

Perinatal management of hepatitis B infection in South Australia



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Background

Chronic hepatitis B virus (HBV) infection is a major public health problem, with most infection occurring at birth. Pregnancies with high viral load are at greater risk for vertical transmission despite provision of HBV immunoglobulin (HBIG) and infant vaccination; tenofovir use in pregnancy can reduce this risk.

RANZCOG provides guidance on recommended practice

Management of Hepatitis B in pregnancy



Recommendation 4
Postpartum:

- As part of the Australian childhood vaccination program, it is recommended that all newborn infants receive a monovalent paediatric formulation of hepatitis B vaccine at birth (within 24 hours). Following this birth dose, 3 doses of a hepatitis B-containing combination vaccine are recommended for all children, at 2, 4 and 6 months of age.
- If an infant has not received a birth dose within the 1st 7 days of life, a primary 3-dose course of a hepatitis B-containing combination vaccine should be given, at 2, 4 and 6 months of age, catch-up of the birth dose is not necessary.
- In addition to routine vaccination, infants born to HBsAg-positive mothers should receive passive immunisation with HBIG at birth (preferably within 12 hours and certainly within 48 hours).
- Anti-HBc antibody and HBsAg levels should be measured in infants born to mothers with chronic hepatitis B infection 3 to 12 months after completing the primary vaccine course. Referral to a paediatrician with expertise in viral hepatitis is recommended if HBsAg positive.

Recommendation 2
Antenatal management:

- HBsAg-positive women, particularly those with a high viral load, should be counselled about the potential risk of transmission with invasive procedures. NIPT may be an option for some women. In those requiring invasive procedures, amniocentesis is probably safer than CVS, and transabdominal amniocentesis is best avoided, if possible (Grade B).
- All HBsAg-positive women should be tested for HBsAg and anti-HBc, HBV DNA level, to identify pregnancies at increased risk of post-exposure prophylaxis failure. Women should also have an assessment of liver function (Grade A). Women with a high viral load in the third trimester ($>200,000\text{ IU/mL}$, equivalent to 6 log copies/mL) should be offered antiviral therapy during late pregnancy to reduce viral load prior to delivery, and the risk of mother-to-child transmission of Hepatitis B (Grade B).
- In women who are candidates for antiviral therapy, Tenofovir is recommended as a suitable first-line agent. There is good evidence supporting the use of Tenofovir to reduce perinatal transmission of Hepatitis B in pregnant women with a high viral load. (Grade B) If not already associated with a Chronic Hepatitis Clinical Service, pregnancy is an appropriate opportunity to do so, both to assist with immediate decision making regarding antiviral therapy in pregnancy if necessary, and to facilitate long-term follow-up of the patient +/- other affected family members.

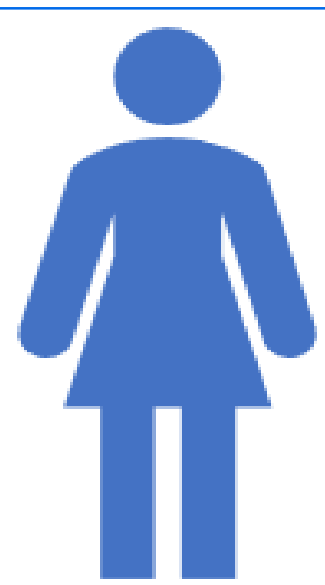
Objective

This study was performed to better understand current perinatal management of women with HBV and their infants in a South Australian context and identify opportunities for practice improvement.

Methods

Retrospective case audit across 3 hospitals assessing: specialist referral, HBV viral load, HBV antiviral use, provision of infant HBIG and HBV vaccination and follow-up.

Results - Women



75 women with HBV – 7 newly diagnosed in pregnancy



Age 33 +/- 5 yrs (mean/SD)



Place of birth: 60% East Asia
16% Africa, 7% Central Asia



73% were referred to a HBV specialist during pregnancy.
15 women (20%) had high HBV viral load ($>200,000\text{ IU/mL}$) - 12 referred to a specialist and 10 received tenofovir.



Follow up of mother's HBV infection was advised for 59% of women.

We acknowledge the financial support received from the Northern Communities Health Foundation

Results - Infants



Birthweight mean 3234.2 +/- 397.6g



13% infants admitted to special care nursery or NICU



98% infants received HBV vaccine, 100% received HBV IG



Documentation advising follow up of infant's HBV status 59%.
37% infants had negative HBV status

Of the 15 infants born to mothers with high viral load, 7 were HBV-immune (all infants of mothers on tenofovir); data was unavailable in 8.

For discussion

In this cohort, a 1/3 of women at higher risk of HBV vertical transmission did not receive recommended antiviral therapy and follow-up of these high risk infants was incomplete. This supports the introduction of improved pathways to manage pregnant women with chronic HBV infection. Efforts should concentrate on increasing uptake of antiviral treatment in high risk pregnancies and follow up assessment of HBV status in infants at increased risk of infection.

We intend to START introducing improved pathways focussing on increasing uptake of antiviral treatment and follow up of infants



Government of South Australia

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