

facts on

HCV and Pregnancy

Hepatitis C

Hepatitis C, also known as HCV, is a liver infection caused by the hepatitis C virus. The first 6 months after exposure are referred to as acute HCV. About 25% of people clear HCV on their own (spontaneous clearance), with the remaining developing chronic HCV. Chronic HCV is usually asymptomatic, but without treatment it can cause progressive liver damage with serious health consequences like cirrhosis (scarring of the liver), liver failure, and early death.

HCV is a blood-borne pathogen, meaning that it is spread when the blood of a person with HCV comes in contact with the blood of someone else. The most significant mode of transmission of HCV in Canada is injection drug use and sharing substance use equipment (e.g., needles, pipes, spoons, straws).

Less common modes of transmission include unprotected sexual contact, unsterilized tattoo or piercing equipment, and occupational exposure. HCV can also be transmitted from mother to baby during pregnancy or delivery (called perinatal or vertical transmission).

HCV and Pregnancy

It is estimated that one of every 120 Canadian women who gives birth is infected with HCV. Although there have been calls for universal HCV screening of all pregnant women in Canada similar to what is done for HIV, current screening guidelines focus on those with risk factors.

The Society of Obstetricians and Gynaecologists of Canada (SOGC) recommends offering targeted screening for all women falling into any of the following at-risk categories:

- Individuals who use or have ever used injection drugs
- Patients on haemodialysis
- Patients with persistently elevated ALT (a liver enzyme)
- Recipients of clotting factor concentrates before 1988
- Recipients of blood components or solid organs before 1992
- Recipients of blood components or solid organs from HCV (+) individual
- Person with significant exposure to blood of HCV (+) individual or that of individual at high risk
- Prisoners in correctional facilities
- Infants of mothers living with HCV
- Older children of HCV (+) mothers if there is reason to believe vertical transmission may have occurred
- HIV positive individuals
- Individuals with tattoos (especially performed in prisons)

For More Information

Contact:

1319 Colony Street
Saskatoon, SK S7N 2Z1
Bus. 306.651.4300
Fax. 306.651.4301
info@skprevention.ca
www.skprevention.ca

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Screening of high-risk women is important for treatment following the pregnancy, in order to reduce the risk of HCV-related liver damage and cancer. In order to be effective, risk-based screening depends on active assessment of risk factors by healthcare providers and full disclosure from patients. The SOGC states that testing should occur following adequate counselling and informed consent of the patient. Any woman who receives a diagnosis of HCV in pregnancy should be referred to a hepatologist or infectious diseases specialist.

Vertical Transmission of HCV

The likelihood of vertical transmission of HCV depends on the existence of co-factors and other medical conditions. The rate of vertical transmission from a pregnant woman to her baby is approximately 5% in women who are otherwise healthy. Factors found to increase the risk of vertical transmission include injection drug use, elevated maternal HCV viral load (i.e., HCV viral copies above 1,000,000/ml), prolonged rupture of membranes, maternal cirrhosis, and co-infection with HIV. Maternal coinfection with HIV has been found to be the most important determinant of vertical transmission risk for HCV (i.e., more than double). The use of highly active antiretroviral therapy in pregnant women with HIV appears to lower the increased risk of HCV vertical.

No interventions during pregnancy or at the time of delivery have been demonstrated to reduce the risk of vertical transmission, but the SOGC recommends the following to be of benefit:

- Abstinence from alcohol use, due to the adverse impact of alcohol on the liver¹
- Immunization against hepatitis A and B if not already immunized
- For those who use injection drugs: needle exchange programs, alternative routes of administration, or methadone maintenance therapy²
- Involvement in a support group
- Safer sexual practices for those with multiple partners
- Screening for other sexually transmitted infections, including HIV, syphilis, gonorrhoea, and chlamydia

¹There is no known safe amount of alcohol during pregnancy. Prenatal alcohol exposure causes the leading developmental and cognitive disability in Canadian children – Fetal Alcohol Spectrum Disorder (FASD).

²Saskatoon opened Saskatchewan's first safe consumption site on October 1, 2020. For more information about the site and the services offered, please visit Prairie Harm Reduction's website at <https://prairiehr.ca/>.

HCV Treatment and Pregnancy

None of the antiviral therapies recommended for HCV infection are currently approved for use in pregnancy. Ribavirin-based regimens are particularly contraindicated in pregnancy because of their known teratogenic effects. Because ribavirin can remain in the body for up to 6 months, pregnancy should be avoided in women taking ribavirin and female partners of men using ribavirin until 6 months after completing therapy.

Delivery

The SOGC and others state that women with HCV can deliver vaginally and labour should be left to begin spontaneously, unless obstetric reasons dictate otherwise. It is also recommended that the following procedures be avoided unless deemed absolutely necessary after careful consideration: episiotomy, internal fetal monitoring (e.g., scalp electrodes), and prolonged rupture of membranes.

Effects of HCV on Pregnancy Outcomes

Pregnancy is not contraindicated because of HCV, but as discussed previously, women on ribavirin therapy for HCV should not get pregnant while on treatment. The effects of HCV on a woman's reproductive health depend on the status of her disease. If there is significant liver disease, there may be abnormal menstrual cycles or infertility. Although there is some research that suggests that HCV infection in pregnancy is associated with higher risk of adverse fetal outcomes, the SOGC states that neither women nor their babies are at increased risk of obstetric or perinatal complications due to HCV infection. They state that there is no report of increased incidence of fetal abnormalities, preterm labour, or fetal distress **in the absence of other contributing factors** (e.g., limited prenatal care, substance use).

Effects of HCV on Infants

Infants born to mothers living with HCV do not show any more neonatal complications than other infants with the same risk factors. However, all infants born to mothers with HCV should be evaluated for HCV themselves. Perinatally acquired HCV becomes chronic in approximately 80% of cases. Most of these cases are asymptomatic, with spontaneous clearance rates being approximately 25%. Infants are diagnosed with HCV if they receive a positive test on two occasions between 2 and 6 months of age (using HCV RNA polymerase chain reaction) or at 18 months (using serology).

Aftercare for Women and Babies

Breastfeeding is not contraindicated for mothers living with HCV unless there are other contraindications (e.g., HIV co-infection). Although there is some evidence of HCV in breast milk, when it has been found it has been at much lower concentrations than in blood and there have been no documented cases of HCV transmission through breastfeeding. However, women with a flare-up of chronic HCV with jaundice postpartum, co-infection with HIV, and those who develop cracked, bleeding nipples should stop breastfeeding. These women should pump and discard their milk until their nipples have healed.

There is no need for caregivers to alter normal childcare routines; the use of gloves, masks, or extra sterilization is unnecessary. Blood is the main source of HCV infection; there is no known risk of transmission by saliva, urine, or stools.

For contraception following birth for women not wishing to become pregnant, use of condoms, intrauterine device, and progesterone only based contraceptives are all appropriate methods. Combined pills should be avoided by those with cirrhosis because of the potential impact on the liver. The extent of liver disease should be evaluated before women are prescribed hormonal contraception or hormone replacement therapy.

Importance of Healthcare Providers

The preconception period is an excellent time for screening, diagnosis, and treatment, in an effort to cure HCV before pregnancy occurs. This is beneficial both for the woman's own health and for reducing vertical transmission of HCV if she becomes pregnant. For women who are already pregnant, healthcare providers are in a position to provide women (and their partners) with clear, evidence-based information about HCV during and after pregnancy. For patients to benefit from treatment and care, individuals have to be accessed, identified, educated, and properly treated. Healthcare providers play a vital role in each of these steps.

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