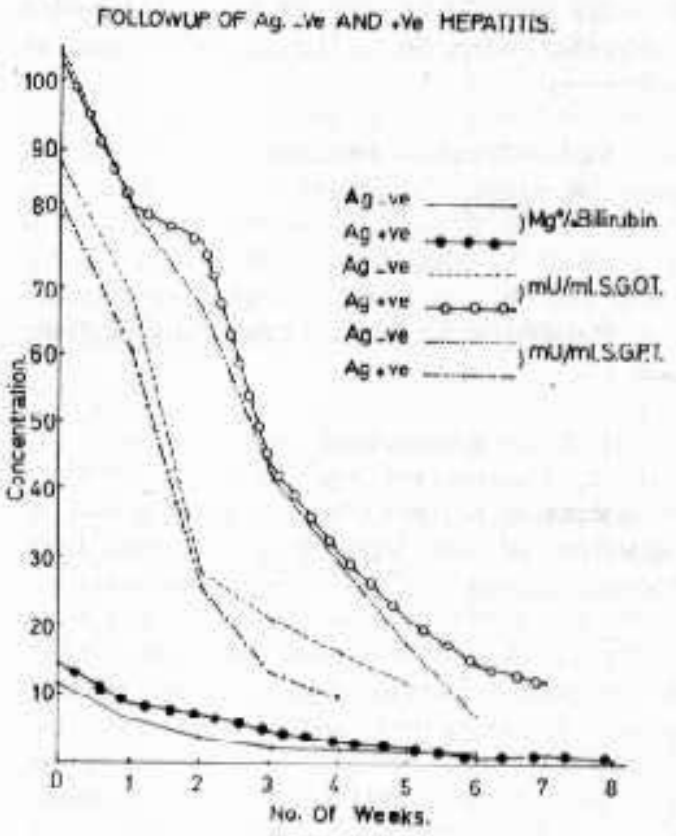
In the antigen positive group, Hb levels were below 11G% in 9 patients. Leucopenia was observed in 15, Leucocytosis in 7, Platelet Count below 100,000/-cmm in 1 and Prothrombin time more than one and a half time of control levels in 10 cases. In the antigen negative group 28 patients had anaemia, 20 leucopenia, 24 leucocytosis, 6 low platelet count and 18 raised prothrombin time.

Biochemical findings are shown in Table II. Slight elevation of bilirubin and moderate elevation of SGOT and SGPT was observed in the antigen positive hepatitis as compared to the antigen negative group but the differences were not statistically significant. No remarkable differences were observed in other biochemical investigations.

Follow up:

A weekly follow up for 11 weeks was obtained in 76 patients of antigen negative and 51 patients of antigen positive group. It took 5.5 weeks for liver to regress in patients without and 10 weeks in patients with HBs antigenaemia.

The time taken for various biochemical parameters to return to normal is shown in Fig. 2. Different parameters took 1 to 5 weeks more to return to normal in those with HBs antigenaemia.



TableII: Biochemical Investigations

Biochemical Investigations	Antigen Negative Hepatitis: Total No. of Cases	Mean ± S.D. ± S.E.	Antigen Positive Hepatitis: Total No. of Cases	Mean ± S.D. ± S.E.
Bilirubin total (mg %)	156	10.12 ± 7.53 ± 0.6	94	12.38 ± 9.14 ± 0.94
Bilirubin Conj. (mg %)	156	7.24 ± 5.79 ± 0.46	94	8.86 ± 6.93 ± 0.71
Bilirubin Uncon). (mg %)	156	2.79 ± 2.58 ± 0.2	94	3.66 ± 2.95 ± 0.3
SGOT (Mu/ml)	158	67 ± 43.75 ± 3.48	94	78.73 ± 42.02 ± 4.29
SGPT (Mu/ml)	158	67.7 ± 40.5 ± 3.22	93	83.43 ± 35.04 ± 3.65
Alk. Phophatase (Sigma units)	143	7.56 ± 4.58 ± 0.38	84	7.07 ± 3.01 ± 0.33
Thymol Turbidity (MC)	74	8.85 ± 5.11 ± 0.59	45	7.06 ± 4.55 ± 0.66
Total Protein (G %)	133	7.38 ± 0.94 ± 0.08	78	7.4 ± 0.89 ± 0.1
Albumin (G %)	131	3.97 ± 0.81 ± 0.07	78	4.05 ± 0.59 ± 0.07
Globulin (G %)	131	3.41 ± 0.94 ± 0.08	78	3.66 ± 3.00 ± 0.34

Discussion

The existence of two types of hepatitis is well established (Blumberg 1968; Maynard 1975) and now a third type which develops after blood transfusion and without antigenaemia has also been recognised (Hoofnagle et al., 1977).

The incubation period of antigen negative hepatitis is shorter (15-45 days), it usually affects younger people and the onset is acute with fever, malaise, jaundice and tender hepatomegaly (Sherlock 1972) as has also been seen in this series. Epidemics of short incubation period, hepatitis usually occur in autumn and winters (Sherlock 1972) but in Pakistan it is seen all the year round. Jaundice in these patients occurs at the peak of SGOT values (Krugman and Giles, 1967). The period of abnormal transaminase activity is transient lasting 2 weeks and rarely persisting more than 3 weeks (Krugman and Giles, 1972). It took 4 weeks for SGPT, 5 weeks for SGOT and 6 weeks for bilirubin to return to normal in this series.

Antigen positive hepatitis has a longer incubation period (50-150 days) and it is seen in all the age groups. Its onset is usually incidious and the prodromal symptoms are mild. Sama and Tewari (1974) found that jaundice was the first symptom in one third of their cases.

If the original attack is more florid the chronic sequalae are less likely to develop. Persistence of antigen after the acute attack is suggestive of development of chronic liver disease (Sherlock 1972). The transaminase levels rise gradually and take a longer time to return to normal (Krugman and Giles, 1972). It has been observed that cases of antigen negative hepatitis take only 6 weeks for complete clinical and biochemical recovery while those with antigenaemia take 3 months (Sama et al., 1972). Antigen positive hepatitis thus appears to be a more serious disease and it more frequently progresses to chronic liver disease (Sama and Tewari, 1974; Sherlock, 1972) than antigen negative hepatitis. Similar course of disease has also been observed in this series.

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