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Original Research Article

A clinicoetiological study of vulvovaginitis in a tertiary care hospital

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ABSTRACT

Background: Vulvovaginitis is a common unavoidable health problem encountered in a woman's life. Because of its recurrent and persistent symptoms, it leaves a negative impact on the quality of woman's life and its management poses a challenge. This study is aimed to analyse the clinical profile, clinical symptoms - presentations and various etiological agents in vulvovaginitis.

Methods: A study of 125 cases of vulvovaginitis in the age group of 18-50 years was done. This study was based on the data collected like - age, parity, symptoms, clinical presentations and cytological findings. Speculum examination was done with the given consent and high vaginal swabs were taken for cytological study. Based on Amsel's criteria bacterial vaginosis was confirmed, trichomoniasis by wet mount examination and candidiasis by culture study were confirmed.

Results: The present study showed maximum incidence of vaginitis 63.2% among 21-30 years age group, more common in multiparous women 44.8% and vaginal discharge was the commonest symptom 88%. Cytological study showed 53.6% bacterial vaginosis (BV), 27.2% vulvovaginal candidiasis (VVC), 2.4% trichomoniasis and remaining 17% mixed infections like BV + VVC 15.2% and 1.6% BV + VVC + Trichomoniasis.

Conclusions: All women of reproductive age should have mandatory regular evaluation for early detection and proper management of vulvovaginitis. Creating awareness among women improves their quality of life.

Keywords: Bacterial vaginosis, Candidiasis, Trichomoniasis, Vulvovaginitis

INTRODUCTION

Vulvovaginitis since decades is an underexplored subject.¹ It is a common gynecological problem faced by women of reproductive age group. Vulvovaginitis, also called as vaginitis, is inflammation and infection of vagina and vulva.² The normal vaginal secretions is mainly from sebaceous glands, sweat glands, Bartholin glands and Skene glands.³ The vaginal discharge may be physiological or pathological. The normal vaginal flora with lactobacilli, colonize the vaginal epithelium and plays a role in defence against pathogens or infections, thereby maintaining the vaginal acidic pH between 3.8 - 4.5. Changes in the vaginal environment like imbalance

in the normal vaginal flora or vaginal pH, unhygienic practices, improper menstrual hygiene, pregnancy, oral contraceptive pill use, immunodeficiencies and sometimes allergic or hormonal factors cause vaginitis.⁵

Vaginitis is most commonly caused by bacteria, fungi or protozoa and is associated with altered discharge, odour and vulval itching.⁴ Bacterial vaginosis (BV) is characterized by foul smelling, thin, greyish homogenous discharge. Vulvovaginal candidiasis (VVC) is associated with thick, curdy white discharge, and trichomoniasis presents with greenish, frothy discharge. These infections can lead to complications like pelvic inflammatory disease (PID), infertility, pregnancy complications,

recurrent urinary tract infections, cervicitis, endometritis and increasing rates of sexually transmitted infections.⁶

In India many women with vaginitis do not seek medical advice, either because of ignorance, illiteracy, social stigma and hesitation. Its negative impact on the mental status, thereby affects the routine activities and forms a matter of concern, that needs timely intervention.^{1,7} Proper information regarding the etiology by detailed history, local examination and microscopy helps in early intervention and treatment, thereby reducing the complications.^{4,8}

This study was done with aim of analyzing the clinicoetiologi cal presentations in vulvovaginitis in reproductive age group females.

METHODS

The present study is a prospective study done in KBN Teaching and General Hospital, a tertiary care hospital. This study was conducted over a period of one year from September 2017 to August 2018. About 125 females in the reproductive age group attending the Obstetrics and Gynecology outpatient department (OPD) with vaginitis symptoms were included in the study.

Inclusion criteria

- Married women with age group between 18-50 years
- Those with history of vaginal discharge or itching
- Cases with given consent for the study.

Exclusion criteria

- Pregnant women and women who are menstruating
- Those who are on antibiotics for at least one month prior
- Those with PID or any genital malignancies
- Cases not giving consent for the study.

