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Prevalence of Syphilis among Pregnant Women attending antenatal care clinic, Udaipur, Southern Rajasthan

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Abstract

Background

Maternal syphilis is an important cause of adverse pregnancy outcome . Syphilis, caused by infection with Treponema pallidum, is a mucocutaneous sexually transmitted infection (STI) with high infectivity in the early stages. Untreated maternal syphilis is strongly associated with adverse birth outcomes including increased incidence of stillbirths, low birth weight and premature live births compared with uninfected women. The WHO recommends serological test for syphilis in pregnancy and treatment with injectable penicillin, including the partner, as a routine part of antenatal care. Ideally this screening should be done in the first trimester or at first antenatal visit and again early in the third trimester.

Method

A retrospective, quantitative study of hospital and laboratory records of all pregnant women booked at the RNT Medical college for antenatal care in a one-year period (1ST JULY 2021 to 30TH JUNE 2022) was carried out. Data were collected from department register maintained by authority. VDRL testing was done to screen the patient. Data were analysed.

Result: During the study period, 10194 antenatal clinic patients had VDRL screening out of which 27 were positive. The overall prevalence rate in this study was 0.26%

Conclusion

Universal screening of all pregnant women at first antenatal visit with a non-treponemal test should be used for screening for syphilis in pregnancy. Also considering prevalence of gestational syphilis in Udaipur region , policy translation is required at state and national level to scale up prevention, screening, and management of syphilis.

Introduction

Maternal syphilis is an important cause of adverse pregnancy outcome .[1] Syphilis, caused by infection with Treponema pallidum, is a mucocutaneous sexually transmitted infection (STI) with high infectivity in the early stages. It may also be passed trans-placentally to the baby from the ninth week of gestation onwards.[2] Untreated maternal syphilis is strongly associated with adverse birth outcomes including

increased incidence of stillbirths, low birth weight and premature live births compared with uninfected women.[3] Congenital syphilis infection can result in serious complication in surviving new-borns, including central nervous system abnormalities, deafness, multiple skin, bone and joint abnormalities and haematological disorders. [1]

The national HIV program data reveals that the prevalence of syphilis among pregnant women attending antenatal care was 0.23% in 2014–2015 which was increased slightly to 0.16% in 2016–2017. [5] However, In India there is lack of reporting and stigma attached to sexually transmitted diseases

Syphilis in pregnancy remains an important cause of perinatal morbidity and mortality. It can lead to congenital syphilis due to transplacental transmission, especially in the third trimester leading to high rates of adverse fetal outcomes. It is important to evaluate the pregnant women in early pregnancy so that adequate treatment can be given to improve the fetal and neonatal outcome. [6] There are four stages of syphilis. Primary syphilis presents with painless ulcer called chancre in mouth or genitals; secondary syphilis presents 4-8 weeks after primary ulcer with rashes over the body and fever, fatigue and malaise; tertiary syphilis presents 1-10 years after initial infection with aortic insufficiency, aortic aneurysm, tabes dorsalis etc. [7] Latent syphilis develops when primary or secondary syphilis is not treated but clinical manifestations resolve.

The WHO recommend serological test for syphilis in pregnancy and treatment with injectable penicillin, including the partner, as a routine part of antenatal care.[4] Ideally this screening should be done in the first trimester or at first antenatal visit and again early in the third trimester. Syphilis screening and treatment in the antenatal care is an effective way to reduce fetal and infant mortality and morbidity in the developing world.

Optimal treatment of syphilis during pregnancy is estimated to reduce the risk of congenital syphilis by 97%, stillbirth by 82%, preterm birth by 64%, and neonatal mortality by 80%.[8]

Long-acting parenteral penicillin G is the only currently recommended treatment for syphilis in pregnancy.[7,9] For early-stage syphilis, including primary, secondary, and early latent (early non-primary non-secondary), a single intramuscular dose of 2.4 million units of benzathine penicillin G is necessary. Routine antenatal screening, timely diagnosis and proper management of the infection in pregnant women are important in order to prevent adverse outcome.

AIM & OBJECTIVE

This study to determine the prevalence of seropositive VDRL cases amongst pregnant women at the Pannadhay Zanana hospital

Methodology

Type of study : Retrospective observational study

Place of study: department of obstetrics and gynaecology Rabindranath Tagore Medical College, Pannadhay Zanana Hospital, Udaipur, Rajasthan, India

Duration of study: July 2021 to July 2022

Sample size: Pregnant female patients attending antenatal clinic were enrolled during this period. Total 10194 women were recruited.

Brief study method:

A retrospective, quantitative study of hospital and laboratory records of all pregnant women booked at the RNT Medical college for antenatal care in a one-year period (1ST JULY 2021 to 30TH JUNE 2022) was carried out.

Data on patient age, parity and educational status and reactivity of VDRL test (positive or negative) at booking were retrieved using structured proforma. The case records of all seropositive cases were also followed up to determine fetal outcome at delivery All pregnant women who registered for antenatal care during the study period and who did a VDRL test and their result entered in the laboratory records were included, those with incomplete records were excluded, and a formal sample size was not calculated.

The RNT Medical college is one of the tertiary hospital for referral. The Department of Obstetrics and Gynaecology runs antenatal clinics Mondays through Saturday. It provides emergency obstetric services to women referred from other centers, as well as providing antenatal care and delivery services for low and high-risk pregnant women booked with the hospital. The Hospital attends to about 2000 bookings annually, with over 1500 deliveries per annum. The hospital is well equipped and has availability of qualified team comprising of Obstetricians, Pediatricians and Anaesthetist. There is availability of laboratory and blood bank services in the hospital. At the Laboratory, all serum samples, test antigens, and control samples were brought to room temperature (26°C) and tested using the VDRL test kit. A confirmatory test using TPHA for all positive VDRL sera is not routinely done in our setting.

3. RESULTS

During the study period, 10194 antenatal clinic patients had VDRL screening out of which 27 were positive. The overall prevalence rate in this study was 0.26%

Table 1: Prevalence of VDRL positive females

Total no. of screen female patients	Total no. positive cases	Percentage
10194	27	0.26%

4. Discussion

In our study prevalence was found 0.26% where as a study done by Biswas Et al [10] prevalence of syphilis was found to be 1.03 %. A study done by The cumulative seroprevalence over two years was found to be 0.61% in this study. The syphilis seroprevalence reduced from 0.88% in 2006 to 0.40% in 2008. Among the various sub-populations studied, patients attending the sexually transmitted infection clinic showed a seroprevalence of 2.62%. The seroprevalence decreased significantly from 4.00% in 2006 to 1.39% in 2008.

A study done by Gangwar et al , out of 20870 females on which VDRL was performed 77 (0.036%) were found to be positive. The seroprevalence at study hospital thus came out to be 0.036%.[11]

5. Conclusion

Universal screening of all pregnant women at first antenatal visit with a non-treponemal test should be used for screening for syphilis in pregnancy. Also considering prevalence of gestational syphilis in Udaipur region , policy translation is required at state and national level to scale up prevention, screening, and management of syphilis.

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