South Australian Perinatal Practice Guidelines

Hepatitis C in pregnancy

The 'Management of Perinatal Infections' guideline for Hepatitis C in pregnancy by the Australasian Society for Infectious Diseases 2006 has been used to inform this practice guideline.

Hepatitis C virus (HCV)

- Hepatitis C is a blood borne viral liver infection that can result in liver disease, such as cirrhosis, liver failure and hepatocellular carcinoma (Australian Government Department of Health and Ageing 2005)
- The incubation period is six to ten weeks; however, seroconversion may occur up to three months (ASHM 2001)
- The initial acute hepatitis may not be diagnosed as symptoms are mild or absent
- Symptoms may include:
    - Depression
    - Lethargy
    - Nausea
    - Right upper quadrant pain
    - Malaise
    - Headache
    - Pale stools, dark urine
    - Jaundice

    (ASHM 2001)

- Transmission of HCV is primarily through blood to blood contact, e.g.
    - Sharing drug injection equipment
    - Transfusion of contaminated blood or blood products
    - Needle stick injury
    - Tattooing or body piercing
- Sexual transmission has been documented (extremely rare) (Australian Government Department of Health and Ageing 2005)
- There is minimal risk of transmission of Hepatitis C through medical procedures in Australia due to the introduction of standard precautions for all procedures
- There is no vaccine available against HCV

Literature review

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- Over 242,000 persons in Australia have been infected with the Hepatitis C virus, with approximately 16,000 new cases each year (Australian Government Department of Health and Ageing 2005)
- The majority (75 - 85 %) of individuals who are Hepatitis C RNA PCR positive will become chronically infected
- Positive antibody status (HCV Ab positive) is generally considered a marker of both infection and infectivity
- The risk of perinatal transmission for women who are Hepatitis C RNA PCR positive is approximately 6 %, proportional to the RNA load
- Perinatal transmission is rare in cases of women who are HCV RNA PCR negative at delivery (Palasanthiran et al. 2002)
- Co-infection of HCV with human immunodeficiency virus (HIV) confers a perinatal transmission risk for HCV of 9 - 45 % (Palasanthiran et al. 2002)

Antenatal screening

- In South Australia, routine screening for hepatitis C antibodies is offered to all pregnant women at their first antenatal appointment
- All women, who are pregnant, should receive pre-test education as well as written information about Hepatitis B, C, and HIV to enable them to give informed verbal consent to these tests
- Antenatal counselling in relation to HCV should include:
    - Implications of a negative or positive result
    - Education about factors associated with a high infection rate of HCV
    - Risk reduction strategies (especially if in a high risk category) e.g. avoid sharing toothbrushes, razors or other articles, which may have blood on them
    - The woman's informed verbal consent is required before these tests are ordered
- Obtain HCV serology - micro particle enzyme immunoassay (MEIA test in South Australia) at the first visit
- All positive Hepatitis C MEIA (micro particle enzyme immunoassay) tests require confirmation by Hepatitis C RNA PCR on the same sample

Risk factors for Hepatitis C

- Intravenous drug user (past or present)
- Known abnormal liver enzymes
- Administration of blood products before 1990
- History of organ transplant or haemodialysis
- Partner who is Hepatitis C positive (sexual transmission is extremely rare)
- History of incarceration

Invasive procedures

- There is no data regarding the risk of vertical transmission during procedures such as amniocentesis, chorionic villus sampling and external cephalic version (SOGC 2000)

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- However, in the presence of high level viraemia (e.g. during a primary infection), the vertical transmission risk may be higher. Medical expert consensus recommends that in these cases, the consequences of avoiding the above procedures should be balanced against the risk of increased vertical transmission (SOGC 2000)
    - The risk of maternal fetal haemorrhage during amniocentesis is approximately ten percent (SOGC 2000)

Management of women who are Hepatitis C antibody positive

Notification

- Hepatitis C is a notifiable disease. Notification should be made to the Communicable Disease Control Branch of the South Australian Department of Human Services as soon as possible and at least within three days of suspicion of diagnosis (DHS 2003)
- The appropriate notification form for reporting a notifiable disease or related death in South Australia may be downloaded and is available from URL: http://www.dh.sa.gov.au/pehs/PDF-files/notifiable-disease-form.pdf