After obtaining a written consent from the woman, a detailed clinical history regarding- age, parity, symptoms of vaginal discharge, itching, nature of discharge and associated other symptoms were taken. Local speculum examination was done to see any cervical or vaginal pathology and also the features of discharge were noted like - color, consistency, amount and odor of the discharge. 3 High vaginal swabs were taken from the upper part of the posterior fornix and the lateral vaginal walls for the cytological study. The first swab was subjected to pH estimation using the litmus paper, for gram staining of the vaginal smear prepared from the swab, and for whiff test - where addition of few drops of 10% KOH emits a strong fishy odour due to amines. The second swab was subjected to wet mount examination of the glass slide with the discharge for visualization of motile, oval flagellated protozoa, presence of clue cells and white blood cells. The third swab was used for culture study on sabourad's dextrose agar (SDA).

Bacterial vaginosis (BV) was diagnosed based on Amsel's criteria, where 3 of 4 criteria are positive.^{2,10,12}

Amsel's criteria

- Increased vaginal pH >4.5,
- A grey homogenous discharge,
- Whiff test positive,
- Presence of clue cells.

Candidiasis was confirmed by culture study on SDA and Trichomoniasis was confirmed by wet mount examination of the smear for presence of protozoa.¹²

The statistical data obtained from this study was analyzed and the results were presented in percentages.

RESULTS

This study of 125 women in reproductive age group between 18 - 50 years, showed a maximum incidence of vulvovaginitis 63.2% in 21- 30 years age, followed by 27.2% in 31 - 40 years age, 8% in 41 - 50 years and less incidence 1.6% in < 20 years age (Table 1).

It was more commonly seen in multiparous women 44.8%, followed by 35.2% in primiparous and 20% in nulliparous (Table 1).

Table 1: Distribution of cases according to age and parity.

| Age group (years) | Number of cases (n) | Percentage (%) |
|-------------------|---------------------|----------------|
| < 20 | 2 | 1.6% |
| 20 - 30 | 79 | 63.2% |
| 30 - 40 | 34 | 27.2% |
| 40 - 50 | 10 | 8% |
| Parity | | |
| Nulliparous | 25 | 20% |
| Primiparous | 44 | 35.2% |
| Multiparous | 56 | 44.8% |
| Total | 125 | 100% |

Table 2: Clinical manifestations of vulvovaginitis.

| Symptoms | Number of cases (n) | Percentage (%) |
|----------------------------|---------------------|----------------|
| Vaginal discharge | 110 | 88% |
| Vulval itching/ irritation | 52 | 41.6% |
| Dysuria | 30 | 24% |
| Low backache | 6 | 4.8% |
| Pain abdomen | 28 | 22.4% |
| Dyspareunia | 8 | 6.4% |

It was observed that the commonest symptom was vaginal discharge 88%, followed by vulval itching or

irritation 41.6%, 24% dysuria, 22.4% pain abdomen, 6.4% dyspareunia and 4.8% low backache (Table 2).

Table 3: Local and per speculum examination findings.

| Findings | Number of cases (n) | Percentage (%) |
|--|---------------------|----------------|
| Vaginal discharge | 125 | 100% |
| Vulval pruritic lesions (vulval swelling and skin excoriation) | 34 | 27.2% |
| Painful vaginal examination | 39 | 31.2% |

Table 4: Characteristic features of vaginal discharge.

| Nature of discharge | Number of cases (n) | Percentage (%) |
|--------------------------|---------------------|----------------|
| Quantity | | |
| Scanty | 98 | 78.4% |
| Profuse | 27 | 21.6% |
| Consistency | | |
| Thin | 78 | 62.4% |
| Thick | 47 | 37.6% |
| Colour | | |
| Homogenous greyish white | 80 | 64% |
| Curdy white | 40 | 32% |
| Greenish yellow | 4 | 3.2% |
| Blood stained discharge | 1 | 0.8% |
| Malodour | 17 | 13.6% |

The findings of local and per speculum examination showed, almost all 125 cases had vaginal discharge 100%, 34 cases (27.2%) showed evidence of vulval pruritis in the form of swollen vulva or vulval skin excoriation and 39 cases (31.2%) had painful vaginal examination indicating inflammation of vagina (Table 3).

