

HIV INFECTION AND PREGNANCY

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SUMMARY

Vertical transmission of HIV from the mother to the infant will become nearly the sole route of transmission in future with the current safeguards for the blood supply. Obstetricians need to be aware of the incidence of HIV infection in pregnant women and its potential effects on pregnancy and the infant. As Bombay's biggest 'Red Light Area' is very near to Nair Hospital, a prospective study is being carried out by us.

From April 1990 to June 1992, out of 9945 antenatally registered women, 2.3% were VDRL +ve and 0.25% were HIV +ve. Out of 25 HIV +ve women, 13 were lost to follow up. Out of remaining 12, 6 had full-term normal delivery, 3 delivered prematurely and 2 babies were still born. 50% babies were below 2 kg birth weight. 67% babies were found to be HIV +ve. 7 (58%) went home alive and out of remaining 5 (42%) babies, 2 were still born, 2 died because of prematurity and 1 died within 12 hours of birth due to birth asphyxia.

INTRODUCTION

The epidemic of AIDS caused by the human immuno-deficiency virus is a rapidly evolving health problem of global magnitude. It is estimated that for each reported AIDS case, there are between

90 to 100 apparently healthy individuals infected with HIV, most of whom will eventually develop AIDS. Women represent 10% of all reported adult AIDS cases, and the percentage of women with AIDS has risen from 6.6% in 1985 to 11.5% in 1990. Over 80% of women with AIDS are of reproductive age, and about one-third have HIV by heterosexual

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transmission (Stratton et al, 1992).

The virus is transmitted through 3 main routes - sexual contact, blood and blood related products and perinatal transmission. 75 to 80% of children with AIDS in U.S.A. have acquired their infection perinatally from their infected mothers (Grossman, 1988). With the current safeguards for the blood supply, vertical transmission will become nearly the sole route of transmission in future. Obstetricians need to be aware of the incidence of HIV infection in pregnant women and its potential effects on pregnancy and the infant. He/She should be careful in conducting the labour (normal and operative) and must be capable of providing appropriate counselling and medical care for these patients.

MATERIAL AND METHOD

As Bombay's, biggest 'Red light Area' is very near to Nair Hospital, a prospective study is being carried out by the Department of Obstetrics & Gynaecology, Nair Hospital in collaboration with the Department of Microbiology. From April 1990 to June 1992, total 9945 women registered for antenatal care. VDRL test was done on all of them. All pregnant women were screened for high risk factors viz. prostitution, multiple sexual partners, history of blood transfusion/IV drug use, women who have been sex partners of IV drug abusers, haemophiliacs, bisexuals, those with multiple sexual contacts (Biggar, 1987).

262 women (2.6%) were found to be in the high risk group. After counselling, their blood samples were sent for ELIZA testing for HIV-I. ELIZA testing was

done twice on the same sample 24 hours apart. In our study 229 women (2.3%) were found to be VDRL +ve and 25 women (0.25%) were HIV +ve. All of them were either prostitutes or their husbands gave history of exposure. Out of 25 ELIZA +ve women, Western Blot Test could be done on 14 women only and all these 14 turned out to be WB +ve also. The incidence of HIV +ve women in our study is 2.5 per 1000 women but this is just the tip of the ice-berg because only high-risk group was screened and only HIV-I could be detected. In cities such as Boston, New York and Miami, 1% to 3.5% of women delivering babies are infected with HIV (Landesman S.H. et al).

Out of 25 HIV +ve women, 13 were lost to follow up and in remaining i.e. 12 (48%), delivery outcome was known. All of them were asymptomatic. In the study carried out by P. Stratton et al, in the 12-month period before December 1989, an estimated 1000-1801 HIV -infected women delivered. The majority (82%) were asymptomatic, 12% were symptomatic and 6% had AIDS. In our study, after delivery, ELIZA testing was done on cord-blood of babies of HIV +ve women. HIV +ve women and their babies were assessed for morbidity and mortality.

