

When pregnant women are not screened for HIV

Alon Shrim MD Facundo Garcia-Bournissen MD Kellie Murphy MD FRCSC Gideon Koren MD FRCPC Dan Farine MD FRCSC

ABSTRACT

QUESTION One of my patients gave birth to a baby later diagnosed with HIV infection. I did not offer this patient HIV screening, as I thought she was at low risk. What are the recommendations for HIV testing and what might be the implications of not screening for HIV?

ANSWER Although screening is currently recommended by all relevant authorities in Canada, more than 10% of women are not screened antenatally, increasing their babies' risk for infection. This rate represents a failure that is probably a combination of omission at times by clinicians, embarrassment about discussing the issue on the part of either the physician or the patient, and poor counseling. All Canadian women should receive appropriate antenatal counseling for HIV screening.

RÉSUMÉ

QUESTION Une de mes patientes a donné naissance à un bébé chez qui on a diagnostiqué par la suite une infection au VIH. Je n'avais pas proposé de dépistage à cette patiente, car je croyais qu'elle était à faible risque. Quelles sont les recommandations concernant le dépistage du VIH et quelles pourraient être les conséquences de l'omission d'un tel dépistage?

RÉPONSE Même si le dépistage est actuellement recommandé par toutes les autorités pertinentes au Canada, plus de 10% des femmes ne passent pas de test de dépistage prénatal, augmentant ainsi les risques d'infection pour leur nourrisson. Ce taux représente un échec probablement attribuable à l'omission occasionnelle de la part des cliniciens, à la gêne du médecin ou de la patiente de discuter de cette question, ou à de mauvais conseils. Toutes les femmes canadiennes devraient recevoir un counseling prénatal approprié concernant le dépistage du VIH.

Acquired immunodeficiency syndrome (AIDS) was first described in 1981.¹ In 2003, it was estimated that there were 40 million infected persons with HIV or AIDS, 5 million new cases of HIV infection, and 3 million HIV-related deaths worldwide.²⁻⁴ In Canada, during the years 2002-2005 the number of positive HIV test reports has been comparatively stable at approximately 2500 each year.⁵ In 2002, 144 people in Canada died from AIDS, and 152 people died from AIDS during the year 2003.⁵

Screening for HIV both worldwide and in Canada

In 1991, universal voluntary prenatal screening was recommended by the Centers for Disease Control and Prevention,⁶ the American Academy of Pediatrics, and the American College of Obstetricians and Gynecologists.⁷ It has also been recommended by the Society of Obstetricians and Gynaecologists of Canada⁸ and the Canadian Medical Association since 1997.⁹

A study conducted from 1998 to 2001 in the United States and Canada reported that the rates of acceptance of HIV prenatal testing depend on the approach used by health care providers.¹⁰ When women are notified that an HIV test is part of a comprehensive set of antenatal tests and procedures and that they have the right to decline testing (unlike the strategy by which women

are asked to specifically consent to HIV testing), much higher rates of prenatal testing have been achieved. In Ontario, where this approach has not been adopted, the overall testing rate is lower (54%) than in other provinces (80%-98%).¹⁰

There have been 2206 infants with HIV following perinatal exposure born between 1984 and 2005 in Canada. The number of HIV-exposed infants reported yearly has doubled from 87 infants in 1993 to 173 in 2005; however, the proportion of infants confirmed to be infected with HIV has decreased from 39.5% in 1994 to 4% in 2005. This decline corresponded to the number of HIV-positive mothers receiving antiretroviral therapy that has increased steadily, reaching a high of 89% in 2005.

The overall proportion of HIV-exposed infants whose mothers' HIV status was attributed to the exposure category of heterosexual contact was 70.7%, while 27.5% were attributed to injecting drugs of abuse.⁵

Effects of HIV infection on the fetus

According to the US Public Health Service guidelines,¹¹ maternal morbidity and mortality are not increased by pregnancy in seropositive asymptomatic women. Conversely, adverse fetal outcomes are increased in these cases; thus, identifying women with HIV is critical for the baby.

Mother-to-child transmission accounts for most pediatric HIV infections. Pregnant women with untreated HIV infection have a vertical transmission rate of 15% to 40% even before breastfeeding. Transplacental transmission can occur early in pregnancy,¹² but it is rare. In most cases, the virus is transmitted around the time of birth. It has been estimated that 20% of transmissions occur before 36 weeks, 50% in the days before delivery, and 30% intrapartum.¹³ Transmission rates for breastfeeding can be as high as 30% to 40%.

Vertical transmission is more common in preterm births and with prolonged membrane rupture.¹ Perinatal HIV transmission is correlated with maternal plasma HIV RNA burden.¹⁴ Neonatal infection ranges from about 1% in women with less than 400 copies/mL to more than 30% when viral RNA exceeds 100 000 copies/mL.¹⁵ Therefore, proper therapy for HIV in pregnancy is crucial to prevent vertical transmission. The guidelines for specific therapy in pregnancy have been modified with the emergence of new antiretroviral therapy and multiple drug therapy. (See current Canadian guidelines available

from http://www.sogc.org/guidelines/index_e.asp or <http://AIDSinfo.nih.gov>.)

