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RECOMMENDATIONS FOR THE MANAGEMENT OF PREVENTION OF VERTICAL HBV AND HCV INFECTION

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The risk of vertical transmission of HBV infection is 5-15%. Most of vertical infections occur in the perinatal period. The main risk factor of vertical transmission of HBV is the size of HBV replication.

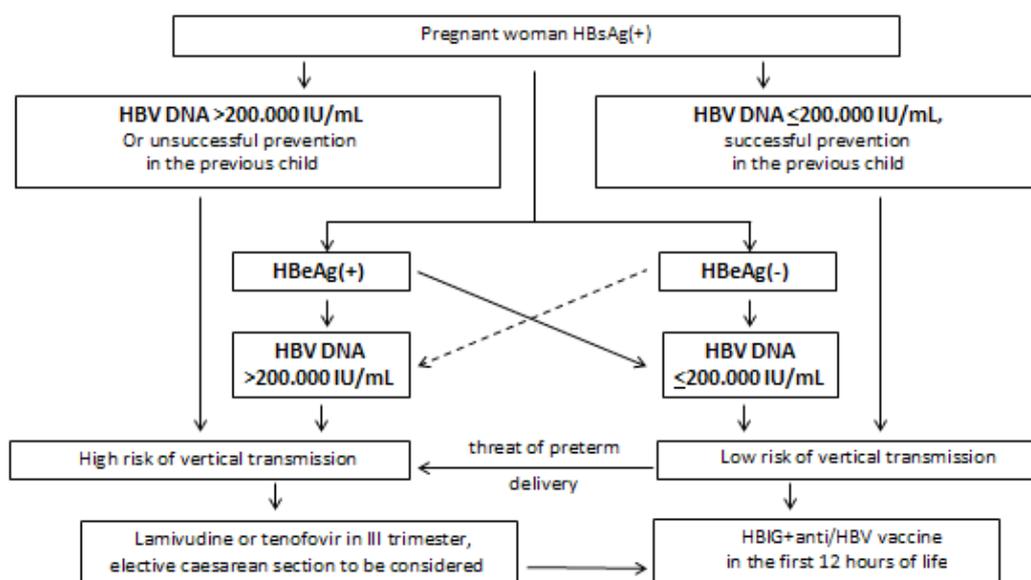
High risk pregnancy with vertical transmission of HBV is considered in case of pregnancy in women with HBV DNA levels above 200 000 IU /mL and/or ineffective prevention of vertical transmission of HBV in the previous pregnancy.

Every woman infected with HBV should have the level of HBV DNA determined at the turn of the second and third trimester. In the case of high viral load (> 200,000 IU / mL) it is suggested to administer nucleoside /nucleotide analogues in the third trimester of pregnancy in order to reduce HBV viral load. Most of the reports describing chemoprophylaxis of vertical HBV concern lamivudine; recently the possibility of using tenofovir has been pointed out. Tenofovir belongs to group B, whereas lamivudine to group C in the FDA classifications on drug use in pregnant women.

Another method of prevention of vertical HBV infection is recommending termination of pregnancy by elective caesarean section. It has been proved that in mothers with high viral load elective caesarean section significantly reduces the risk of vertical transmission.

Regardless of HBV DNA concentration in a pregnant woman, every infant of HBV-infected mothers should receive anti-hepatitis B immune globulin and the first dose of the anti-HBV vaccine in the first twelve hours of life. Four doses of the vaccine are recommended for infants born with birth weight less than 2000g.

In this group of children it is advisable to check the effectiveness of vaccination. Between the 9th and the 18th month in the life of the child of mothers infected with HBV, HBsAg, anti-HBs and anti-HBc IgG should be assessed. For uninfected infants who do not respond to primary vaccination a further series of vaccinations and repeated serological anti-HBs tests are recommended.



Algorithm risk assessment and prevention of vertical transmission of HBV infection

PREVENTION OF VERTICAL HCV INFECTIONS

In every pregnant woman it is advisable to carry out the examination for the presence of anti-HCV. The risk of vertical HCV transmission is above 3-5%, the main risk factor is the size of replication. In women infected with HCV it is necessary to determine the size of HCV replication - HCV RNA concentration in the second trimester of pregnancy.

In case of high viral load ($> 10^5$ IU/ml) elective cesarean section should be suggested to the pregnant woman.

So far no chemoprophylaxis of vertical HCV has been described and some drugs used in the IFN-free treatment of chronic HCV infections (ombitaswir, paritaprewir and dasabuwir- therapy 3D and sofosbuwir) are in group B according to the FDA classification on the use of drugs in pregnant women.

Anti-HCV antibodies cross the placenta, hence they are present in each newborn of HCV infected mothers. In a healthy child anti-HCV antibodies most often disappear during the first year of life but they can persist for up to the 18-th month of age.

Diagnosis of vertical HCV infection requires a minimum of two HCV RNA examinations during the first year's of life of child at an interval of at least three months. Double confirmation of undetectable viral load excludes vertical HCV infection, two positive results confirm the infection.

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