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Original Research Article

Pregnancy outcomes in sexually transmitted infections or human immunodeficiency viruses infected women at a tertiary care center: a retrospective study

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ABSTRACT

Background: The natural history of HIV infection in early disease is not affected by pregnancy. In later stages there may be rapid disease progression leading to adverse pregnancy outcomes. Prevalence of HIV in India is 0.3% in pregnant women. With the advent of PPTCT, there have been a decline in the adverse pregnancy outcomes but still few adversities are reported. Aim of the study was to assess the various pregnancy outcomes in HIV positive women and the effects of antiretroviral therapy (ART).
Methods: A retrospective analytical study conducted from July 2017-June 2019 on HIV infected pregnant women. Their maternal age, CD4 count at diagnosis of HIV, after postpartum, mode of delivery, birth weight and HIV status of baby were noted and analyzed.
Results: 18 HIV infected pregnant women were included. Their mean age was 25.6 years. 12 patients were in 2nd trimester and the rest in 1st trimester. All were on triple-drug (TEL) regimen. Three were diagnosed with HIV prior to conception and were already on ART. Remaining were detected at the time of ANC visit. All cases fall under stage I WHO clinical staging. Out of the 18 pregnant, two delivered by LSCS and the rest by normal delivery. All were term deliveries, with mean birth weight of 2.82 kg. One HIV infected baby was born by LSCS. The mean CD4 count at the time of diagnosis of HIV was 389 and at postpartum was 508. Overall, there was seen to be an increase in CD4 count without any adverse effects during ART.
Conclusions: Prompt HIV diagnosis and ART initiation during antenatal period can have good pregnancy outcome and thereby reducing transmission to children.

Keywords: Antenatal women, Antiretroviral therapy, CD4

INTRODUCTION

Sexually transmitted infections (STI) are common in pregnancy.[1,2] Pregnancy is an immune-suppressive state and acquiring STIs can be associated with adverse birth outcomes.[3-7] With the advent of prevention of parent to child transmission (PPTCT) for HIV, there has been a decline in the adverse pregnancy outcomes. However still few adversities are reported. In India, STIs are addressed using syndromic management. This is partially due to the lack of laboratory facilities needed for diagnostic testing.[8] While these infections may cause morbidity and mortality, any STI, if identified at the earliest, is curable or manageable.

METHODS

A retrospective analytical study was conducted from July 2017-June 2019 on pregnant women with STI/HIV at our tertiary care center for-(1) Their maternal age, (2) Time of diagnosis, (3) Mode of delivery, (4) Birth weight and

(5) STI status of mother and baby, pre and postpartum were noted.

All the data were analyzed using SPSS 20 version software.

RESULTS

31 pregnant women infected with STI/HIV at our tertiary care center were included in our study. Their mean age was 25.6 years. At the time of presentation, 18 patients were in 2nd trimester, 8 patients in 3rd trimester and 5 were in 1st trimester.

Out of the 15 patients diagnosed to have STI, 46.6% (7) patients had wart, 33.3% (5) had herpes simplex and 20.1% (3) had early syphilis, and all of them were treated according to NACO guidelines. The wart patients were given cryotherapy or observation. Out of the 31, five delivered by LSCS (wart pts.) and the rest by normal delivery. All except two (6.5%) were term deliveries, with mean birth weight of 2.82 kg of which least being 2.15 kg.

There were 16 HIV positive patients, of them 3 were diagnosed with HIV prior to conception and were already on ART. Rest of the HIV patients and patients with other STIs were detected at the time of ANC visit. All 16 HIV patients were started on triple-drug (tenofovir 300 mg, lamivudine 300 mg and efavirenz 600 mg-TEL) regimen. The mean CD4 count at the time of diagnosis of HIV patients was 389 and at 6 weeks postpartum was 508. Overall, there was seen to be an increase in CD4 count without any adverse effects during ART.

Post ART and post syndromic management of other STIs did not have any major adverse effects or outcomes. All the newborns were tested for HIV along with RPR, and were found to be negative or non-reactive in our study.

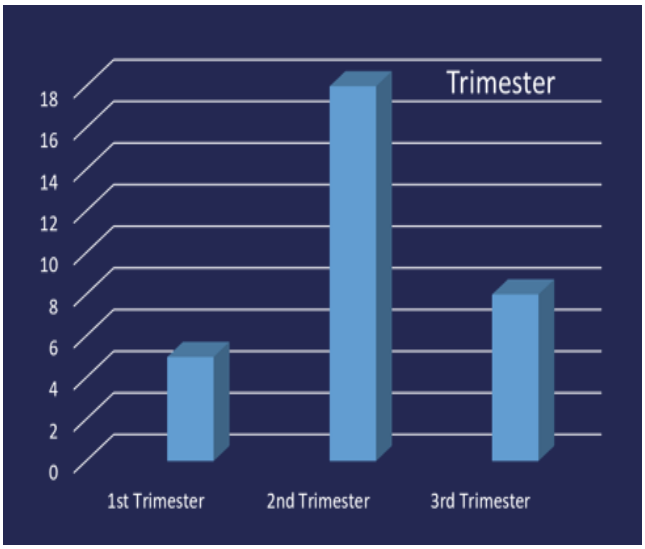

Figure 1: Trimester at the time of presentation.

