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ORIGINAL ARTICLE

Management of Genital Herpes Infection through Pregnancy

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ABSTRACT

Background: Genital herpes is a lethal infection prevalent in fertility age women and can lead into mortality and morbidity of neonates on transmission.
Objective: To analyze the management techniques for genital herpes infection during gestation.
Study Design: Retrospective study
Place and Duration of Study: Department of Obstetrics & Gynaecology, Saadan Hospital Allaho Chowk Johar Town, Lahore from 10-01-2020 to 09-07-2020.
Methodology: Fifty females presenting genital herpes clinical symptoms were completely analyzed through symptoms and laboratory analysis and managed for their genital herpes through anti- viral drugs.
Results: The mean age was 28.9±3.2 years. Thirty-two females were having genital herpes at their third trimester. The anti-viral drugs reduced genital herpes in 90% cases with 1.2% transmission rate in caesarean delivery while 7% transmission risk in vaginal delivery.
Conclusion: Genital herpes can be managed by using antiviral medications and c sections in majority of the cases.
Keywords: Genital herpes, Caesarean, Transmission

INTRODUCTION

Herpes simplex virus (HSV) is a viral infection which has a high prevalence at a global level. The main suffering population is females especially in the child bearing age. In conditions where the genital herpes infection occurs during gestational period there is an increased risk of transmission of the infection to the neonate. The neonatal infection can result in consequently morbidity and mortality of the new born.[1] Therefore genital herpes carries a major threat to newborn life and requires timely management. The frequency of genital herpes in western countries is around 16% of HSV-2 with most effected age as 14 to 49 years and much higher than this of HSV-1.[2]

In most of the scenarios the best possible way to reduce chances of viral transmission in women in their third trimester with genital herpes is by opting elective c section. In this way viral shedding could be reduced. Considering the molecular structure of HSV 1 as well as 2 it is documented that both viruses are double stranded with 83 percent homologous protein coding structure. There is a high DNA structural alliance in both types. However, the variance in types is caused by the glycoprotein lipid-bilayer envelope.[3] Despite the fact that both viruses are distinct still their antibodies can cross react.[4]

Gupta et al[5] reported an increase in their incidence by two percent in pregnant females than non-pregnant. The reason behind this is that majority of women who themselves are sero-negative for genital herpes simplex infection has sero-positive couples which lead to the transmission in pregnancy.[6,7] Majority of the women becomes infected during their last trimester; however, the timing varies among pregnant women.[8] Almost fourteen percent women are those who have reoccurring symptoms or prodromal indications at the time of delivery.[9,10]

The present study was meant to address the management protocols which could be adapted to reduce the transmission of genital herpes from mother to child in order to be safe the neonates from mortality and morbidity due to this infection.

MATERIALS AND METHODS

It was a retrospective study conducted at the Department of Obstetrics & Gynaecology, Saadan Hospital Allaho Chowk Johar Town, Lahore from 10-01-2020 to 09-07-2020. Fifty pregnant patients were identified as suffering from genital herpes within the age of 18-35 years. The patients were enrolled after their written consent. The inclusion criteria were based on pregnant women having clinical presentation of sore vesicle cluster in addition to ulceration occurring in minimal proportion of pregnant females, atypical lesion including abrasion, itching or fissures without apparent lesion. Pregnant females with all above clinical presentation were further confirmed by laboratory tests. 3 cc blood was withdrawn from each patient and divided into two vials such as serum and EDTA vials. The serum vial was used to separate serum and stored at -20°C until analysis of viral antigen. While EDTA whole blood was used for running Polymerase chain reaction (PCR). Therefore, the presence of genital herpes was confirmed by viral culturing and PCR for virus detection. Enzyme linked immune sorbent assay was also performed for HSV-1 or 2 antigen detection. The demographic information, trimester length and other clinical and analytical information was documented. Data was entered and analyzed using SPSS-25.

RESULTS

The present study was conducted on pregnant females between of 18-35 years. The mean age of the patients was 28.9±3.2 years with most of the pregnant females belonging to the age between 31-35 years. About 62% of the total pregnant females were in their third or last trimester when identified with genital herpes (Table 1),

Patients suffering from genital HSV 1 and were managed by acyclovir or valacyclovir 400 mg or ig respectively from a week to up to ten days in case of primary infection. However, those pregnant females who had recurrent episode of HSV 1/2 were managed with a course of acyclovir and valacyclovir in 400 or 500 mg from 36 weeks till delivery (Table 2).

