

Obstetric Guideline 18

HEPATITIS C IN THE PERINATAL PERIOD

The information attached is from the SOGC Clinical Practice Guideline No. 96, October 2000: **The Reproductive Care of Women Living with Hepatitis C Infection**. The information here includes parts from section V. Assessing a Woman's Risk for HCV and all of section VIII. Care of the Pregnant Woman Living with HCV. For consistency, the numbering (including references) corresponds with the numbering in the SOGC guideline.

The entire guideline may be obtained at:

http://www.sogc.org/SOGCnet/sogc_docs/common/guide/pdfs/ps96.pdf

Other web based resources are included at the end of this guideline.

SOGC CLINICAL PRACTICE GUIDELINES

The Reproductive Care of Women Living With Hepatitis C Infection

No. 96, October 2000

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V. ASSESSING A WOMAN'S RISK FOR HCV

4. Effect of HCV infection on pregnancy

Although there is currently little data on HCV infection in pregnancy, the available data does not suggest an increased risk of congenital malformation, fetal distress, stillbirth or prematurity. Women with HCV and their fetuses are at no greater risk of obstetric or perinatal complications compared with other women. There is no contraindication to pregnancy on the grounds of HCV alone.^{100,110-112}

5. Effect of pregnancy on HCV

Very little is reported on the effects of pregnancy on the course of HCV infection. The majority of women appear to be unaffected. Fewer than ten percent display elevated transaminases, and in most cases a decrease in ALT during pregnancy has been noted with a rebound postpartum.^{100,112} It is postulated that endogenous production of interferon by the fetoplacental unit may play a role in the benign course of disease during pregnancy. Cholestasis of pregnancy may be more common among HCV infected women.⁴⁶ Rarely, women may present with advanced liver disease and complications such as oesophageal varices and coagulopathy, posing risks for bleeding with delivery and the possibility of variceal rupture. These cases should be managed in tertiary care settings.

6. Effect on the neonate

Reported rates of vertical transmission vary from zero to 36 percent, with an average of five to six percent in otherwise healthy women.^{4,6,7,63} The risk of transmission in those also infected with HIV is up to 44 percent. Although the available evidence points to the intrapartum period as the main time of transmission, the relative importance of intrauterine versus intrapartum transmission remains to be established. Several studies have documented a significantly greater risk of vertical transmission with maternal HCV viral copies above 1,000,000/ml.^{21,110} A transmission risk of about five percent is generally reported, but it may be as high as 36 percent in the presence of a high maternal viral load.²¹

HCV has not been shown to be teratogenic. Infants born to HCV positive mothers do not show any more neonatal complications than other infants with the same risk factors (such as prematurity, born to injection drug users). Children who become infected are likely to become chronically so. It should be noted that all neonates will have detectable maternal antibodies. For details concerning the testing of infants please see Section VIII.E.2: Infant testing.

7. Breastfeeding

HCV RNA and anti-HCV antibodies have both been detected in colostrum and breast milk.^{36,62} However, in multiple series no case of transmission through breastfeeding has been documented. Therefore, it is generally felt that breastfeeding is not contraindicated.

VIII. CARE OF PREGNANT WOMEN LIVING WITH HCV

A. PRECONCEPTION CARE

Ideally prenatal care should begin at a preconception consultation with a physician knowledgeable in the management of hepatitis C or infectious diseases in pregnancy. It should involve a discussion of the natural history of the disease, implications for the pregnancy, consequences for the fetus, risk of vertical transmission, therapies, and risk reduction behaviours. Possible routes of infection should be discussed in a non-judgmental, sensitive fashion after having established rapport with the patient.

As in all preconception visits, a complete medical history and physical examination should be performed, but with particular reference to issues of importance to hepatitis C, including:

- Current medical history: diagnosis, stage, and course of disease, presence of complications
- Past medical history: other liver conditions
- Past obstetric history: transfusions, cholestasis, HELLP
- Drug history:
 - prescription medication that may be potentially hepatotoxic
 - interferon and ribavirin therapy
 - non-prescription medication – acetaminophen
 - drug abuse – whether the patient has ever injected drugs
- Alcohol history: it is important to emphasize the negative effect of alcohol on the course of disease. Consumption above two units per day accelerates the progression of HCV infection and abstinence represents the best option for all women.
- Liver function: current test results should be obtained and reviewed with the woman.
- Immunity to hepatitis A and B should be determined and immunization offered as appropriate.
- Given that transmission may be related to the presence of circulating HCV RNA, a recent qualitative test may be of use in this discussion. If HCV RNA is negative, then the vertical transmission rate would appear to be decreased almost to zero. Quantitative tests are not yet validated for predicting individual risk. In view of the sophistication of these tests, their interpretation should probably be discussed with a specialist.
- Combined therapy must have been completed for at least six months before embarking on pregnancy.¹¹⁵ The teratogenicity of ribavirin is well documented and inadvertent exposure should result in counselling regarding options. Pregnancy termination is an option to be considered. Information to help the patient receiving interferon consider options remains sparse.¹¹⁶⁻¹¹⁹

B. PRENATAL CARE

Women aware of their HCV positive status should consult their physician early during the course of pregnancy for comprehensive prenatal care. Early assessment of both general physical health and liver function will identify those patients most likely to benefit from a multi-disciplinary team approach. As only about 30 percent of the HCV infected population is aware of the diagnosis, early pregnancy is also an opportune time to identify further cases through risk assessment and targeted screening tests, as previously discussed.

