

Original Research Article

Study of genital dermatoses in pregnant females attending a tertiary care hospital

Seeniammal Sivanu, Maalik Babu*, Soundharyaa Moorthi Savadamoorthi

Department of Dermatology, Venereology and Leprosy, Tirunelveli Medical College, Tirunelveli, Tamil Nadu, India

Received: 13 February 2019

Revised: 17 April 2019

Accepted: 19 April 2019

***Correspondence:**

Dr. Maalik Babu,

E-mail: maalikbabu@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Sexually transmitted infections (STI) prevalence in pregnancy is high and causes severe risk of transmission to the newborn. Usually they are asymptomatic and underdiagnosed. Most common STI's are VVC, HPV, genital herpes, HIV, etc.

Methods: A hospital-based cross-sectional study was done for a period of one year (September 2017- August 2018) and 31 pregnant genital dermatoses were encountered.

Results: Among 31, infective etiology was seen in 15 cases (48%), non-infective etiology was seen in 3 cases (10%) and no STI's were seen in 13 patients (42%). Vulvovaginal candidiasis was most common among pregnant females in 9 patients (60%) followed by genital warts in 3 patients (20%) followed by molluscum contagiosum, herpes genitalis and oral candidiasis in one patient (7%) respectively among infective etiology. Non-infective causes include vulval lymphangiectasia, epidermoid cyst and vascular swelling in one patient respectively (33.3%).

Conclusions: Screening of antenatal cases is more important to prevent complications.

Keywords: Pregnancy, Vulvovaginal candidiasis, Vaginal pH, Newborn

INTRODUCTION

Pregnancy is the crucial period ever in the whole life of a female. Such pregnancy is being ruined by the sexually transmitted infections (STI) which is the major health problem in our country. According to WHO, around 340 million new STI's are documented every year in developing countries. Among 27 million pregnant females every year, the prevalence of STI's is high due to its vulnerability. Immunological changes of pregnancy may induce a state of increased susceptibility to infections like bacterial, viral, fungal and parasitic.¹ More than 25 infectious organisms are primarily transmitted through sexual contacts, but the common ones include candidiasis, trichomoniasis, bacterial vaginosis, herpes genitalis, human papillomavirus infections, chlamydia,

gonorrhoea, syphilis, Hepatitis B and Human immune-deficiency virus infections.² The impact of these infections on the obstetric outcome is well known showing an increased risk of pregnancy complications like preterm labour, chorioamnionitis, premature rupture of membrane and also increased the risk of transmission of infections to the newborn. Pregnancy infections though occur only in a few people, the effect and consequences are more serious in both the mother and children than non-pregnant counterpart.³ Demographical profile and clinical pattern of the disease vary from place to place. Effective control of STI's is a solid and most cost-effective strategy for reducing or preventing the transmission of HIV. This study to determine the incidence of the dermatoses specific to pregnancy, common dermatologic diseases occurring in pregnancy as

well as sexually transmitted diseases occurring in pregnant females.

METHODS

The present study was conducted in a tertiary care hospital which was a hospital-based a cross-sectional study was done over a period of one year (September 2017-August 2018). The study population included apparently healthy, married, pregnant females of reproductive age group (19-45 years) attending STD clinic in Tirunelveli Medical College. After obtaining written informed consent, the participants underwent counseling, followed by a revelation of history. This was succeeded by clinical examination and laboratory assessment. Respective blood samples were taken and routine screening for syphilis, hepatitis B, C and HIV were done. They were asked for specific complaints and specific investigations were done according to the clinical diagnosis.

31 pregnant females attended STD OPD for a period of one year and they were screened for STI's. Patients with complaints of vaginal discharge were examined and the swab was taken for the wet mount, KOH mount, gram stain and culture and sensitivity. Wet mounts and KOH mounts of swab samples were made in sterile normal saline and 10% KOH on clean glass slides and viewed under low (10X) and high (40X) power microscope. *Pseudohyphae* with yeast cells and spores were seen in cases of vulvovaginal candidiasis. Gram stain was carried out under oil immersion for gram-positive *cocci*. Pathogens were cultured in nutrient agar and looked for colonies of *Candida albicans* species. Few swabs showed no features of candidiasis, trichomoniasis and bacterial vaginosis.