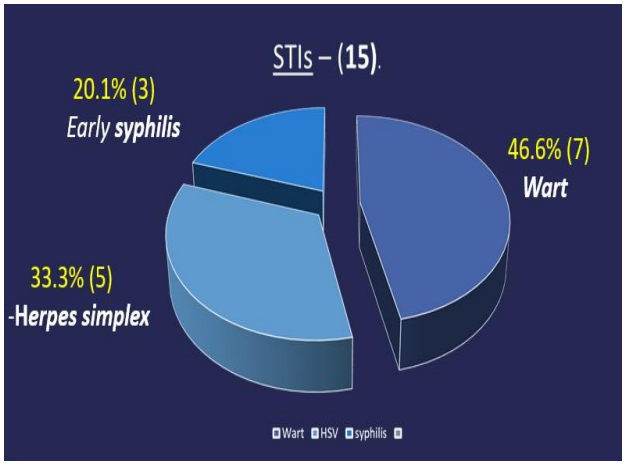

Figure 2: Distributions of etiology of STIs.

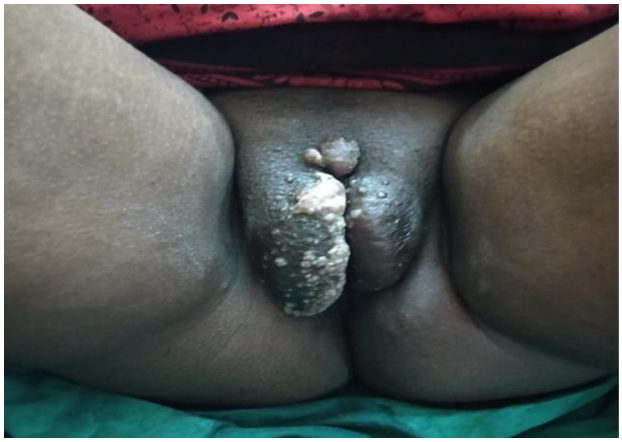

Figure 3: Clinical picture of a patients with genital warts.

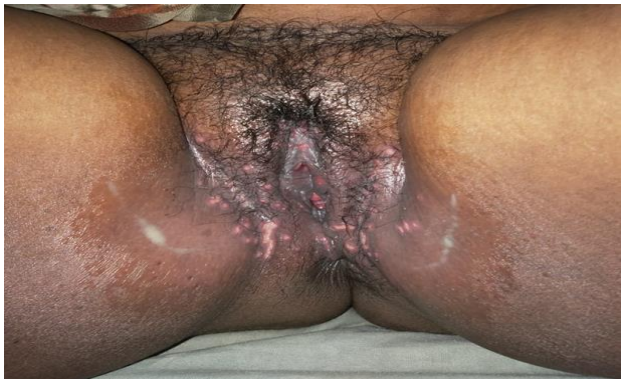

Figure 4: Clinical picture of a patient with genital herpes.

DISCUSSION

Given the impact STIs have on pregnancy outcome, screening and treatment in pregnant women at least once during pregnancy should be performed. In most of our resource poor settings, ICTC and RPR tests are the most common screening assays. The RPR test is cheap and simple although, like other non-treponemal tests, it is

susceptible to false positive reactions from other maternal infections or autoimmune disease. These include common conditions like pregnancy, infection, measles, and malaria. Biological false positive (BFP) reactions are common in malaria endemic areas. Although the CDC recommends screening at the first ANC visit and again in 3rd trimester in high prevalence areas, many resource limited settings are only able to screen once during pregnancy owing to late presentation of women for antenatal care, long turnaround times from taking blood to getting results, and cost of screening multiple times.

It is difficult to evaluate the impact of STIs on pregnancy. Since once the diagnosis of STI has been made, for ethical reasons, it is not usually possible to prospectively study the outcomes of an untreated STI. Hence our study is retrospective in design, where data has been collected on STIs and birth outcomes, at or after delivery.

Though STIs are commonly associated with adverse outcomes like low birth weight (LBW) and pre-term deliveries, our study did not have any major adverse effects or outcomes. As opposed to study by Noah et al in 2018 done in Southern rural India where adverse outcome was relatively common.[9]

This could be attributed to an increased awareness for seeking early care in an urban area during Antenatal period and undergoing hospital delivery. Pregnancy outcomes in STI infected mothers could be improved by introducing new lower cost, rapid, point of care testing assays that could allow for expanded STI screening globally.

Limitations

Effect of other STIs like *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG), etc. could not be studied due to resource limitations. Long term follows up of Mother and child during post-natal period needs to be done. Another limitation is the unavailability of STI status or risk behaviors collected directly from the male partner. All data were based on women's knowledge of male partner status which may have been inaccurate. Long term follows up of Mother and child during post-natal period needs to be done.

CONCLUSION

Prompt STI diagnosis and treatment initiation during antenatal period can give good pregnancy outcome and also reducing transmission to children. Increasing awareness and educating people from rural areas can significantly reduce adverse outcomes in pregnancy due to STI in rural areas as well.

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Conflict of interest: None declared
Ethical approval: The study was approved by the institutional ethics committee

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