Information for Health Professionals on HIV in Pregnancy

When a pregnant woman learns she is HIV-positive, she will be faced with difficult decisions. The following are some questions that might be asked. Answers are suggested that may assist you in helping the woman make these decisions.

IMPACT ON THE INFANT

If the pregnant woman is HIV-positive, what is the risk her infant will be infected?

Without treatment for HIV during pregnancy, about 25 percent of infants born to HIV-positive women will acquire infection from their mothers. There is presently no way of accurately identifying which pregnant women will transmit the virus. In general, women with high concentrations of HIV in their blood (high "viral loads") are more likely to infect their infant, but women with undetectable viral loads have also been reported to transmit HIV perinatally.

An original research study published in 1994 (known as ACTG 076 protocol) reported that mother-to-infant transmission of HIV could be reduced by at least two-thirds (67.5 percent) through the use of the antiretroviral drug zidovudine (ZDV or AZT). This protocol involved oral AZT after the 14th week of pregnancy, intravenous AZT during labour and delivery, followed by six weeks of oral AZT for the newborn infant. Current management includes combination antiretroviral therapy, which has been shown to reduce the risk of transmission to the neonate to $< 1\%$.

How does the infant become infected?

The exact mechanism and timing of transmission of HIV from the mother to her infant are not clearly defined. The infant can become infected in utero, during parturition or through breast feeding, but the largest number of infections occur during delivery. To eliminate the risk of transmission through breastfeeding, it is strongly recommended that women infected with HIV do not breastfeed.

Will the infant have a normal physical appearance?

HIV infection does not affect the physical appearance of a newborn infant.

Is it possible to determine during the pregnancy whether or not the infant will be infected with HIV?

No. There are no diagnostic tests available to determine if HIV has been transmitted to the infant in utero. Ultrasound or measurements of maternal viral load are not helpful. The status of the infant can only be determined by virologic tests done after delivery (see below).

How can it be determined if the infant is infected with HIV?

During pregnancy, maternal IgG class antibodies against HIV cross the placenta so all infants born to HIV-infected mothers will test positive for HIV, using the standard antibody screening test. Maternal HIV antibody can persist in the infant for as long as 12 to 18 months after birth.

To determine if the infant is actually infected with HIV, laboratory tests should be performed after consultation with a Pediatric Infectious Disease specialist in either Edmonton or Calgary.

How soon after delivery can the mother know if her infant is infected with HIV?

The laboratory technology to detect HIV infection in early infancy is improving rapidly. Viral assays must be repeated on the infant several times between birth and six months of age but will usually provide reliable evidence of HIV infection within the first two months of life.

Are the laboratory tests accurate?

If the laboratory tests do not detect HIV in the infant after several months, the mother can be reassured that her infant most likely does not have HIV infection. To confirm this, the infant will require follow up testing to document the loss of HIV antibody at 12 to 18 months after birth.

Is some treatment needed even before you can be sure whether or not the infant is infected with HIV?

It is standard practice to give oral HIV medications, which may contain AZT alone or in combination with other drugs, to all infants born to HIV-positive women for the first six weeks of life.

What about breastfeeding?

Mothers who are HIV-positive should not breastfeed since the virus can be spread to her infant in breast milk.

Free formula for infants born to HIV-infected mothers may be accessed through the Northern and Southern Alberta HIV clinics.

What are the early signs of HIV infection in an infant?

With proper monitoring, the diagnosis of HIV in an infant should almost always have been made before symptoms appear. For mothers who have declined HIV testing during pregnancy or who have not received care for known HIV infection, early signs of HIV infection in the infant may include poor weight gain, diarrhea, oral fungal infections (persistent thrush), fever, irritability, lymphadenopathy, feeding difficulties and psychomotor developmental delays or regression.

How long can a child live with HIV infection?

This is difficult to predict accurately because there are continuing improvements in HIV therapy. Without treatment, about 20 percent of HIV-infected infants will become ill during the first year and their life-expectancy is short. Other children may be asymptomatic for four to five years or much longer. With current treatment, most children may have normal activities, play, go to school and are rarely hospitalized.

IMPACT ON PREGNANCY

What care is needed for a pregnant woman with HIV infection?

She should receive all of the regular prenatal care and advice that would be provided to any pregnant woman. Management of her HIV infection should be in conjunction with an Infectious Disease/HIV specialist. Additional blood tests will be required during pregnancy to monitor the woman's immune status and to measure viral load in order to guide her clinical management.

Can pregnancy make her state of health worse?

There is no evidence of this effect.

How will the delivery go?

Generally, it is preferred that delivery take place at a centre with experience in delivering HIV-infected women. Delivery can take place using the same standard safety precautions regarding exposure to blood and body fluids that should be used for other deliveries. A caesarean section will be done only if medically indicated. Elective caesarean section can reduce the risk of transmission of HIV to the infant and should be considered when a good response to antiretroviral therapy in the women has not been documented. Intravenous antiretroviral treatment will also be given during delivery.

TREATMENT

How will the medication be given?

The treatment will vary from woman to woman. In general, she would be given oral antiretroviral therapy during pregnancy and AZT intravenously at labour and delivery. For the newborn, oral medication in the form of syrup is usually administered, commencing about eight to twelve hours after delivery, and continuing for six weeks after birth.

Can antiretroviral drugs cause the mother problems during pregnancy?

Each of the three antiretroviral drugs used in most regimens can be associated with adverse effects but it is almost always possible to find a regimen that the woman can tolerate well.

Can the antiretroviral treatment affect the infant the mother is carrying?

During treatment with AZT, many infants develop anemia, which is reversible upon discontinuation of the medication.

Although some reports note a possible association between AZT exposure and neonatal mitochondrial dysfunction, these associations have not been supported by the largest study to address this issue.

Some HIV drugs are contra-indicated in pregnancy because they are known to be teratogenic. The long-term effects on the infant of commonly used antiretroviral drugs in pregnancy are less well known.

If the woman is already taking combination antiretroviral agents (including protease inhibitors) should she continue to take them during her pregnancy?

This should be discussed with her HIV specialist who will discuss the options of temporarily stopping drugs during the first trimester or continuing/changing her drug regimen. Some drugs may need to be replaced as they are known to be teratogenic or associated with significant adverse events in pregnancy.

Who starts the treatment?

Physicians must seek advice and assistance in patient management from the HIV clinics in Edmonton or Calgary. These clinics supply the antiretroviral drugs free of charge. Because HIV is reportable in Alberta, the regional Medical Officer of Health will be contacting the attending physician to provide assistance, if necessary, and to ensure that appropriate follow-up services have been offered to the patient.

HIV CLINIC CONTACT NUMBERS:

Calgary:

- **Southern Alberta HIV Clinic (403 234-2399)**

Edmonton:

- **University of Alberta Hospital (780 492-8822 - Infectious Disease specialist on call)**
- **Royal Alexandra Hospital (780 735-4111 - Infectious Disease specialist on call)**
- **Capital Health STD Centre (780 413-5156)**
- **Dr. B. Romanowski (780 436-4900)**

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