Perinatal Transmission rate of HIV Infection in Amritsar (Punjab)

Dear Editor,

HIV epidemic has entered the third phase in India, wherein significant transmission is occurring through perinatal route.

Perinatal transmission may occur in utero, during labour, delivery or in postpartum period via breast feeding. There is wide variation in virus transmission rates and the reported risk of transmission from mother to child ranges from 9.1 to 55% in women not receiving antiretroviral (ARV) therapy. In the present study, we report the perinatal transmission rate and various risk factors influencing this transmission in Amritsar (Punjab), which might be helpful in planning strategies to reduce the rate of transmission with the availability of effective ARV drugs at subsidized cost.

This retrospective study is based on data and information collected during the period of four years (January 2001 to December 2004) from 264 female patients who were found to be seropositive for HIV –1 infection at VCTC of microbiology department of medical college, Amritsar. Voluntary testing was carried out after providing pre-test counselling and obtaining written informed consent. During post-test counselling, test results and their implications, specially those related to mother to child transmission (MTCT), were discussed. The mothers were advised to bring their children for HIV testing. In all, 87 children born to 76 mothers were tested. For screening (mothers as well as their babies) ELISA test was used and the reactive serum samples were further tested by 2E/R/S. Of the 87 children, 27 were found to be positive for HIV –1 antibodies and four of them were below the age of two years. RT-PCR was positive in two out of four of these children. Thus, 25 children born to 76 seropositive mothers were found to be infected, which gave perinatal transmission rate of 32.89% (25/76). In another study slightly higher rate of transmission (36.4%) has been demonstrated in Mumbai.

Perinatal transmission of HIV is truly a multifactorial situation and the risk factors associated with transmission include high maternal viral load (specially at the time of delivery), viral prototype, obstetric factors, maternal immune response, prematurity and breast feeding of the babies. Mothers’ immune status as derived by CD4/CD8 lymphocyte cell counts and viral load correlates directly with vertical transmission. In view of this, it is desirable to have facilities for CD4/CD8 estimation in early pregnancy. Prolonged duration of second stage of labor and prolonged rupture of membranes (>4 hours) have also been associated with increased risk of transmission. This association as well as the observation that majority of prenatal transmissions occur intrapartum, may be partially due to exposure of baby’s oral or nasal mucosa to HIV in cervicovaginal secretions. However, birth canal cleansing with antiseptic lotion and avoidance of prolonged rupture of membranes have not produced statistically significant results in reducing the rate of perinatal transmission. Prevention of transmission by elective caesarian section has been a subject of controversy for several years, with some studies showing reduced rate of transmission and others showing no benefit. Breast feeding continues to be associated with increased transmission and is not recommended when safe alternatives exist. By following this concept, benefits of breast feeding, which are traditionally accepted in the Indian society, are lost.

During the period of our study, we observed that only 35.2% (93/264) mothers had knowledge that HIV can be transmitted from mother to child. Other authors reported the awareness of MTCT route in only 15% women. In the present study awareness about their own HIV status was even lesser (8.33%) and awareness about the measures which could be adopted to prevent perinatal transmission was almost nil. They continued to have sexual activity at high frequency during pregnancy. Only 17% (45/264) had institutional deliveries and 5.68% (15/264) had undergone caesarian sections. All of them breast-fed their children and none of them had used ARV drugs. By using Zidovudine 50% reduction in MTCT has been reported in high prevalent states.

Therefore, we conclude that lack of proper knowledge and awareness of MTCT is the most important factor responsible for high transmission rate in our scenario. Women of reproductive age need intensive awareness campaigns and counselling with emphasis on behavioral change. They need to be empowered for contraception, breast feeding and drug therapy. Antiretroviral drugs need to be made available free of cost in public hospitals. Promotion of institutional deliveries, vitamin A supplementation, restriction of invasive procedures like episiotomies and replacement feeding might also be helpful in reducing the rate of transmission.

References


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