

PREVALENCE OF HEPATITIS B ANTIGEN/ANTIBODY IN PATIENTS OF SYPHILIS

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Summary

In some cases of Hepatitis B antigen positive hepatitis, a history of previous blood transfusion or any parenteral therapy is lacking and evidence for other routes of infections have to be sought. Sexual contact has been suggested as one of the methods of transmission of this infection. To approach the problem from this angle we studied 480 sera which were positive for syphilis serology for the presence of HB antigen and antibody by discontinuous counter immuno electrophoresis method. It was found to be prevalent to the extent of 5.2 per cent against 1.4 per cent found in voluntary blood donors. Our observation agrees with that of other workers that HB antigen/antibody is seen more frequently in patients with positive syphilis serology.

With the discovery of Australia antigen, two clearcut modes of transmission of hepatitis virus are recognised; the oral route for Hepatitis Virus A infections and the parenteral route for Hepatitis B (HB) virus infection. However, soon it has become apparent that HB virus can spread by nonparenteral route also. HB antigen has also been demonstrated in urine, feces, bile and saliva. HB antigen has been detected in semen (Heathcote 1974¹) and in menstrual blood² and it has been suggested that in some cases at least the infection may be transmitted by sexual contact. To investigate this possibility, during the last year we investigated persons who had a positive syphilis serology for the presence of HB antigen/antibody and compared its incidence with that found in people with negative syphilis serology. This

communication reports on our findings of this study.

Materials and Methods

Blood samples were collected from patients attending the venereal disease clinic of the Sassoon General Hospitals, Poona during the year 1978-79. 480 serum samples which showed reactivity in the VDRL test at dilution of 1:16 or above were tested for hepatitis 'B' surface antigen (HB antigen) and antibody (HB antibody) by discontinuous counter immuno-electrophoresis.

Observations

Out of the 480 samples tested, 21 were positive for HB antigen and 4 for antibody, thus giving a total of 25 positive samples i. e. 5.2 per cent of the samples were positive either for antigen or antibody.

Discussion

In some cases of HB antigen positive hepatitis, a history of blood transfusion

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or any parenteral therapy is lacking and evidence for other routes of infection are sought. With the demonstration of HB antigen in semen and menstrual blood, its transmission by sexual contact appears to be a distinct possibility. This has drawn the attention of a few workers. Ohbayashi et al³ have reported an instance where a woman developed acute type B-Sub type adr-hepatitis 50 days after her marriage. In her family, only her husband was found to be a symptomless carrier of the antigen-subtype adr. In another instance⁴ an apparently healthy carrier probably transmitted the disease to four of his female sexual contacts.

Besides this, a few reports have appeared which give indirect evidence about the role of sexual transmission of HB antigen. Hersh et al⁵ have commented on six cases of acute hepatitis which they observed over a period of one year. In five of these cases the spouse of the sex partner of the patient with HB positive hepatitis subsequently manifested jaundice in 2 to 6 months. In these cases, no history of transfusion or parenteral drug administration was obtained. In another study⁴ 13 of the 67 patients with HB antigen positive acute hepatitis admitted to two London hospitals had sexual contacts with individuals who were either jaundiced or positive for HB antigen. Similarly in a venereal disease clinic London a high frequency of HB antigen and antibody was found in patients attending a clinic for sexually transmitted diseases⁶. Vranckx⁷ found a significantly higher incidence of HB antigen and antibody in patients with syphilis than in blood donors and he surmised that there may be a positive correlation between the presence of HB antigen and serological evidence of syphilis. In a slightly different type of work, Kacaki⁸ found a higher prevalence of HB antigen in sera of patients with acute gonorrhoea than in healthy blood donors.

In our study HB antigen or antibody was found to the extent of 5.2 per cent in persons with positive syphilis serology. In this laboratory the incidence of HB antigen in voluntary blood donors was found to be 1.4 per cent. (6 in 420)- the latter group very closely resembling age-wise, the group under study. Thus, HB antigen or antibody was seen more frequently in persons with positive syphilis serology.

All these studies suggest that sexual contact is frequently associated with HB antigen positive hepatitis, though it is not possible to predict the exact mechanism of transmission. It has been suggested that menstrual blood may play a part. HB antigen has been demonstrated in the semen of the carriers also. The amount of antigen excreted in the semen is small, but the infective dose of the antigen is also small.

From our study as well as from those of others, it appears that HB antigen is seen more frequently in people with venereal diseases than in a nonvenereal group and that probably the antigen can be transmitted by sexual contact.

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TRUE or FALSE ?

Langerhans cells are present not only in the epidermis but also in dermis, lymphnodes and thymus with surface marker characteristics similar to monocyte-macrophage series.

(Answer page No. 345)