

Management of Hepatitis B in Pregnancy at Geelong Hospital: a retrospective review

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- Population 220 000 → 30 000 of non-English speaking background ¹
- One of top ten regional and rural settlement areas for refugees (2010 – '11) - More than 1500 refugees over the past 5 years ^{1,2}
- Many from hepatitis B endemic countries where most hepatitis B infections occur by mother-to-child transmission ^{3,4}
- Growing number of pregnant women infected with hepatitis B attending the Geelong Hospital for antenatal care and delivery



High viral load (> 10⁷ copies/mL) & HBeAg-positive

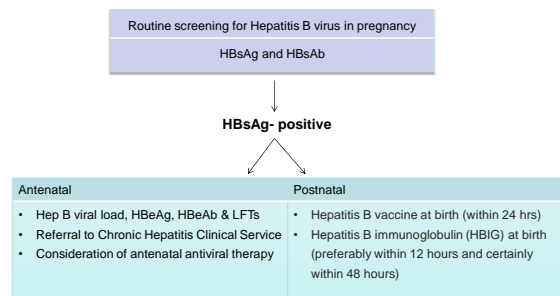
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Significant risk of mother-to-child transmission despite hepatitis B immunoglobulin (HBIG) and hepatitis B vaccination of the infant at birth ^{1,2}

- Rates of perinatal transmission of hepatitis B in an Australian setting ¹
 - A prospective, observational study
 - 138 babies born to HBsAg-positive mothers tested for HBV infection at around 9 months → perinatal transmission identified in 4/138 (3%)
 - All four mothers had very high viral load (> 10⁸ copies/mL) and were HBeAg +ve
- Role of antiviral therapy during pregnancy
 - Antivirals recommended from approx. 30 weeks if HBV DNA > 10⁷ IU/mL ³

1. Wiseman, MJA, 2009 2. Giles, Aust N Z J Obstet Gynaecol, 2013 3. ASID Management of perinatal infections 2014

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1. Royal Australian and New Zealand College of Obstetricians and Gynaecologists clinical guidelines on management of Hepatitis B in pregnancy, 2013

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- Inadequate assessment and management of pregnant women infected with hepatitis B in a number of Victorian hospitals¹
 - Total 398 deliveries to HBsAg-positive women across three different hospitals
 - < 20% had viral load
 - 33% assessed for HBeAg
 - 18% referred for specialist care
- Are hepatitis B infected pregnant women attending the Geelong Hospital receiving optimal care?

1. Giles, Aust N Z J Obstet Gynaecol, 2013

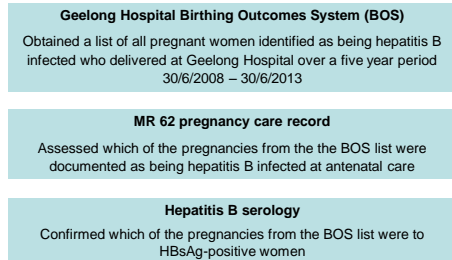
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Aims

1. Review the current routine investigation and management of hepatitis B infected pregnant women at Geelong Hospital over a five year period
1. Determine the ethnicity of hepatitis B infected women who delivered at Geelong Hospital over this period
1. Determine whether there is a need to revise current routine care and management of hepatitis B positive pregnant women at the Geelong Hospital to:
 - a. meet RANZCOG guidelines
 - b. ensure inclusivity of all ethnic groups

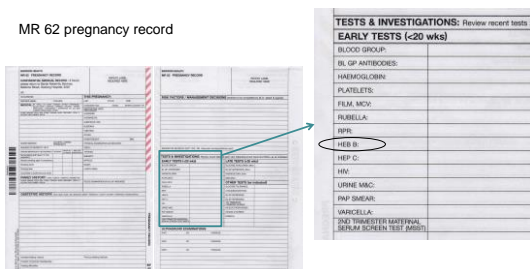
Method

Ethics approval by The Barwon Health Human Research Ethics Committee



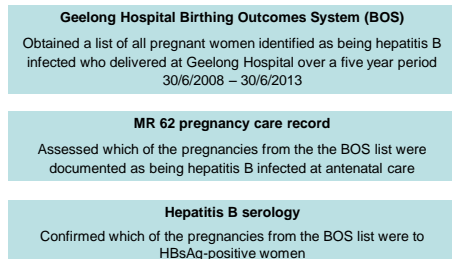
Method

MR 62 pregnancy record



Method

Ethics approval by The Barwon Health Human Research Ethics Committee



Method

Pregnancies to confirmed HBsAg-positive women

Geelong Hospital medical records

Demographic and clinical details

- Country of birth
- Primary language spoken
- Whether English spoken
- Hepatitis B tests performed and LFTs
- Attendance at antenatal care and liver clinic
- Infant hepatitis B vaccine and immunoglobulin administration