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1. General points

Prenatal care should follow standard guidelines with consideration given to the following points:

- It is worthwhile to continue to seek risk factors at initial and subsequent prenatal visits as previously discussed. Anti-HCV antibodies are not protective and the acquisition of different strains can and does occur, making the implementation of risk reduction strategies worthwhile.¹²⁰
- Frequency of visits should be determined on an individual basis according to the medical and obstetric condition of the patient.
- Patients should refrain from consuming alcohol.
- It may be wise to avoid the use of drugs which are potentially hepatotoxic or require extensive metabolism in the liver during the pregnancy.

2. Laboratory investigations

In addition to routine prenatal laboratory investigations, the following specific tests should be requested in a patient with HCV in early pregnancy:

- Liver function tests, aminotransferases
- Albumin
- Bilirubin
- INR
- Anti-HBs
- Anti-HA total or IgG
- HCV RNA qualitative test

3. Monitoring the pregnancy

- Liver function including transaminases should be measured in each trimester. Baseline values will be useful to distinguish between HCV related liver dysfunction and that from pregnancy induced complications such as gestational hypertension/ HELLP syndrome or cholestasis of pregnancy.¹²¹⁻¹²³
- There is no report of an increase in incidence of preterm labour, IUGR or fetal distress in the pregnancies of women with HCV in the absence of other contributing factors.^{14,31} Consequently, no specific recommendations can be made for fetal assessment during pregnancy.

4. Ultrasound diagnosis

Indications for diagnostic ultrasound evaluation will not differ from that of the general pregnant population, as no association between HCV and fetal dysmorphism has been made.

5. Invasive procedures

There is no data regarding procedures such as amniocentesis, fetal blood sampling, or chorionic villous biopsy, and the risk of vertical transmission.¹²⁴ It is the view of the panel that women

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with undetectable HCV RNA by qualitative PCR may not carry an increased risk of vertical transmission following these procedures. In the presence of HCV RNA, the indication and risk of abnormality must be balanced against the potential increase in transmission risk. The risk of maternal fetal haemorrhage during amniocentesis is approximately ten percent.

C. INTRAPARTUM MANAGEMENT

1. Mode of delivery

Even though a few retrospective studies have suggested a lower transmission rate after caesarean section, the evidence is not conclusive to recommend it as a protective intervention. Women with HCV should therefore be allowed to deliver vaginally unless obstetric reasons dictate otherwise. As in all labours, universal precautions should be observed. There is no need to isolate either mother or infant.

2. Induction of labour

HCV infection is not an indication for induction of labour. Labour should be allowed to begin spontaneously in the absence of other indications. Similarly, augmentation should be performed according to local practices.

Although there is no data regarding the duration of membrane rupture and vertical transmission rates, it would seem sensible to maintain membrane integrity as long as possible to avoid fetal exposure to potentially infected cervico-vaginal secretions. Similarly, episiotomy should require careful consideration.

3. Intrapartum fetal assessment

Intrapartum fetal assessment should follow the clinical guidelines established by the SOGC.¹²⁵ Intermittent auscultation or external monitoring is to be preferred, although no case of fetal infection has been linked to the use of a scalp electrode. However, as internal monitoring, including scalp pH measurement, constitutes a skin breaking procedure, it should be used only if deemed absolutely necessary for the assessment of fetal well-being.

D. POSTPARTUM MANAGEMENT

1. General points

Basic hygiene and the disposal of potentially infected material should be discussed with the patient.

2. Breastfeeding

HCV RNA and anti-HCV antibodies have been detected in colostrum and breast milk. However, in multiple series no case of transmission through breastfeeding has been documented. It is generally felt that breastfeeding is not contraindicated.^{36,62}

3. Contraception

Effective future contraception should be discussed as part of obstetrical care.

E. CARE OF THE NEWBORN

1. General care

Infants may be cared for according to usual hospital procedure while universal precautions are practiced. There is no need for the mother to alter normal child care routines and the use of gloves, masks or extra sterilization is unnecessary. HCV is a bloodborne pathogen and is not transmitted by urine or stools.

2. Infant testing

As passive transfer of maternal antibodies (IgG) occurs transplacentally, all infants of mothers with HCV will be positive for anti-HCV at birth. Uninfected infants should usually have cleared these antibodies by 12 to 15 months of age. The higher the level in the mother, the longer they will take to clear. Earlier verification of infection status is possible, usually starting at two to three months of age, and relies on the identification of circulating HCV RNA by qualitative PCR. It should be remembered that early diagnosis is unlikely to alter the course of events, as the disease in children tends to follow a benign course and therapy is not indicated. However, a negative test may serve to alleviate parental anxiety.

3. Infant immunization

In addition to routine immunizations, immunization for hepatitis B should be commenced in the postnatal period. If the mother is HBsAg positive, appropriate active and passive immunoprophylaxis should be given in the form of hepatitis B immunoglobulin and hepatitis B vaccine. Vaccination against hepatitis A should be given at about one year of age.

A paediatric or infectious diseases consultation is advised to deal with the specific issues regarding testing and immunization.¹²⁶

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RESOURCES

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