Viral STD's like herpes genitalis, genital warts and *Molluscum contagiosum* were also encountered among pregnant females.⁴ Some patients were referred from obstetrics and gynaecology department for routine screening for syphilis and HIV prior to medical termination of pregnancy.

All details related to participants were entered in separate register with a unique ID number. The process of data collection did not pose any risk or harm to the participants. Privacy was ensured while examination and taking samples. Confidentiality was maintained though. All the data were entered in Microsoft Excel sheet and analyzed.

RESULTS

Out of 31 pregnant females in our study, infective aetiology was seen in 15 cases (48%), non-infective aetiology was seen in 3 cases (10%) and no STI's were seen in 13 patients (42%) as shown in Figure 1. Infective aetiology includes most commonly vulvovaginal candidiasis in 9 patients (60%) followed by genital warts

in 3 patients (20%) followed by molluscum contagiosum, herpes genitalis and oral candidiasis in one patient (7%) respectively as shown in Figure 2. Non-infective causes include vulval lymphangiectasia, epidermoid cyst and vascular swelling each in one patient respectively (33.3%).

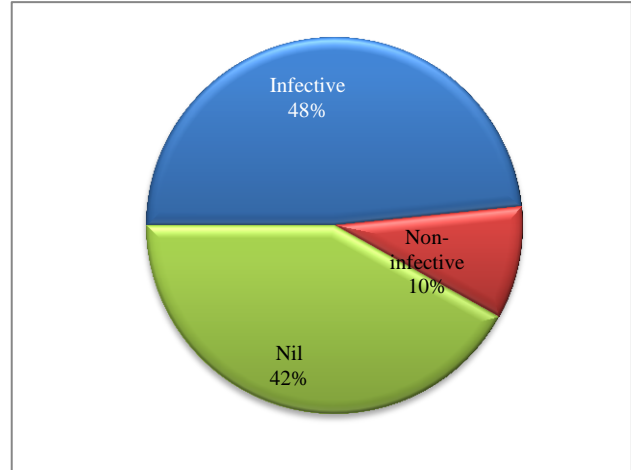


Figure 1: Distribution of aetiology.

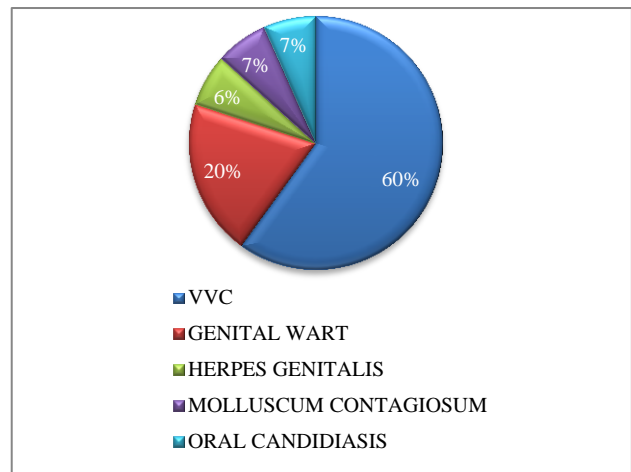


Figure 2: Distribution of infective aetiology.

Vulvovaginal candidiasis was most common among pregnant females and they were diagnosed clinically in 9 patients (60%) and they were confirmed by laboratory tests in only 4 patients (44.5%) and remaining 5 (55.5%) were laboratory negative. *Pseudohyphae* with yeast cells were seen in KOH mount in 4 patients (44.5%) and culture for *Candida albicans* in 2 cases (22.2%) and non-*Candida albicans* in 1 case (11.1%) showed growth in nutrient agar.⁵

Herpes genitalis was diagnosed clinically and by Tzanck smear in one patient and it showed multinucleated giant cells. Oral candidiasis was confirmed by 10% KOH mounts in one patient as shown in Table 1. HIV was reactive in 4 cases (13%) and it was associated with one case of vulvovaginal candidiasis.

Table 1: Clinical vs. etiological diagnosis.

Diagnosis	VVC	Genital wart	Herpes genitalis	Molluscum contagiosum	Oral candidiasis
Clinical	9	3	1	1	1
Laboratory	4	0	1	0	1

DISCUSSION

Sexually transmitted infections (STI) pose a major health problem in our country. These infections should be properly counseled and treated. Proper counseling and sex education help in reducing the transmission of STI's. In early times, syndromic management was done because of its inexpensiveness and no need of much infrastructure but it resulted in overtreatment of disease. Thus with the help of laboratory services etiological diagnosis came into play.

