Research Paper

Volume : 3 | Issue : 12 | December 2014 • ISSN No 2277 - 8179

Proportion of HIV seropositivity among pregnant women attending Tertiary care hospital

Medical Science

KEYWORDS : HIV, Seroprevalence, Pregnancy

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ABSTRACT

TheHIV seroprevalence among pregnant women attending thepublic hospitals has been reported to be between 0.5 and3.3% in various parts of the country. However, recent trendssuggest that the incidence of HIV infection in women seekingantenatal care may be as high as 6%. A descriptive study was carried out in a tertiary care institute to know the seroprevalence of HIV among pregnant women. All the women admitted for delivery during the study period were screened for HIV after taking written informed consent. A seroprevalence rate of 0.45% was seen in pregnant women.

Introduction:

HIV infection has been a major cause of morbidity and mortality since the first case of AIDS among children were reported in 1982. An estimated 40 million people are infected with HIV, 95% of who live in developing countries1.

HIV infection is an unpredictable disease in infants, children and adolescents which involves multiple organ system and is characterized by progressive clinical deterioration and ultimate development of severe immune dysfunction with opportunistic infections resulting in a chronic and very complex illness.

Perinatal transmission of HIV accounts for 90% of pediatric AIDS cases and almost all new HIV infections in children. It has been estimated that approximately 5,00,000 infants become infected each year worldwide, and 1600 new infections occur each day2.

There is abundant evidence that science based HIV prevention is effective, especially when packed by high-level political leadership, a national AIDS programme, adequate funding and strong community involvement. Components of successful prevention efforts include clear and accurate communication about HIV/AIDS and methods to prevent infection, HIV testing and counseling, and treatment of STD'S1.

In the developing world especially in sub-Saharan countries and India, vast majority of people living with HIV/AIDS do not have access to treatment, as a result of limited health care infrastructure and high cost of many medications. It has been estimated that upto $ US 10 billion a year is needed from all sources to address the HIV/AIDS epidemic in the low and middle income countries1.While the world awaits with bated breath for development of vaccine against AIDS, prevention of mother-to-child transmission would be a major breakthrough in pediatric AIDS.

Our study attempts to know the prevalence of HIV infection in this part among pregnant women and how far with treatment are we helping in prevention of mother to child transmission.

The aims and objectives of our study was to know the prevalence of HIV infection among pregnant women attending all the three hospitals attached to J.J.M. Medical Collage.

Methodology:

This was descriptive case series study conducted in three hospitals attached to Tertiary care institute in Karnataka,India. After taking informed written consent, relevant data was collected in a pre tested semi structured questionnaire. All the mothers who were admitted for delivery during the study period of 2 years underwent voluntary counselling and after taking the consent from the mother, blood for HIV serology was sent. Our institution is recognised by the government for PMTCT program and all the antenatal mothers are counselled by the staffs of PMTCT cell who are appointed by the government.

Results:

A total of 14,508 pregnant women were screened at the time of delivery for HIV of which 66 were HIV seropositive. Thus the prevalence of HIV positivity among pregnant women was 0.45%.

Of the 66 HIV seropositive mothers who delivered, infants of 36 mothers could be recruited in the study. The various reasons for not recruiting other cases were: 1. Still births and abortions and 2. Report of HIV testing came after the birth of the baby.

Table.no1: Regional distribution of HIV infected mothers

Residence	No.of cases	Percentage
Rural	14	39.9%
Urban	22	61.1%

No significant difference was recorded in HIV prevalence among seropositive mothers in rural and urban areas

Table.no2: Socio economic status of HIV infected mothers

SES grades	No.of cases	Percentage
Grade I	08	22.2%
Grade II	08	22.2%
Grade III	03	08.4%
Grade IV	09	25.0%
Grade V	08	22.2%
Total	36	100%

HIV seropositivity was equally seen among all social classes

Table.no3: Seropositivity of infants at follow up in relation to mode of delivery

Mode of delivery	No.of cases	HIV +	HIV-
FTND	10	04	06
Forceps	02	01	01
PTVD	02	01	01
LSCS	10	03	07
ND with PROM	06	02	04
Total	30	11	19

Infection rate was significantly lower among babies born by LSCS. However no difference was observed with preterm deliveries and forceps deliveries.

Discussion:

In our study 14,508 antenatal mothers were screened for HIV-1 infection after voluntary counseling. 66 mothers were found to be HIV-1 seropositive which accounts to 0.45% of seroprevalence rate. This seroprevalence rate is almost same as compared to the previous study in our institution which was done by Tushar Jain in the year 2000 where the seroprevalence was 0.6%. The study period was July 1998 to December 1999 in which 11,289 pregnant women were screened, of which 80 were seropositive. The seroprevalence rate is low as compared to the neighboring districts of Karnataka like Bellary and Dharwad which fall in high prevalence districts of Karnataka. The seroprevalence rate in Karnataka (1.13%) is low compared to the neighboring states like Andhra Pradesh (1.5%),Maharashtra (1.75%) and almost similar to Tamil Nadu (1.13%). Karnataka, Tamil Nadu, Maharashtra and Andhra Pradesh fall into high prevalence states which means that more than 1% of antenatal mothers and over 5% of STD patients are positive for HIV infection. Kerala (8.08%) falls into low prevalence states where less than 1% of antenatal mothers and less than 5% of STD patients are positive for HIV infection.

This seroprevalence rate is very low as compared to African countries like Uganda and Rwanda where the seroprevalence is 34% and 30% respectively [3]. Thus it appears that it is the beginning of epidemic in this part of the world and warrants quick and effective intervention to contain it.

Among the maternal risk factors studied, we observed a significant number, 12 out of 19 (63%) of babies born to primigravida mothers becoming Negative by PCR, whereas infants born to multibravida mothers becoming negative was low. However, a study done at Kenya in 1995 did not find parity as a risk factor for vertical transmission[4].

Of the obstetric factors, we did not find PROM as the risk factor for transmission as was noted in earlier studies done by Minkoff et al in 19954. However Bobat et al did not find PROM as a risk factor for transmission4.

In our study, 10 months underwent emergency caesarean section, out of which 7 babies were negative by PCR. This probably shows that caesarean section decreases the rate of transmission. However a recent study done in France showed no decrease in transmission after emergency or elective caesarean section. In a study done, elective caesarean section showed a vertical transmission rate of 2.4% whereas in emergency caesarean section group it was 8.8%5. A recent study of more than 1600 mother infant pairs from France showed no decrease in transmission rates after emergency or elective caesarean section4.

HIV seropositivity was equally seen among all the social classes in the present study. It suggests that HIV infection is a disease probably embarrassing all the classes. A previous study done in our institution also showed similar findings5.

There was no significant difference as for as the rural and urban background of the study population was concerned. Among the study population 22 (60%) came from cities whereas nearly 14 (40%) came from villages. This observation did not differ from the pattern in general admission pattern in the hospital.

Conclusion:

In the present study HIV seroprevalence among pregnant women was 0.45% and all the social classes were equally affected by HIV infection.

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