Should there be routine testing for human immunodeficiency virus infection in pregnancy?

TESTING FOR HUMAN IMMUNODEFICIENCY VIRUS (HIV) in pregnancy was discussed in a recent Canadian Paediatric Society statement (1). New information has become available since that position was taken and, therefore, it is worth revising the question posed in the title.

The following is a review of the impact of changing information on the five factors that are of critical importance in a screening program.

1. Sensitivity and specificity of the test: The testing for HIV continues to improve so that the proportion of false-positive tests has become extremely low. In addition, the tests to distinguish the infected infant from the infant with maternal antibodies only have improved so that the diagnosis in the infant can be confirmed by about six months of age instead of 15 months.

2. Acceptability and feasibility of the test: The issues discussed in the previous statement about acceptability and feasibility of testing have not changed substantially. Testing includes not only the procedure of the blood test but also counselling and the impact of the result (2). For efficiency, counselling and testing should be included in the routine care of the pregnant woman. Therefore, the issues of feasibility are the purview of those caring for pregnant women.

3. Benefit of early detection: In the previous statement the benefits of early treatment of the infected infant were discussed. However, no comment was made about prevention of transmission of HIV infection to the fetus. Recently, the results of an American study on prevention of maternal transmission by perinatal zidovudine (AZT) therapy were announced by the National Institutes of Health (3). In a randomized placebo controlled trial (ACTG Study 076), the transmission rate was 8.3% when mothers and their babies received AZT, in comparison with a transmission rate of 25.5% among those receiving placebo. The study has now been stopped because this treatment regimen has shown significant efficacy. This study still leaves many questions unanswered, such as the long term effects of AZT on the fetus and whether treatment of both the mother and baby is necessary for prevention of transmission. Nonetheless, an intervention that will reduce by two-thirds the risk of transmission of the virus from the HIV-infected pregnant woman to her baby is clearly significant.

4. Disadvantages of testing: The psychosocial difficulties for an asymptomatic woman learning of her HIV-positive status must still be considered; for example, violence against women with HIV infection (4). In the previous statement the issue of the long period during which an infant has an 'indeterminate' HIV status was discussed. These issues remain but, fortunately, as the testing for HIV improves, the 'indeterminate' period becomes shorter so that currently almost all infected infants can be identified by six months of age.

5. Prevalence of disease: In recent studies of prevalence of HIV infection in women of child-bearing age in Canada, the rates were 1.13/10,000 in Nova Scotia, 8.7/10,000 in Newfoundland and 15.2/10,000 on the island of Montreal (5-7). These rates, though quite variable, geographically indicate that heterosexual transmission of HIV continues to be a problem in Canada and that the number of HIV-positive pregnant women in Canada is significant.

In summary, the new evidence that the rate of transmission of HIV from mother to baby can be reduced by perinatal AZT means that screening pregnant women for HIV infection would not only affect the quality of life for...
mother and child but in many cases prevent this fatal
disease in infants. This preventive strategy requires
collaborative efforts by those who care for pregnant
women to counsel and test for HIV and to offer AZT
therapy during pregnancy; by those in the delivery
room to provide peripartum AZT; and by those who care
for the newborn to continue AZT therapy in the neonate
and to monitor for long term effects of early drug use
[8].

REVISED RECOMMENDATIONS

In the best interest of children, the Canadian Paediatric
Society recommends:
1. HIV testing for all pregnant women.
2. Any HIV testing of either women or newborns should
be voluntary and accompanied by appropriate confiden­
tiality, counselling and informed consent.
3. Until further information is available, HIV-positive
pregnant women and their newborns should be offered
AZT therapy:
   • Starting at 14 to 34 weeks’ gestation, 100 mg AZT
     orally five times daily for the remainder of the
     pregnancy.
   • During labour, a loading dose of AZT 2 mg/kg intra­
     venously over 1 h, followed by continuous infusion
     of 1 mg/kg/h until delivery.
   • For the newborn, starting 8 to 12 h after birth. AZT
     syrup 2 mg/kg/dose qid for six weeks.
4. Pregnant women who have received AZT should be
enrolled in the international Antiretroviral Pregnancy
Registry, telephone 1-800-722-9292, extension 8465,
fax (919) 315-8981.
5. If the mother has not been tested during pregnancy
and if the mother has high risk behaviours or is from
an area of high seroprevalence, then testing of the
mother or newborn is recommended. If the mother
refuses testing, then the infant should be followed
and monitored as an infant of indeterminate HIV
status.
6. HIV testing is recommended for abandoned infants
or infants to be placed in foster or adoptive care,
particularly if testing will facilitate decisions for
placement.
7. Testing in the perinatal period must be part of a
program that includes post-test counselling, retesting
of the infant and medical care of the infant and mother.

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