High STI prevalence in pregnant females is due to their high vulnerability and degree of immunosuppression. This also affects the unborn foetus who has not yet know how the world would be. Lack of proper screening for HIV also affects the newborn in its way.

Majority of our study showed vaginal discharge syndrome (60%) to be the commonest as observed by Shah et al and Ekanem et al conducted in Gujarat and Nigeria.²⁶ The most common prevalent STI was vulvovaginal candidiasis (60%) followed by genital warts (20%) followed by molluscum contagiosum, herpes genitalis and oral candidiasis (7%) respectively. Non-infective causes include vulval lymphangiectasia, epidermoid cyst and vascular swelling (33.3%) respectively.

The increased risk of VVC in pregnancy is likely caused by pregnancy-related factors, such as decreased cell-mediated immunity, increased estrogen levels and increased vaginal mucosal glycogen production.^{7,8} This interplay between hormones and the immune system is the key pathogenesis in VVC. Usually candidiasis is asymptomatic in pregnancy and the symptomatic expression depends on the variety of social and demographic factors which add to the high prevalence in developing countries.⁹

Herpes simplex may rarely cause congenital fetal infection through vertical transmission in utero.¹⁰ So, early initiation of acyclovir treatment in pregnant mothers is necessary to prevent complications and it is safe and effective.¹¹ The most common age group affected in the study was 21-40 years of age. STI's were more common in the second and third trimester.

CONCLUSION

Sexually transmitted infections are common among pregnant females due to their maternal immune competence and alteration in vaginal pH. As STI's are a

major public health problem, it should be screened at every antenatal visit and sexual partners should also be counselled for proper screening of STI's. Being pregnant females, early diagnosis and treatment are essential to avoid further complications in a newborn.

Limitations

Since it is a hospital-based study, it does not account for the general population.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

REFERENCES

- Singhal P, Naswa S, Marfatia YS. Pregnancy and sexually transmitted viral infections. *Indian J Sex Transm Dis AIDS*. 2009;30(2):71-8.
- Shah M, Deshmukh S, Patel SV, Mehta K, Marfatia Y. Validation of vaginal discharge syndrome among pregnant women attending obstetrics clinic, in the tertiary hospital of Western India. *Indian J Sex Transm Dis AIDS*. 2014;35(2):118-23.
- Mullick S, Watson-Jones D, Beksinska M, Mabey D. Sexually transmitted infections in pregnancy: prevalence, impact on pregnancy outcomes, and approach to treatment in developing countries. *Sexually Transmitted Infections*. 2005;81(4):294-302.
- Luke JD, Silverberg NB. Vertically transmitted molluscum contagiosum infection. *Pediatrics*. 2010;125(2):423-5.
- Sobel JD. Vulvovaginal candidosis. *Lancet*. 2007;369(9577):1961-71.
- Ekanem EI, Ekott M, Udo AE, Efiok EE, Inyang-Out A. Prevalence of sexually transmitted diseases in pregnant women in Ikot Ekpene, a rural community in Akwa Ibom State, Nigeria. 2012; 2012.
- Aguin TJ, Sobel JD. Vulvovaginal candidiasis in pregnancy. *Curr Infect Dis Rep*. 2015;17(6):462.
- Mor G, Cardenas I. The Immune System in Pregnancy: A Unique Complexity. *Am J Reprod Immunol*. 2010;63(6):425-33.
- Akerele J, Abhulimen P, Okonofua F. Prevalence of Asymptomatic Genital Infection among Pregnant Women in Benin City, Nigeria. *Afr J Reprod Health*. 2002;6(3)93-7.
- Lee R, Nair M. Diagnosis and treatment of herpes simplex 1 virus infection in pregnancy. *Obst Med*. 2017;10(2):58.

11. Straface G, Selmin A, Zanardo V, De Santis M, Ercoli A, Scambia G. Herpes Simplex Virus Infection in Pregnancy. *Infect Dis Obstet Gynecol.* 2012;2012:385697.

Cite this article as: Sivanu S, Babu M, Savadamoorthi SM. Study of genital dermatoses in pregnant females attending a tertiary care hospital. *Int J Res Dermatol* 2019;5:542-5.