HEPATITIS C POSITIVE MOTHERS AND THEIR BABIES

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. AIM

- Appropriate management of woman with Hepatitis C infection
- Reduce mother to child transmission of Hepatitis C
- Appropriate postnatal follow-up optimising maternal and neonatal health

2. PATIENT

- Pregnant woman with chronic or acute Hepatitis C in pregnancy

3. STAFF

- Medical and Midwifery staff
- Student midwives
- Medical Students

4. EQUIPMENT

- Personal protective equipment (PPE)

5. CLINICAL PRACTICE

ANTENATAL

- Counsel and screen woman for Hepatitis C at booking with antibody (Ab) testing. Document on antenatal card and in medical record
- Inform the women if she is Hepatitis C antibody positive that she may have Hepatitis C. Arrange further serology/tests[2]: Hepatitis C Virus (HCV) PCR and liver function tests (LFT). (PCR detects the virus, not just the antibodies to the virus present in blood)
- Inform woman if she is Hepatitis C Ab positive **and** HCV PCR positive using clear language (e.g. "You have Hepatitis C")
- Give woman information leaflet about Hepatitis C if this is a new diagnosis (see patient information leaflet link)
- Arrange an appointment for the woman who is Hepatitis C Ab **and** HCV PCR positive in 'Infections in Pregnancy' antenatal clinic
- Inform infection control Clinical Nurse Consultant (CNC) of new Hepatitis C diagnosis on extension 26339 (leave message with details if outside of business hours)
- Inform the woman that Hepatitis C is a notifiable disease (notify the Public Health Unit (PHU) of all new diagnosis via phone 93828333 and Fax 93828314 business hours or On-Call PHU nurse after hours through POW Switch 93822222)
- Inform woman that treatments for Hepatitis C are not recommended during pregnancy due to teratogenicity, however encourage her to attend the liver or infectious disease clinic in pregnancy to discuss treatment post birth
- Ensure woman has been tested for Hepatitis B and Human Immuno-Deficiency Virus (HIV) during pregnancy
- Refer Hepatitis C positive woman (who does not require an interpreter) to Prince of Wales (POW) Liver Clinic at 20 weeks gestation, with full medical officer details provided (i.e. provider number and contact details) Fax 02 9650 4898, Phone 02 9382 3100; **OR**
- Refer any woman who **requires interpreter service** to Infectious diseases clinic at POW (referral to Dr Kristen Overton or A/Prof Jeffery Post, instead of Liver clinic), with full medical officer details provided (e.g. provider number and contact details) Fax 93823403 Phone 93823405

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- Re-test the woman who is at high risk of contracting blood-borne viruses in the third trimester (as per Sexual Transmitted infections (STI) Blood borne viruses (BBV) Antenatal Screening and Treatment LOP)
- Refer woman who is hepatitis C PCR positive to genetic counsellor if high risk for aneuploidy, and inform genetic counsellor of hepatitis C results. Given the potential for mother to child transmission among HCV RNA positive women with invasive testing such as CVS or amniocentesis, NIPT may be considered as a second-tier screening test, given its lower false positive rate, thus reducing the need for an invasive procedure

INTRAPARTUM

- Take Hepatitis C Ab screen (and full antenatal bloods) on admission for woman who has not been screened or has had no antenatal care. The HBsAg and HIV should be marked as urgent. The laboratory must be phoned between 8am-5pm on Ext. 29152. After Hours phone central reception desk on Ext. 29601
- Avoid fetal blood sampling and the use of fetal scalp electrodes for fetal monitoring, if Hepatitis C PCR positive, where possible
- Determine birth mode according to usual obstetric indications. Caesarean section is not recommended as a means of reducing perinatal transmission of Hepatitis C
- Use standard Personal Protective Equipment (PPE)

POSTNATAL/NEONATAL

- Clean neonate's eyes and non-intact skin with water as soon as possible after the birth[2]
- Clean injection site with alcohol swab before administering vitamin K, hepatitis B or any other injections[2]
- Encourage breast feeding as per Breast Feeding Health Initiative (BFHI) unless nipples are significantly cracked and bleeding. In such cases express and discard milk until nipples healed and breastfeeding can recommence
- Arrange paediatric follow-up for the infant (by paediatric resident medical officer). Infant needs testing with HCV RNA PCR at two and six months of age **AND** HCV antibody, HCV RNA PCR and LFT's at 12-18 months of age:
    - Follow-up at two and six months of age is either at RHW newborn follow-up clinic or Chemical Use in Pregnancy Service (CUPS) clinic if involved prior to birth
    - Follow-up at 12-18 months of age baby referred to Infectious Diseases Clinic at Sydney Children's Hospital
- Ensure woman has postnatal follow-up at POW Liver or infectious disease clinic for possible treatment
- Offer and recommend long acting reversible contraception methods so woman can aim for treatment prior to another pregnancy. [2]

6. DOCUMENTATION

- Medical Record
- Antenatal Card
- Personal Health Record (Baby's blue book)

7. EDUCATIONAL NOTES

- Hepatitis C is a significant public health problem and one of the most commonly reported notifiable diseases in Australia [1]
- Hepatitis C antibody tests can be false positive and or a sign that a woman has cleared the infection. If the hepatitis C PCR test is negative, there is no risk to the mother or baby as the infection is cleared.