RESULTS

Table I shows the outcome of deliveries of HIV +ve women. Out of 12, 6 had full-term normal delivery; 3 (25%) delivered prematurely, 1 underwent assisted breech delivery and 2 babies (17%) were still born. Birth weight-

distribution of babies of HIV +ve mothers is depicted in Table II. 50% i.e. 6 were below 2 kg birth weight. Only 2 weighed more than 2.5 kg. HIV status of babies of HIV +ve mothers is shown in Table III. 8 babies i.e. 66.7% were found to be ELIZA +ve. Table IV enumerates causes of mortality and morbidity in babies of HIV +ve mothers. 7 babies i.e. 58% went home alive and out of remaining 5 (42%) babies, 2 were still born, 2 died because of prematurity and 1 died within 12 hours of birth due to birth asphyxia. 2 babies had morbidity in the form of high fever, rash and neonatal jaundice requiring exchange transfusion, but eventually they recovered. These results indicate that premature births, IUGR and still births

complicate these pregnancies.

DISCUSSION

Infants and young children generally acquire HIV in one of two ways - vertical transmission from the mother to the infant (81%) or through contaminated

Table III

HIV status of babies of HIV +ve mothers

HIV status	No.	%
ELIZA +ve	8	66.7
ELIZA -ve	1	8.3
Not known	3	25.0
n = 12	12	100

Table IV

Mortality and morbidity of babies of HIV +ve mothers

Cause of mortality & morbidity	No.	%
Still births	2	16.7
Death-Birth asphyxia	1	8.3
Death-Prematurity	2	16.7
High fever and rash	1	8.3
Jaundice requiring exchange transfusion	1	8.3
Went home alive	7	58.3

Table I

Ourcome of deliveries of HIV +ve women

Mode of Delivery	No.	%
Full term normal	6	50.0
Pre term vaginal Vx	2	16.7
Full term breech	1	8.3
Pre term breech	1	8.3
Fresh still birth	2	16.7
N = 12	12	100

Table II

Birth weight of babies of HIV +ve mothers

Weight in Kg.	≤ 1	1-1.5	1.5-2	2-2.5	2.5-3	> 3
Number	1	0	5	4	1	1
Percentage	8.3	0	41.8	33.3	8.3	8.3
(n = 12)	← 50% →					

blood/blood products either via transfusion (11%) or replacement of coagulation factors (5%). Transmission of virus from the mother to the infant may occur during gestation by crossing the placenta, during delivery by contact with maternal blood-body fluids and post-partum via breast feeding. Studies to date, however, have not shown a protective effect from Caesarean section delivery. It is unknown what percent of vertical transmission can be attributed to each postulated mechanism. Also the exact rate of transmission from infected mother to infant is unknown. The majority of evidence suggests that 25% to 35% of infants born to infected mothers will ultimately be infected. Factors influencing perinatal transmission are severity of the mother's illness, timing of the mother's infection, parity, presence of intercurrent infections etc. Women with clinical AIDS or T₄ cell counts less than 400 are more likely to transmit infection to their offspring than asymptomatic seropositive women. Maternal antibody to a portion of the group 120 molecule is associated with lower rates of transmission. The rate of vertical transmission stated in various studies is as follows-European collaborative study - 24%. Italian Multicentre-study - 32.4%. French collaborative study - 27% (Caldwell & Rogers 1991). In these studies, asymptomatic children who lose HIV antibody during first 15 months of life are considered uninfected. In our study, the rate of vertical transmission is 66.7%. This rate is high compared to other studies

because we have calculated it at the time of the birth (cord-blood samples). Babies who are HIV +ve at the time of the birth should be followed up till they are 15 months old and repeated ELIZA tests should be carried out. Few babies who are seropositive at the time of the birth will ultimately become seronegative due to loss of maternal antibodies by the age of 15 months.

CONCLUSION

Premature births, premature rupture of membranes, IUGR and infections complicate pregnancies of HIV +ve women. Perinatal transmission is the dominant route of HIV infection in infants and young children. The overall risk of perinatal transmission is currently estimated to be 25-50%. The magnitude of the AIDS pandemic will increase over the next few years affecting mothers and children in even greater numbers. Health care workers in MCH programmes, therefore will experience a greater involvement in prevention and treatment of the disease.

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