Data were entered onto an Excel spreadsheet and analysed descriptively

Results

Birthing Outcomes System (BOS)

82 deliveries to women categorised as hepatitis B infected

47 did not have HBsAg detected on serology

MR 62 pregnancy record

35/82 documented as being hepatitis B infected

1 HBsAg -ve but HBsAb +ve

33 confirmed HBsAg positive
1 HBsAg -ve but HBcorAb +ve

33 pregnancies to confirmed hep B infected women

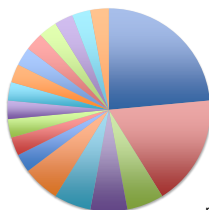
1 with indeterminate hepatitis B status

Data collected for total 34 pregnancies

Results – ethnicity and language

- 28/34 non-Australian born
- 14/34 required use of an interpreter

Country of birth

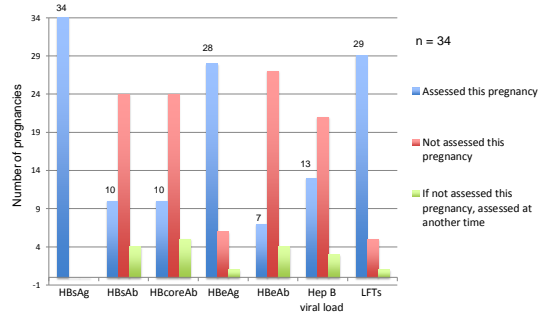


n = 34



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Results – maternal investigations per pregnancy



n = 34



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Results – antenatal, liver clinic and neonatal care

Antenatal and pregnancy care

- Excellent involvement with 33/34 pregnancies attending

Geelong Hospital liver clinic

- Out of 34 pregnancies only 8 were referred and attended during that pregnancy
 - A further 10 were referred and attended outside of that pregnancy
 - 16 were never referred
- More likely to have HBeAg and viral load assessed
- Access to Medicare documented as one of the barriers to liver clinic attendance

Immediate post birth care of the neonate

- Very high adherence to administration of hepatitis B vaccine and HBIG
 - 33/33 live births received hepatitis B vaccine
 - 31/33 live births received HBIG



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Discussion

In summary

- Of the 34 pregnancies analysed:
 - 28 non-Australian born
 - 28 had HBeAg assessed
 - 13 had viral load assessed
 - 8 were referred to liver clinic
 - 33 attended antenatal care
 - 33 and 31 of 33 live births received Hepatitis B vaccine and immunoglobulin respectively

- Birthing Outcomes System database entry did not always correlate with serology

Limitations

- Possibility of additional HBsAg-positive women not included in the study
- Reliance on retrospective data collection



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Discussion

Geelong Hospital liver clinic is liaising with pregnancy care to clarify the referral and management pathway for hepatitis B infected pregnant women

Proposals

1. Hepatitis B package to be provided through pregnancy care for all HBsAg positive women containing:
 - Signed blood pathology slip, Hepatitis B in pregnancy information sheet (discussed in presence of interpreter where required), liver clinic referral form
2. Pregnancy care will book women straight into liver clinic
3. A hepatology tab added to the mother's maternity care folder and the folder made accessible to liver clinic staff
 - Folder will accompany patient to all hospital appointments, whether pregnancy care, liver clinic, delivery or post-natal
4. Women with high hepatitis B viral load cared for as high risk to ensure adequate medical supervision



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Discussion

Future studies

- Separate study analysing the rates of hepatitis B transmission in the babies born to women investigated in this audit
- 12-18 months post implementation of new referral pathway we propose to repeat the clinical audit



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Conclusion

- There is room for improvement in the care of hepatitis B infected pregnant women at the Geelong Hospital
 - Accurate and complete entry of data into the Birthing Outcomes System
 - Routine referral to liver clinic for specialist care and implementation of the RANZCOG guidelines, including routine comprehensive hepatitis B testing



Thank you to

- The midwives and staff at Geelong Hospital Maternity Services
- Claire Geldard, Maternity Services manager Geelong Hospital
- Susan Streat, Centre for Nursing and Allied Health Research, Geelong Hospital



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