The various characteristic features of vaginal discharge found in our study showed about 98 cases (78.4%) out of total 125 cases had scanty discharge and about 27 cases (21.6%) had profuse discharge. The discharge was thin in consistency in 78 cases (62.4%) and thick in 47 cases (37.6%). About 80 cases (64%) had homogenous greyish white coloured discharge, 40 cases (32%) had curdy white discharge, 4 cases (3.2%) had greenish yellow discharge and 1 case (0.8%) had blood stained discharge (in mixed infections). There was malodoured discharge seen in 13.6% cases (Table 4).

Cytological study revealed 53.5% incidence of bacterial vaginosis (BV), 27.2% vulvovaginal candidiasis (VVC), 2.4% trichomonas vaginalis, 15.2% BV + VVC and 1.6% BV + VVC + Trichomoniasis (Table 5).

Table 5: Cytological diagnosis of vulvovaginitis.

| Diagnosis | Number of cases (n) | Percentage (%) |
|--------------------------|---------------------|----------------|
| Bacterial vaginosis | 67 | 53.5% |
| Vulvovaginal candidiasis | 34 | 27.2% |
| Trichomonas vaginalis | 3 | 2.4% |
| BV + VVC | 19 | 15.2% |
| BV+VVC+Trichomoniasis | 2 | 1.6% |

DISCUSSION

Our study was designed to analyze the clinical and etiological presentations of vulvovaginitis in reproductive age group women. The observations of our study showed highest incidence of vaginitis 63.2% in 21 - 30 age, followed by 27.2% in 31 - 40 years age, as compared to lower incidence among <20 and >40 years age. This may be because of the reason that women between 30 - 40 years are sexually very active with exposure rate being high. Similar observation was made in a study by Dipak Bhargava et al, showing highest incidence of 56.1% in 20 - 29 years and lowest incidence in >40 years age.² Similar other studies also showed the same age incidence.^{3,5,9,11} In our study multiparous women were more commonly affected 44.8% as compared to primiparous and nulliparous. These findings coincide with that of Kiran CK et al study with incidence of 42.34% in 27 - 36 age group and 30.5% multiparous affected.⁶ Vaginal discharge 88% was the commonest symptom in our study, followed by vulval itching 41.6% and 24% dysuria, which was similar to Kiran CK et al, Kataria U et al, Varghese S et al, and other studies.^{3,4,6,11,13,14} The per speculum examination findings of 100% vaginal discharge, 27.2% of vulval pruritic lesions and 31.2% of vaginal inflammation was compared with Sivaranjini R et al.¹² The vaginal discharge features in this study showed scanty discharge in majority of cases 78.4% and profuse in 21.6%, which was similar in studies of Kiran CK et al and Sivaranjini R et al.^{6,12} The consistency of the discharge in our study was thin in 62.4% cases which was high as compared to 37.6% cases with thick discharge. Maximum number of cases 64% had homogenous greyish discharge, followed by 32% curdy white discharge, 3.2% greenish yellow discharge and only 0.8% blood stained discharge and 13.6% had malodoured discharge. The consistency and colour pattern of the discharge of this study was compared with Kiran CK et al, study, which showed higher incidence of thick and curdy white discharge.⁶ This was because of higher incidence of candidiasis 59.12% in Kiran CK et al, study as compared to high incidence of bacterial vaginosis 53.6% in our study.⁶ The malodour discharge incidence was comparable with Sivaranjini R et al, study showing 13.7% incidence.¹² The incidence of bacterial vaginosis 53.5% was increased as compared to vulvovaginal candidiasis 27.2%, and trichomonal vaginosis had lower incidence of 2.4% in this study. But mixed infections had significant incidence of 15.2% (BV+VVC) and 1.6% (BV+VVC+Trichomoniasis) This

vaginitis incidence was comparable with Dipak Bhargava et al, Kataria U et al and other studies.^{1,4,7, 9,11,12}

CONCLUSION

To conclude, this study shows increased prevalence of vulvovaginitis among the reproductive age females especially among mid twenties and thirties, with bacterial vaginosis being more common. Vaginitis is emerging as a global health problem. So every women of reproductive age should have thorough evaluation for early diagnosis and initiation of proper treatment. Awareness to be created among females about the normal physiological discharge and pathological discharge and the need of early intervention for the pathological discharge has to be counseled.

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