Pregnant women who were given the anti-viral treatment for management of their genital herpes showed a reduction upto 90 percent on PCR testing. However, there were still 5 such cases (10%) with no reduction in genital herpes. Unfortunately shedding was not completely removed in most of the cases (Fig. 1).

Table 1: Age and Trimester distribution among pregnant enrolled patients (n=50)

Variable	No.	%
Age (years)		
18-22	9	18
23-26	12	24
26-30	13	26
31-35	16	32
Trimester		
1st trimester	9	18
2nd trimester	10	20
3rd Trimester	31	62

The follow up of these 50 pregnant females showed that out of the total women twenty women had spontaneous delivery while rest 30 went under elective c section as planned. The transmission of genital herpes was more commonly observed (7.7%) in neonates of mothers who had vaginal delivery than those (1.2%) who opted cesarean delivery (Fig. 2).

Table 2: Management of genital herpes by antiviral dosage

Variable	Acyclovir	Valacyclovir
Primary infection	400 mg per-orum TDS 7 to 10 days	1g per-orum BD 7 to 10 days
Reoccurring infection	400 mg per-orum TDS 5 days OR 800 mg per-orum BD 5 days	500 mg per-orum BD 3 days OR 1g OD 5 days
Regular suppression	400 mg per-orum TDS from 36 weeks until delivery	500 mg per-orum BD from 36 weeks until delivery
Distributed infection	5-10mg/kg every 8 hr IV for 2 to 7 days followed by oral therapy	

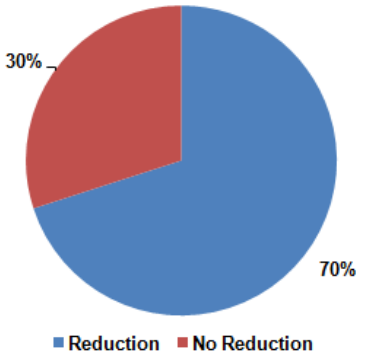

Fig 1: Reduction in genital herpes by antiviral treatment

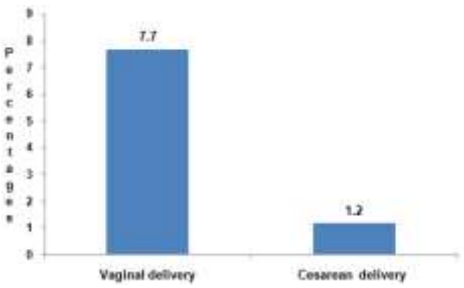

Fig 2: Mode of delivery and neonatal genital herpes transmission

DISCUSSION

Herpes simplex virus transmission in neonatal during third trimester is highly prevalent approximately upto 30-60%.[11,12] Many possible contributing factors play their role in virus transmission in neonates one of which could be the transplacental movement of HSV. Virus persist very prolonged in genital tract and its concentration is also higher there thus escalates the chances of HSV movement. Specific antibodies usually develop within 15-21 days of infection. Glycoprotein G2 plays significant role in controlling and combating viral transmission into neonates.[13]

International organizations of obstetricians and gynaecologists address this issue and suggest few preventive measures. Women with HSV in their third trimester should be counselled regarding the concerns of virus transmission and must have C-section to minimize the risk.[14] Findings of meta-analysis also suggest that therapy with valacyclovir and acyclovir. This suppressive therapy could also prevent recurrences of HSV near full-term.[15-17] Studies also showed that C-section does not completely eliminates the risk of vertical transmission.[18] In HSV women with ruptured membranes especially near term C-section should be performed early to prevent viral infection.[19]

Herpes simplex virus can even be transmitted after the delivery. Cutaneous or oropharyngeal lesions implicit directly in postnatal viral transmission. If the mother has lesion on breast, this could also the source of HSV infection to new born. Since virus can be transmitted by direct contact, it can easily be spread through any caregiver; father, mother or by healthcare provider. The suppressive therapy with valacyclovir and acyclovir appear to be effective and safe even for breastfeeding mothers.[20] Effective measures should be taken during pregnancy and even after the delivery to spread the viral transmission to neonates.

CONCLUSION

Genital herpes can be managed by using antiviral medications and c sections in majority of the cases.

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