Counselling

- Inform the woman early in the consultation of her HbsAg result. (Referral to a specialist infectious diseases clinic may be preferable, if available)
- The medical officer should use clear language (e.g. “You have Hepatitis C”).
- Explain that Hepatitis C is a notifiable disease
- Advise testing for Hepatitis B and human immunodeficiency virus (HIV) if not already tested
- Aim to minimise the psychological impact of the diagnosis. Reassure the woman about confidentiality and offer information about available sources of support within the hospital system
- It is important to assess how much information the woman can process. There may be a need to arrange a number of consultations to discuss implications for the woman and her unborn baby. Referral to an infectious diseases consultant is recommended

Education

- Verbal and written information should be given about:
    - Course of the illness
    - Preventing transmission
    - Need for further serology and monitoring throughout pregnancy and beyond
    - Issues around disclosure and stigmatisation
- Address the need for lifestyle modifications, e.g. avoidance of hepatotoxic substances including alcohol, herbal remedies, and some medications. Cease illicit drug use, smoking, and encourage a well balanced diet and physical activity

Investigations

- Clinical assessment for liver disease should include:
    - Complete blood picture (routinely repeat at 28 weeks)

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- Liver function tests (including ALT, albumin and bilirubin) (repeat at 28 weeks gestation)
- INR
- Hepatitis C RNA PCR (If previously negative or a very high viral load (millions/mL) has been confirmed in this pregnancy, do not repeat the quantitative PCR. If HCV RNA positive (with unknown viral load) or previously low positive viral load (less than 1000 copies / mL), a repeat PCR between 35 and 37 weeks is indicated)

Intrapartum management

- The risk of vertical transmission of hepatitis C virus appears to be related to the level of viraemia in the pregnant mother. There is no evidence that caesarean section will reduce the risk of perinatal transmission (McMenamin et al. 2008)
- Common sense measures should be taken to avoid procedures that may inoculate the baby, for example:
  - Fetal scalp electrodes
  - Fetal scalp blood sampling
- Avoid where possible:
  - Vigorous nasopharyngeal aspiration or oral suctioning of the baby
  - Instrumental modes of birth
  - Ventouse delivery

At birth

- Protective eyewear, gown / apron and gloves should be worn by the attending clinicians

Postpartum

- Recommend Hepatitis A vaccination to the woman

Care of the newborn baby

- Standard precautions should be utilised when handling the baby
- The skin at the injection site should be cleaned with soap and water or with an alcohol swab before administering hepatitis B vaccine, immunoglobulin or Konakion® (vitamin K)

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- The baby should remain in the birthing room until transfer to the ward unless transfer to the nursery is indicated
- Consider washing any visible blood from hair or skin before contact with extended family
- Babies direct rooming in with their mother may be cared for in the ward nursery as required
- Hepatitis C RNA has been detected in breast milk (Palasanthiran et al. 2002)
- Breastfeeding should be encouraged unless nipples are cracked and bleeding (express and discard milk until healed)

Newborn immunoglobulin and vaccination

- Recommend Hepatitis B vaccine (HB vaccine) and preferably administer within 12 hours after birth.
- Hepatitis B immunoglobulin (HBIG) should be administered within 12 hours after birth if **co-infected** with HBV.

Dosage

- (for further information, refer to the Hepatitis B immunoglobulin and vaccination dosage chart)

Follow-up of baby

- The general recommendation for testing a well child with perinatal HCV exposure is to test the child for HCV antibodies at ≥ 18 months of age as transplacental maternal HCV antibodies should clear by then
- If concerned earlier:
- Anti Hepatitis C antibodies
    - Hepatitis C RNA PCR
- Refer to paediatric gastroenterologist / hepatologist for ongoing management if Hepatitis C RNA PCR positive

Follow-up of HCV positive women

- Refer to infectious diseases clinic for counselling and advice on management of Hepatitis C
- If non-immune, encourage immunisation against Hepatitis A and B

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Useful web site

SA Health – You've got what. Hepatitis C
http://www.dh.sa.gov.au/pehs/Youve-got-what/ygw-hepatitis-c.pdf

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Abbreviations

HCV	Hepatitis C virus
ASHM	Australasian Society for HIV medicine
e.g.	For example
%	Percent
Ab	Antibody
RNA	Ribonucleic acid
PCR	Polymerase chain reaction
HIV	Human immunodeficiency virus
et al.	And others
MEIA	Micro particle enzyme immunoassay
DHS	Department of human services
HbsAg	Hepatitis surface antigen
INR	International normalised ratio
HBIG	Hepatitis B immunoglobulin
URL	Uniform resource locator
DoH	Department of Health

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1.0	15 Apr 04	29 Nov 10	Original version
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