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Original Research Article

HIV in pregnancy: a study of 30 cases in a tertiary care center in Mumbai, India

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ABSTRACT

Background: HIV/AIDS infection is a significant cause of perinatal morbidity/mortality. Appropriate antiretroviral therapy should be given to all HIV-positive pregnant women to reduce the burden of the infection on mothers and children. The objective of this study was to evaluate the prevalence of HIV infection in pregnant women among age, parity, and mode of delivery and to observe the clinical features, co-existing infections, and various pregnancy outcomes in HIV-positive pregnant women.
Methods: It is a type of research article. The present study was conducted in Unit 2, Department of Obstetrics and Gynaecology, Cama and Albless Hospital, Mumbai, Maharashtra, India, from a period of January 2022 to July 2022, 30 HIV-positive ANC mothers were examined.
Results: About 30 ANC mothers participated in the study in which most of the subjects belonged to the 23-39 years of age group. Maximum patients are multipara.
Conclusions: We found most (66.6%) of the ANC women with HIV-positive status delivered a healthy baby at term.

Keywords: HIV, AIDS, MTCT, PPTCT, FTND, LSCS

INTRODUCTION

HIV/AIDS infection is a significant cause of maternal and perinatal morbidity/mortality. Appropriate antiretroviral therapy should be given to all HIV-positive pregnant women to reduce the burden of the infection on mother and children. The objective of this study was to evaluate the clinical features, co-existing infections, and various pregnancy outcomes in HIV-positive pregnant women.[1]

Human immunodeficiency virus (HIV) was shown to be the cause of acquired immunodeficiency syndrome (AIDS) first in 1983.[2] Although AIDS was first reported in the United States in 1981, mainly amongst homosexuals, HIV infection has now been reported in every country worldwide and has become a global epidemic causing significant morbidity and mortality. Approximately 37.9 million people across the globe were living with HIV/AIDS in 2018, and a whopping 1.7 million of these were children.[3]

The study of HIV during pregnancy holds great significance because many women are unaware of their serological status and are first diagnosed with HIV during pregnancy. Similarly, it is equally important in cases where one or both partners are HIV positive and wish to conceive. In recent years, the lack of social stigma, universal HIV prenatal testing, antiretroviral therapy (ART), scheduled cesarean delivery for HIV-positive women with elevated viral loads, appropriate ART for infants, and avoidance of breastfeeding have shown encouraging results, and the Centers for Disease Control and Prevention now aims to eliminate HIV transmission

from mother to child by reducing its incidence to <1 infection per 100,000 live births.[4]

HIV infection is associated with varying rates of adverse pregnancy outcomes. Some of the known associated poor outcomes include increased spontaneous miscarriages, stillbirths, increased perinatal mortality, intrauterine growth restriction, preterm delivery, low birth weight, and chorioamnionitis.[5]

Because of immunosuppression, HIV can adversely affect the frequency and course of many infections in pregnancy, including genital herpes simplex, human papillomavirus, vulvovaginal candidiasis, bacterial vaginosis, syphilis, trichomonas vaginalis, cytomegalovirus, toxoplasmosis, hepatitis B and C, malaria, urinary tract infections, and bacterial pneumonia. Besides, parasitic infestations and HIV-related opportunistic infections - such as tuberculosis, and pneumocystis jerovecii pneumonia seem to be frequent during pregnancy and in the puerperium.[6]

Pregnancy does not seem to significantly adversely affect the course of HIV infection, progression, or survival. The decline in the CD4 cell count in women with HIV during pregnancy resolves typically in the postpartum period and is attributable to haemodilution.[7]

The psychosocial impact of having a positive HIV test and living with HIV can be overwhelming for new mothers and their families, and hence the British HIV Association (BHIVA) strongly recommends psychosocial assessment and support for these women. This should be done through a well-constituted and dedicated Multi-Disciplinary Team (MDT). Besides, they should also be screened for other sexually transmitted infections as well as bacterial vaginosis and herpes simplex infections and offered cervical cytology to improve outcomes.[8]

HIV infection remains extremely prevalent all over the world, with the highest prevalence in Sub-Saharan Africa and the LIC countries. It affects pregnant women and if not appropriately managed, carries significant morbidity and some mortality, and the risk of vertical transmission to babies. All pregnant women should be presented with the option of an HIV test, and if the female wishes to opt-out, it should be managed as infected. Despite the immune status as evidenced by viral load and CD4 cell count, all pregnant women with HIV infection should receive cART during pregnancy. The duration of cART and suppression of the viral load are essential factors in preventing mother-to-child transmission. When the viral load is well suppressed, delivery should not be different from that of other women, and most interventions like the decision for LSCS should be for obstetric indications. However, if the viral load is not suppressed or if the HIV status is unknown, special care should be taken in planning labor and delivery to prevent perinatal transmission of the virus to the baby. Serodiscordant couples present special problems, and ideal management should begin before the planning of pregnancy. Emphasis is on taking steps to prevent HIV transmission to the negative partner, thus preventing vertical transmission to the newborn.[9]

The objective of this study was to evaluate the prevalence of HIV infection in pregnant women among age, parity, and mode of delivery and to observe the clinical features, co-existing infections, and various pregnancy outcomes in HIV-positive pregnant women.

METHODS

The present study is a type of research article conducted in the Department of Obstetrics and Gynaecology, Cama Hospital, Mumbai, from January 2022 to July 2022, 30 ANC mothers with HIV-positive status were selected.

