

INFECTION WITH HBV IN INFANTS BORN FROM ASYMPTOMATIC CARRIER MOTHERS

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Vertical transmission of hepatitis B virus (HBV) from an infectious mother to her infant seems to be an important mechanism for the maintenance and dissemination of hepatitis B in many areas.

This type of infection may be responsible for most asymptomatic HBsAg carriers found in adults (7, 12).

Vertical transmission has been demonstrated in a high frequency from mothers with acute type B hepatitis, especially when hepatitis developed in the third trimester of pregnancy (10), but has also been demonstrated from asymptomatic carrier mothers, more frequent from those with serological evidence of HBeAg (8).

In the few series of neonatal infection reported (2, 11, 12) there are considerable differences regarding the incidence of persistent infection in the children, the grade of liver diseases and the long-term prognosis.

In order to elucidate some of these problems, babies who developed HBs antigenemia after the delivery were followed up for a 2 years' period.

Materials and methods

Eight babies born from asymptomatic carrier mothers, who developed HBs antigenemia 3—6 months after delivery, were investigated for 2 years by regular clinical investigation, measurement of the levels of transaminases, albumine, bilirubin and immunoglobulins.

The children were also investigated for the presence and persistence of HBsAg antibody using Hepanosticon test and for HBeAg antibody estimated by Rheophoresis (4).

Persistent HBs antigenemia was correlated with clinical signs, laboratory data and the presence of e-system.

Results and discussion

In contrast with some previous reports (2, 3, 5), our study indicates that some infected children may be expected to eliminate the agent before the age of one year, with no major complications.

In the transiently infected children a normal anti-HBs response was observed after elimination of HBsAg.

The remaining 4 children developed persistent HBs antigenemia, 2 with slightly higher average of transaminases without other modifications and 2 with signs of chronic persistent hepatitis. (Fig. nr. 1).

Although chronic persistent hepatitis is generally a benign disease with good prognosis, some cases progress to chronic aggressive hepatitis.

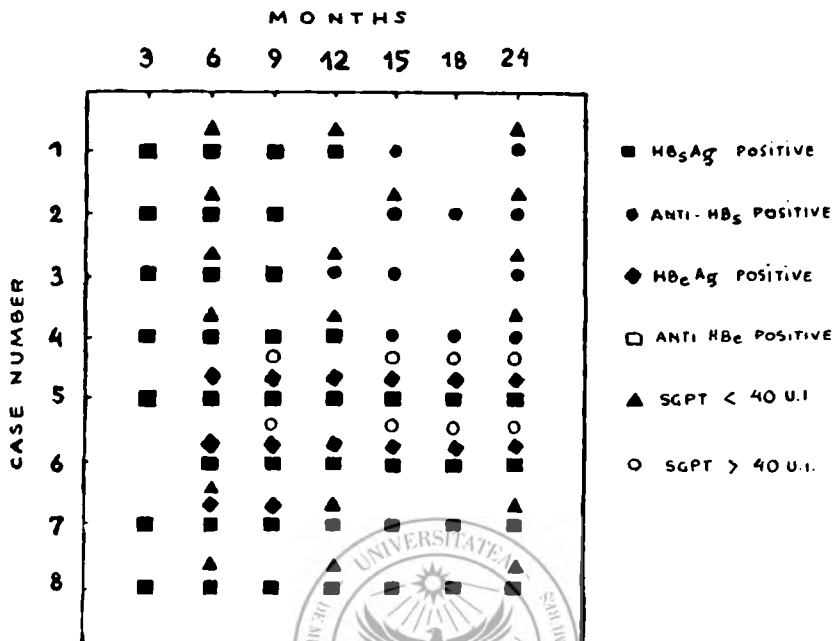


Fig. nr. 1: Biochemical and serological modifications in eight carriers of HBsAg

The presence and persistence of HBeAg may be a criterion for predicting whether the disease will progress to the aggressive form (6).

HBeAg was present in 3 infants and remained so in 2, one of these children had histological signs of chronic aggressive hepatitis.

Generally, the children born from asymptomatic carrier mothers become chronic carrier of HBsAg. The carrier rate in babies infected by vertical transmission has generally been attributed to tolerance related to immunological immaturity in infants; to the genetic factors and to the amount of circulating infectious material in the mother's blood, as reflected by the presence of HBeAg (1).

In a previous study (9) we have noticed that 80% of the children born from positive HBeAg mothers developed HBs antigenemia, whereas only 1.5% of the children whose mothers were HBeAg negative became carriers.

Although the carriers induced by vertical transmission apparently developed normally, the long term-prognosis is unknown, because they seem to be at an increased risk of chronic liver disease, being also vectors for HBV.

In a case-finding study of young hepatoma patients, *Beasley* (1) found 90% of their mothers to be HBsAg positive.

In our opinion it is of great importance to follow up for a long period of time the children with serological evidence of HBsAg born from infectious mothers, in order to estimate the average of reservoir of infection and to establish the long-term prognosis of liver injury.

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