HEPATITIS C POSITIVE MOTHERS AND THEIR BABIES cont'd

- Hepatitis C is a blood borne virus predominantly transmitted through sharing injecting equipment, which accounts for approximately 90 per cent of new infections and 80 per cent of existing infections[3]
- Transmission can also occur[1,4] :
    - through non-sterile tattooing and body piercing
    - through non-sterile medical or dental procedures, particularly in countries of high Hepatitis C prevalence
    - from mother to infant during delivery if the mother has detectable Hepatitis C virus in her blood
    - in occupational settings through needle-stick injuries and accidental exposures to infected blood or blood products
    - through transfusion of infected blood or blood products in Australia before 1990
- Around 75 per cent of people exposed to Hepatitis C develop chronic infection, defined as the presence of the Hepatitis C virus in the bloodstream for longer than six months[1]. The remaining 25 per cent will spontaneously clear the infection, but will continue to have detectable antibodies[1,8]
- After an average of 15 years, between 40 and 60% of people with chronic Hepatitis C will experience some symptoms and develop some liver damage. All women who have Hepatitis C should be advised regarding the possibility of ongoing liver damage. Women with chronic Hepatitis C should be advised to limit their alcohol intake[1]
- Rates of vertical transmission are low (~6%). This is negligible if the Hepatitis C RNA is negative. HIV and Hepatitis C RNA positive co-infection increases the risk to 9-45% [5]
- Risk of vertical transmission is increased with high viral load, prolonged rupture of membranes and invasive procedures. Where possible, fetal scalp electrodes and fetal scalp sampling should be avoided in women with HCV.Effective treatment of Hepatitis C became available in 2016, with up to 95% cure rate. Consequently, preconception screening for hepatitis C should be considered in order to offer women treatment prior to pregnancy[2]
- Pregnant women diagnosed with Hepatitis C should be appropriately referred for treatment following pregnancy and cessation of breastfeeding[2]
- Hepatitis C positive women can breastfeed their babies unless actively bleeding e.g. cracked nipples[2]
- Children diagnosed with chronic Hepatitis C should be referred to a paediatric service with expertise in viral hepatitis. Some may have persistently elevated LFTs but children have been known to clear HCV by 5 years of age[5]. There is no established treatment for vertical HCV infection.
- The oral contraceptive pill and progesterone only pills are suitable for most women with chronic Hepatitis C. However for women with severe liver disease options without estrogen, (such as Implanon, Intra-Uterine Contraceptive Device (IUCD) or barrier methods) may be more suitable

8. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP

- Standard Precautions Area Infection Control Policy Directives
- Sexual Transmitted infections (STI) Blood borne viruses (BBV) Antenatal Screening and Treatment

9. Risk Rating

- Medium

10. National Standard

- Comprehensive Care- standard 5

HEPATITIS C POSITIVE MOTHERS AND THEIR BABIES

11. REFERENCES

1 Fifth National Hepatitis C Strategy 2018–2022. Commonwealth of Australia 2018
2 RANZCOG College Statement. Hepatitis C (C-Gen 4). 2020
3 Hepatitis Australia. http://www.hepatitisaustralia.com
4 South Australian Perinatal Practice Guidelines. Chapter 45. Hepatitis C in pregnancy. Sept 2015.
5 Centers for Disease Control and Prevention. Guidelines for prevention and treatment of opportunistic infections in HIV-Infected adults and adolescents. MMWR 2009;58(No. RR-4):84-91.
6 Management of Perinatal Infections, 2014, Edited by P Palasanthiran, M Starr, and C Jones. Australasian Society For Infectious Diseases
7 Thein HH & Dore G 2009, 'Natural history of hepatitis C virus infection', In Dore G, Temple-Smith, M & Lloyd A Hepatitis C: An expanding perspective. IP Communications, Sydney.

REVISION & APPROVAL HISTORY
Reviewed and endorsed Maternity Services LOPs 23/3/21
Approved Quality & Patient Safety Committee December 2012
Endorsed Maternity Services Division LOPs gorup October 2012

FOR REVIEW : APRIL 2024

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CHECKLIST

ACTION	DATE	SIGNED
Arrange further serology / bloods		
Patient information leaflet given re Hepatitis C		
Liver or Infectious Diseases Clinic Referral		
Date seen in Liver or infectious Diseases Clinic		
Postnatal follow-up with Liver infectious Diseases Clinic		
Follow-up for baby arranged		
Infection Control CNC notified (ext 26339)		

INTERPRETATION OF RESULTS

HCV antibody positive and RNA PCR negative	Shows evidence of exposure to the virus. Past cleared infection, past successful treatment, false positive antibody test OR low level viraemia below assay detection level
HCV antibody positive and RNA PCR positive	Indicates active infection
LFTs- ALT elevation	Shows evidence of liver disease, high level associated with disease progression

Patient information leaflets:

http://conditions.health.qld.gov.au/HealthCondition/media/pdf/14/217/75/hepatitis-c-v13

https://www.hep.org.au/wp-content/uploads/2017/09/Factsheet-Hep-C-pregnancy-children.pdf