Proper counseling

Counseling for HIV testing should include the following explanations.

- The reason for testing is that diagnosis and therapy might improve maternal outcome, but will change the prognosis for the baby radically, as transmission to the baby can be eliminated in most cases.¹⁵
- Most women cannot be absolutely certain that their partners have not been exposed to HIV.

Form for documentation

Most of the antenatal questionnaire forms nowadays include a box for HIV testing. Physicians might want to adopt a form that outlines the benefits of testing and ends with the following 3 options:

- I agree to be tested;
- I decline to be tested; or
- I have decided to delay my decision.

Management of pregnancies complicated by HIV

A full discussion of HIV management in pregnancy is beyond the scope of this update; however, we emphasize the following points of care.

Shared care with an infectious disease specialist is very important. Women with HIV diagnosed in pregnancy require care from their primary caregiver and from an infectious disease specialist, who will remain the key caregiver after the postpartum period.

Patients need proper antiretroviral therapy and possibly prophylaxis or therapy for opportunistic infections.

A diligent search for other infectious diseases should be undertaken. These include the following:

- Prepregnancy or early pregnancy screening for and treatment of syphilis, gonorrhea, and chlamydia are encouraged because these infections can be transmitted to the fetus and be associated with poor fetal outcomes that range from birth defects to neonatal pneumonia. Concurrent syphilis infection is common in other countries. It is associated with increased vertical perinatal HIV transmission.¹⁶
- Screening for antibodies to toxoplasmosis and Cytomegalovirus is not recommended for the general obstetrical population; these studies are often obtained as part of patient's routine HIV care. There have been case reports of congenital toxoplasmosis in babies born to HIV-infected women despite pre-existing antibodies.¹⁷ There is also a theoretical concern that pre-existing Cytomegalovirus antibodies are not as protective for HIV-positive women as they are for HIV-negative women. The case reports and theoretical concern both underscore the need for a detailed second-trimester fetal survey.
- All pregnant women are tested for hepatitis B surface antigen at the beginning of pregnancy.
- Women who are high risk are tested for antibodies to hepatitis C virus (HCV). Women with HIV are at greater risk for transmitting HCV to their babies than women who are HCV-positive and HIV-negative.^{18,19}
- Studies have shown that HIV-infected women, particularly those with advanced disease, have an increased risk of cervical dysplasia.²⁰ Therefore, even while pregnant, HIV-positive women should be regularly evaluated with Papanicolaou smears, colposcopies, and biopsies, if indicated.

Cesarean section. This is indicated for a few patients who have not received optimal antenatal therapy. A full discussion of these indications is outlined in the 2004 guidelines from the Society of Obstetricians and Gynaecologists of Canada.²¹

The patient signs next to her chosen option and the form is attached to the chart.

Conclusion

Pregnancy provides an excellent opportunity to detect HIV infection, alter the course of disease, and prevent vertical transmission. Although antenatal screening is recommended, more than 10% of pregnant women in Canada are not screened antenatally at present. This rate represents a failure that is probably a combination of omission at times by clinician, embarrassment over discussing the issue from either the physician or patient, and poor counseling. All Canadian women should receive appropriate antenatal counseling for HIV screening.

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Exposure to psychotropic medications and other substances during pregnancy and breastfeeding: A handbook for health care providers

While information about how psychotropic medications and substance use affect individual patients has increased steadily over the years, data on how they affect pregnant and breastfeeding women and their infants have unfortunately lagged behind. Now, the Centre for Addiction and Mental Health and the Motherisk Program have collaborated on a new resource, which provides easily accessible data on this subject, including current research and medical recommendations. Written for a range of health care providers that includes physicians, the handbook contains information on stigma, counseling, screening, and evidence indicating the safety or risks of psychotropic medications and other substances (such as alcohol use during pregnancy and breastfeeding). This project was financially supported by a Health Canada grant, is provided free of charge to health care providers throughout Canada, and is available through the Centre for Addiction and Mental Health.

MOTHERISK

Motherisk questions are prepared by the Motherisk Team at the Hospital for Sick Children in Toronto, Ont. Dr Shrim, Dr Garcia-Bournissen, and Dr Farine are members and Dr Koren is Director of the Motherisk Program. Dr Shrim, Dr Murphy, and Dr Farine work in the Maternal Fetal Medicine Unit at Mt Sinai Hospital in Toronto. Dr Koren is supported by the Research Leadership for Better Pharmacotherapy during Pregnancy and Lactation and, in part, by a grant from the Canadian Institutes of Health Research. He holds the Ivey Chair in Molecular Toxicology at the University of Western Ontario in London.

Do you have questions about the effects of drugs, chemicals, radiation, or infections in women who are pregnant or breastfeeding? We invite you to submit them to the Motherisk Program by fax at 416 813-7562; they will be addressed in future Motherisk Updates.

Published Motherisk Updates are available on the College of Family Physicians of Canada website (www.cfpc.ca) and also on the Motherisk website (www.motherisk.org).