ACUTE SPORADIC HEPATITIS NON A NON B CLINICAL FEATURES AND BIOCHEMICAL PROFILE

Pages with reference to book, From 307 To 309

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Abstract

Hepatitis Non A Non B is the commonest type of sporadic hepatitis in Pakistan. To document its clinicopathological pattern, one hundred consecutive cases were studied. The clinical presentation indicates that it is a disease of mild severity presenting with anorexia and dark coloured urine. The rise in serum bilirubin transaminases and alkaline phosphatase is moderate. Monophasic pattern of transaminase elevation is seen. Chronic sequelae do not occur. The disease shows certain differences from western countries and Japan. It resembles hepatitis A. The possibility that it is caused bya closely related virus may have to be considered (JPMA 39: 307, 1989).

INTRODUCTION

Hepatitis Non A Non B is the commonest type of viral hepatitis in adult population of Pakistan[1]. There are important differences in the epidemiology and clinical features of the disease in different geographical regions of the world[2-4]. These differences suggest that the disease is caused by more than one etiological agent. The incidence of chronic sequelae also varies according to the type of virus implicated in the disease process[5]. Data of such nature being scarce in Pakistan, we have carried out a study of 100 consecutive cases to document the clinical features, biochemical profile and incidence of chronicityin Hepatitis Non A Non B.

MATERIAL AND METHODS

All patients of acute viral hepatitis admitted in a Military Hospital during the period of study were included. These patients were diagnosed on the basis of history, physical examination and routine laboratory investigations. The diagnosis of non A non B hepatitis was based on exclusion of hepatitis A and hepatitis B by the measurement of serological markers which included IgM and IgG antibodies to HAV, HBs Ag and IgM anti HBc (Radioimmunoassay kits by Abbot Laboratories). Routine laboratory investigations included total and differential leucocyte count, baemoglo¬bin estimation, prothrombin time, serum bilirubin (total direct, indirect), alanine transaminase, aspartate transaminase, alkaline phosphatase, al¬bumin and globulin estimation. These assays were performed using standard laboratory techniques. The serum enzyme estimations were repeated after six months of admission.

RESULTS

All patients were male, with median age of 27 years (range 19-44 years). The findings recorded in the past history are presented in Table-I.

TABLE-1 Risk Factors.

Risk Factors	Percentage Incidence
Blood transfusion	2
Injections in past six months	10
Surgery in the past	10
Malaria	5
Contact with hepatitis	12

Ninety eight percent of the patients did not give any transfusion history during previous six months. None of the patients gave positive history of drug abuse. The details of symptoms and signs are presented in Table-II.

TABLE-II. Percentage Incidence of Symptoms and Signs.

Symptoms/Signs	Percentage Incidence
Anorexia	95
Dark urine	100
Fatigue	80
Nausea	54
Abdominal discomfort	35
Diarrhoea	14
Hepatomegaly	85
Splenomegaly	14

Anorexia, abdominal dis-comfort/pain, nausea and fatigue were presenting symptoms in majority of the cases. On clinical examination all patients showed yellowness of the sciera and bepatomegaly. The average duration of stayinthehospitalwas25 days. The duration of stay in majority of the patients was between 14 and 28 days. The results of biochemical investigations (Table-III)

TABLE-III. Biochemical Features (Peak Levels) in Patients of Hepatitis NANB.

Biochemical feature	Mean Value (Range)	Reference Range
Serum Bilirubin	89 umol/1 (49-129)	5-18 umol/1
ALT	82 U/l (58-106)	Upto 17 U/l
Alkaline Phosphatase	90 U/l (40-140)	Upto 40 U/l

showed a moderate five to six fold elevation in serum transaminases. The enzyme level returned to normal during stay in hospital and none of these patients showed abnormal serum enzyme levels after six months. Serum bilirubin level also returned to normal after peak elevation and did not show any subsequent rise. None of these patients showed abnormal prothrombin time. There was no case of thrombocytopenia, neutropenia or pancytopenia.

