

Clinical characteristics of candidal vulvovaginitis in women of Diyala governorate

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Abstract

Aim of study: To identify the clinical features and characteristics of vaginal candidiasis in women attending Al-Batool teaching hospital in Diyala governorate.

Patients and methods: This is a cross sectional study. It was conducted in the period from July 2023 to January 2024. We collected 50 patients who suffered vaginal candidiasis and attended Al-Batool teaching hospital. We collected information about age, clinical features, chronic diseases, etc. we collected the information using prepared written questionnaire and by direct interview with the patients.

Results: 50 patients were enrolled in our study. Vaginal discharge was present in 98% of the cases, irritation was found in 84% of the cases and abnormal menstruation was present in 32% of the cases. highest frequency of vaginal candidiasis cases was among age group 35-50 years (70%). 76% of them suffered from chronic condition and 24% are experiencing the disease for the first time. 32% of them used over the counter drugs (OTC) for treatment and 68% didn't.

Conclusion: young age patients were at increased risk of incidence, vaginal discharge and irritation was very common among the patients.

Introduction

Candidiasis is an opportunistic infection, and *Candida albicans* is naturally found in healthy individuals, colonizing the oropharyngeal, esophageal, and gastrointestinal mucosa. While typically harmless in these areas, *Candida albicans* can lead to mucosal candidiasis in immunocompromised hosts. The use of antibiotics is commonly linked to candidiasis, and cancer patients undergoing cytotoxic chemotherapy are at risk of developing fungemia caused by *Candida albicans*. This can occur as a result of fungal translocation through compromised mucosal barriers. Fungal commensals present in the upper and lower gastrointestinal tract can transition into opportunistic pathogens due to alterations in the size or composition of the endogenous bacterial population and changes in the host environment (1).

Vaginal colonization tends to increase in individuals with diabetes mellitus, during pregnancy, and with the use of oral contraceptives. In the context of oral candidiasis, a strong association is observed in HIV patients, with over 90% of individuals diagnosed with HIV presenting with candidiasis. Other predisposing factors for candidiasis encompass conditions like tuberculosis (TB), myxedema, hypoparathyroidism, Addison's disease, as well as nutritional deficiencies in vitamin A, B6, and iron. Smoking, poorly maintained dentures, Xerostomia, or dry mouth, is an additional predisposing factor due to the absence of protective antifungal proteins such as histatin and calprotectin (2).

Clinical symptoms characteristic of vaginal candidiasis include irritation, itching, and burning in the vaginal and vulvar areas. Many individuals experiencing these symptoms may have a history of similar issues and may have attempted over-the-counter treatments with topical agents or alternative therapies. During a pelvic exam, common findings include vulvar and vaginal erythema, excoriations, thick white adherent discharge, and swelling. However, in some cases, little to no

discharge is observed. In patients with candidal vulvovaginitis, pelvic examination reveals inflammation, while the cervix remains typically normal and not inflamed (3).

Acute candidal vulvovaginitis is effectively treated with antifungal agents. Given that the majority of cases are attributed to *Candida albicans*, and this species generally does not exhibit resistance to azole antifungals, these agents are the preferred choice. Antifungals can be administered through various methods, including a single oral dose of fluconazole (150 mg) or intravaginal application of terconazole, available over the counter, either as a single dose or in multiple dose regimens ranging from 3 to 7 days. In cases where patients do not respond to initial treatment, cultures may be warranted to identify other *Candida* species, which may be resistant to standard therapy (4).

Aim of study

To identify the clinical features and characteristics of vaginal candidiasis in women attending Al-Batool teaching hospital in Diyala governorate.

Patients and methods

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Statistical analysis

SPSS Version 25 was used for the description of the data. We expressed the quantitative data by arithmetic mean, standard deviation and mode and the qualitative data by frequencies. Chi square was used to identify the association between the variables when P value less than 0.05 considered significant.