Selection criteria

30 ANC mothers with HIV-positive status are included.

Consecutive sampling (non-probability sampling) is done: 30 women were registered in ICTC between January 2022 to July 2022

Procedure

After taking detailed history regarding age, parity, marital status, h/o multiple sexual partners, h/o blood transfusions, and mode of delivery, a general physical examination along with ANC examination was carried out. Complete blood count, USG Obs+Doppler+AFI, CD4 counts, and HIV viral load were studied.

Statistical analysis is done by SPSS software and the difference with a p value of <0.05 was considered statistically significant.

RESULTS

There were 30 women included in the study.

Most of the subjects belong 25-29 years followed by 30-34 years showing that the 25-34 years age group are a most affected group in this study (Table 1).

Table 1: Distribution of patients according to age intervals.

Age (years)	Number of patients	Percentage (%)
<20	0	0
20-24	5	16.6
25-29	13	43.3
30-34	10	33.3
35-39	1	3.3
40-45	1	3.3

Among 30 cases of HIV-positive ANC mothers, most of the subjects are multipara: 14 patients (46.6%) followed by primigravida, 9 patients (23.3%) (Table 2).

Table 2: Distribution of patients according to parity.

Parity	No. of patients	Percentage (%)
Primi	9	30
Para 2	14	46.6
Para 3	7	23.3
Para >/4	-	-

Around 83.3% had fatigue or body ache of some kind followed by 23.3% who gave a history of fever (Table 3).

Table 3: Distribution of patients according to symptoms.

Symptoms	No of patients	Percentage (%)
Fever with chills	10	33.3
Rash of any kind	7	23.3
Fatigue/ body ache	25	83.3
Swollen lymph nodes	5	16.6

50% of patients delivered at >38 weeks of gestation (Table 4) with the mode of delivery being LSCS in 53.3% of patients and vaginal delivery in 46.6% (Table 5).

Table 4: Distribution of patients according to gestational age.

Gestational age (weeks)	Number of patients	Percentage (%)
>38	15	50
35-38	10	33.3
<35	5	16.6

Table 5: Distribution of patients according to the mode of delivery.

Mode of delivery	Number of patients	Percentage (%)
FTND	14	46.6
LSCS	16	53.3

In the present study, 50% of women delivered babies weighing between 2.5-3 kg followed by 23% who weighed >3 kg (Table 6).

Table 6: Distribution of patients according to the outcome of pregnancy.

Fetal outcome	No. of patients	Percentage (%)
Healthy	20	66.6
IUGR	1	3.3
Preterm/LBW	6	20
FSB/MSB	1	3.3
Abortion	1	3.3
Ectopic	1	3.3

According to this study, 20 patients had a healthy baby (66.6%) and 6 patients had a preterm delivery and an LBW baby (20%) (Table 7).

Table 7: Distribution of patients according to baby weight.

Baby weight (kg)	No of patients	Percentage (%)
<1	0	0
1-1.5	1	3.3
1.5-2	2	6.6
2-2.5	5	16
2.5-3	15	50
>3	7	23

DISCUSSION

According to this study, 66.6% of patients with HIV-positive status had a healthy baby and 20% of patients had a preterm LBW baby.

Among 30 cases of HIV-positive ANC mothers, most of the subjects are multipara: 14 patients (46.6%) followed by primigravida, 9 patients (23.3%)

50% of patients delivered at >38 weeks of gestation with the mode of delivery being LSCS in 53.3% of patients and vaginal delivery in 46.6%.

Tukei et al found that adverse pregnancy outcomes remained 2–3 times higher among HIV-positive women compared with HIV-negative women despite universal ART.[9]

In the study by Dadhwal et al HIV-infected women were more likely to have PTB, IUGR, and anemia (9.4%, 9.9%, 5.2%) compared to uninfected women (7.6%, 5%, 3.8%), this did not reach statistical significance (p value ≥0.05). The incidence of PIH, diabetes mellitus, and intrahepatic cholestasis of pregnancy was similar in both groups. Mean birth weight was significantly lower in neonates of HIV-infected women (2593.60±499 g) than in HIV-uninfected women (2919±459 g) [p value =0.001]. Neonatal intensive care unit admissions were also significantly higher in infants born to HIV-infected women (p value =0.002). HIV-infected women on ART had decreased incidence of PTB and IUGR.[1]

HIV is a potentially dangerous disease that can have profound effects on pregnancy Women can pass on this disease to the fetus or child while they are pregnant or lactating. To reduce these rates, the PPTCT program has been launched by NACO in India. Seropositive women are given triple dose anti-retroviral therapy that comprises Tenofovir, Lamivudine, and Efavirenz. Also, special precautions were adopted while conducting their delivery.

Whether or not LSCS is to be performed depends on the indications and on which guidelines are followed. Finally,

infant- feeding is advised to be carried out as per the guidelines stated in the PPTCT act to minimize the chances of HIV transmission to the infant. The introduction of all these guidelines under the National PPTCT program has resulted in the rates of HIV transmission rates from mother to child reduced significantly.

Limitations

Detailed history should be collected. Other co-morbidities should be ruled out. All basic lab investigations are to be done to come for diagnosis.

CONCLUSION

As there is a high incidence of HIV/AIDS infection, it is one of the most important causes of maternal and perinatal and maternal morbidity/mortality. Appropriate antiretroviral therapy should be given to all HIV-positive pregnant women to reduce the burden of the infection. The objective of this study was to evaluate the prevalence of HIV infection in pregnant women among age, parity, and mode of delivery and to observe the clinical features, co-existing infections, and various pregnancy outcomes in HIV-positive pregnant women.

We found most (66.6%) of the ANC women with HIV-positive status delivered a healthy baby at term.

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