DISCUSSION

Hepatitis Non A Non B is well known having been recognized in 1974 when many cases of acute viral hepatitis did not show any markers of recent infection with hepatitis A or hepatitis B[6]. The virus responsible for causing this type of hepatitis has not been so far identified. However, the study of epidemiology, clinical features and course of the disease in various countries has shown important differences[2-4]. The major risk factors for development of Hepatitis Non A Non B in western countries are transfusion of blood/blood product and drug abuse. Non A Non B hepatitis develops after blood transfusion in 5-15% of patients receiving one to five units of blood[7]. It accounts for 90% cases of post-transfusion hepatitis even when proper screening for hepatitis B markers is carried out[2,7]. The other risk factors include contact with jaundiced person, previous hospitalization and surgical procedures without history of transfusion[2,4]. Our study shows that these risk factors play a small role in the transmission of the disease. Most of our cases did not give any history of parenteral injections. This indicates that parenteral route plays only a minor role in transmission of hepatitis non Anon B in this country. The study of epidemics of non A non B hepatitis in Pakistan has incriminated unsafe drinking water supply as a major cause. Epidemics of non A non B hepatitis in neighbouring countries like India, Soviet Union and Nepal were also shown tobewaterbornein origin[8-10]. This mode of spread of the virus may also be the most important factor for transmission of sporadic hepatitis[3]. The clinical presentation of our cases indicates a disease of mild severity. Most patients lose appetite and suffer abdominal discomfort followed by development of jaundice. Examination revealed hepatomegaly in majority of these cases. All these features returned to normal during stayin the hospital. The duration of symptoms was less than 04 weeks in over 70% of cases. Arthralgia was noted in 16% of our cases. A similar

percentage has been reported from USA[2] and Japan[4]. Whether the mechanism of production of arthralgia is due to immune complex disease similar to that caused by hepatitis B remains to be ascertained. There have been a number of skin lesions described in Hepatitis non A non B. Liehr et al[11] in a study of 148 consecutive cases of acute and chronic hepatitis described a relapsing papulo vesicular rash in 54(36%) cases. They did not find deposition of immune complexes in these lesions. On the other band Dienstag et at[12] reported circulating immune complexes before and during time of transarninases elevation. Viral infections are frequently accompanied by skin lesions. They are characterized by maculopapular or vesicular eruption predominantly on the trunk and upper extremities. In our cases rashes or vesicular lesions were not recorded. It is possible that in some cases they may have been missed because of darker complexion. On the other band it mayreflect a true difference in patbogenesis. Three patterns of enzyme rise have been described in Hepatitis Non A Non B. These include a monophasic, polyphasic and aplateu like elevation. All of our cases showed a monophasic pattern. It has been observed that polyphasic pattern of enzyme elevation is more common in post-transfusion hepatitis and is associated with the development of chronic hepatitis[13]. None of our patients developed chronic hepatitis. Our findings therefore support the view that monophasic pattern of enzyme elevation is seen in those patients who do not develop chronic hepatitis. Various haematological abnormalities have also been described in 'non A non B hepatitis. These include neutropenia, thrombocytopenia, aplastic anaemia and abnormal prothrombin time[4,14]. None of our patients showed these abnormalities. The significance of these findings remains to be ascertained as the exact mechanism for production of these haematological abnormalities is not known. A very important well known clinical aspect of non A non B hepatitis is its progression to chronicity. Bamber et al[15] reported elevation of ALT in 56% of post-transfusion hepatitis cases for more than 01 year. Other studies reported occurrence of chronicity in 12% of their cases. [15,16] Hyodo et al[4] reported occurrence of chronicity in 33% of his patients of acute sporadic non A non B hepatitis. None of our cases showed enzyme elevation after six months. It therefore appears that hepatitis nonAnon B in this countryis not followed by the development of chronic hepatitis. Our observations indicate that Hepatitis non A non B in this country shows certain distinctive features from those observed in USA[2], Europe[16] and Japan[4]. Parenteral route of transmission is not implicated in majority of our cases. The disease runs a self limiting course of mild severity. It is not associated with haematological abnormalities and does not progress to chronicity. These observations suggest that nonAnon B hepatitis in this country resembles hepatitis A as far as epidemiology, clinical features and incidence of chronicity is concerned. The disease being caused by a variant of or closely related to virus A need to be considered.