Results

50 patients were enrolled in our study. Their age groups is demonstrated in table 1.

Table 1. age groups

Age group	Frequency	Percent
26-35 years	12	24.0
36-50 years	35	70.0
>50 years	3	6.0
Total	50	100.0

Their residency is demonstrated in table 2.

Table 2. residency

Site	Frequency	Percent
Urban	24	48.0
Rural	26	52.0
Total	50	100.0

Their menstruation status is shown in table 3.

Table 3. menstruation status

Status	Frequency	Percent
Regular	31	62.0
Irregular	16	32.0
Menopause	3	6.0
Total	50	100.0

The clinical features are demonstrated in table 4.

Table 4. clinical features

Symptom		Frequency	Percent
Vaginal discharge	Present	48	96.0
	Absent	2	4.0
	Total	50	100.0
Irritation and itching	Present	42	84.0
	Absent	8	16.0
	Total	50	100.0

76% of them suffered from chronic condition and 24% are experiencing the disease for the first time. 32% of them used over the counter drugs (OTC) for treatment and 68% didn't. the method of diagnosis is demonstrated in table 5.

Table 5. methods of diagnosis

Method	Frequency	Percent
Physical exam	31	62.0
Vaginal swab	18	36.0
Culture	1	2.0
Total	50	100.0

Discussion

Vaginal yeast infection, also known as vaginal candidiasis or vulvovaginal candidiasis (VVC), is caused by a range of *Candida* species within the vagina. It presents with distinct symptoms, including inflammation, irritation, itching, and abnormal vaginal discharge. Unfortunately, vulvovaginal candidiasis is often diagnosed without laboratory tests, leading to the potential for misdiagnosis. While vulvovaginal candidiasis is generally treatable, the absence of appropriate treatment poses a potential risk of complications. These complications may include pelvic inflammatory disease, infertility, and ectopic pregnancy. Therefore, accurate diagnosis and timely intervention are crucial in managing and preventing potential adverse outcomes associated with untreated or inadequately treated vaginal yeast infections. (5).

The current study reveals that the highest frequency of vaginal candidiasis cases occurs in the age group of 35-50 years, constituting 70% of the reported cases. This finding contrasts with the results reported by Nelson et al in Kenya (60%) (6), Saudia Arabia (56%) (7), and Nigeria (57%) (8). The increased prevalence in the 35-50 age group in the current study is attributed to factors such as higher sexual activity, increased use of antibiotics, widespread use of oral contraceptive pills, and the presence of pregnancy as an additional risk factor. These factors collectively contribute to a higher incidence of vaginal candidiasis in this particular age demographic compared to the findings reported in other studies. (9).

Vulvovaginal candidiasis (VVC) is identified as an estrogen-dependent disorder. Estrogens play a significant role in promoting both the adherence of candida to the vaginal epithelium and the formation of yeast mycelium. The prevalence of VVC demonstrates an age-related pattern, increasing up to menopause. Notably, the disorder is less common in postmenopausal women, except

when they are undergoing estrogen therapy. Additionally, VVC is infrequent in prepubertal girls. These observations underline the role of estrogen in influencing the occurrence of VVC, with variations across different life stages. (10).

In the present study, out of 50 symptomatic patients, candidiasis was detected in 36% by examination of the high vaginal swab culture, and these data are lower to reports by Rad et al (11) which were (66%) and Kalia et al (47%) (12).

Vaginal discharge was present in 98% of the cases, irritation was found in 84% of the cases and abnormal menstruation was present in 32% of the cases, which is similar to the findings of Jankovic et al (13). We believe that this effect is mainly due to usage of external ointment and special skin care extracts that could affect the vaginal normal microbiota which lead to ascending infection and eventually PID.

Conclusion

Vaginal candidiasis is common health problem which need more attention and studying to decrease it impact on the public health, young age patients were at increased risk of incidence, vaginal discharge and irritation was very common among the patients.