REFERENCES

1. Quraishi, M.S., Ahmad, M., Khan, F.A., Mushtaq, S. and Ahmed,SA.Acutesporadicvirnlhepatitis-Asemmarker study in 50 consecutive cases. JPMA., 1987; 37:231.
2. Francis, D.P., Halder, S.C., Prendergest, Ti., Peterson, E., Ginsberg, M.M., Lookabaugh, C., Holmes, J.R and Maynard, J.R Occurrence of hepatitis A, B and nonA/non-B in the United States. CDC Sentinel country hepatitis study 1. Am. J. Med., 1984; 76: 69.
3. Tandon, B. N., Gandhi, B.M., Joshi, Y.K., Irshad, M. and Gupta, H. Hepatitis virus non-A, non-B; the public health problem in India. Bull. WHO., 1985; 63: 931.
4. Hyodo, I., Yamada, G., Nishihara, T., Okushin, H., Kinoyama, S., Sakamoto, Y., Tobe, K. and Nagashima, H. Clinical and histological features of sporadic non-A, non-B hepatitis. Acts Med. Okaynma, 1984; 38: 389.
5. labor, B. The three viruses of non-A; non-B hepatitis. Lancet, 1985; I: 743.
6. Prince, AM., Brotman, B., Grady, G.F., Kukus, W.J., Hazzi, C., Levine, RW.and Milliam, S. J. Long-

incubation post-transfusion hepatitis without serological evidence of exposure to hepatitis B virus. Lancet, 1974; 2: 241.
7. Aach, RD., Lander, J.J., Sherman, L.A. et aL Transfusion transmitted viruses; interim analysis of hepatitis among transfused and non-transfused patients, in viral hepatitis. Edited by Vyas, G.N., Cohen, S.N.and Schmid, R. Philadelphia, Franklin Institute Press, 1978, p.383.
8. Screenivasan, MA., Sehgal, A., Prasad, S.R and Dhorje, S. Aseroepidemiologic study ofa waterborne epidemic of viral hepatitis in Koblapurcity, India. J. Hyg., 1984; 93:113.
9. Kane, M.A., Bradley, D.W., Shrestha, S.M., Maynard, J.E, Cook, E.H., Mishra, RP. and Joshi, D.D. Epidemic non-A, non-B hepatitis in Nepal. Recovery of a possible etiologic agent and transmission studies in marmosets. JAMA., 1984; 252: 3140.
10. Balayan, M.S., Agafonov, V.1., Andzhaparidze, A.G. et al. Viral hepatitis, similar in clinical picture and epidemiology to hepatitis Abut differing from itetiologically. Zh Mikrobiol. EpidemioL Immunobiol., 1982; 8: 79. (NIH Library Translation No. NIA 83-084).
11. Liehr, H., Seeling, R and Seeling, H.P. Cutaneous papulo- vesicular eruptions in non-A, non-B hepatitis. Hepatogastroenterology, 1985; 32: 11.
12. Dienstag, J.L., Bhan, A.K., Alter, Hi., Feinstone, S.M. and Purcell, RI-I. Circulating immune complexes in non-A, non-B hepatitis. Lancet, 1979; 1: 1265.
13. Pastore, G., Manno, L, Santantonio, T. et at. Monophasic and polyphasic pattern of Afanineamino-transferase in Acute non A non B hepatitis. Clinical prognostic implications. Hepatogastroenterology, 1985;32: 155.
14. Zeldis, J.B., Dienstag, J.L, and Gale, RP. Aplastic anemia and non-A, non-B hepatitis. Am. J. Med., 1983; 74 : 64.
15. Bamber, M., Thomas, H.C., Bannister, B., Sherlock, S. Acute type A, B, and non-A, non-B hepatitis in a hospital population in London; clinical and epidemiological features. Gut, 1983; 24 :561.
16. Sampliner, RE., Woronow, D.L, Alter, Mi., Smallwood, LA., Tabor, E., Dienhardt, F., Roggendorf, M. and Gerety, RJ. Community-acquired non-A, non-B hepatitis; clinical characteristics and chronicity. J. Med. Virol., 1984; 13: 125.