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Recurrent vulvovaginitis

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Vulvovaginitis (VV) is one of the most commonly encountered problems by a gynecologist. Many women frequently self-treat with over-the-counter medications, and may present to their health-care provider after a treatment failure. Vulvovaginal candidiasis, bacterial vaginosis, and trichomoniasis may occur as discreet or recurrent episodes, and have been associated with significant treatment cost and morbidity. We present an update on diagnostic capabilities and treatment modalities that address recurrent and refractory episodes of VV.

Introduction

Complaints pertaining to vulvovaginal symptoms are among the most common presenting symptoms a gynecologist will encounter. Vulvovaginitis (VV) is associated with significant direct and indirect health-care costs and may affect 15–39% of women. Many women self-treat, and over-the-counter (OTC) antifungal creams are among the most commonly purchased OTC medications. VV can be linked with significant morbidity and affects women of all ages. Furthermore, vulvovaginal infections have been associated with other morbidities of the female genital tract, including increased susceptibility to and transmission of human immunodeficiency virus (HIV) infection, infertility, and poor pregnancy outcomes [1]. The most common causes of infectious VV are vulvovaginal candidiasis (VVC), bacterial vaginosis (BV), and trichomoniasis.

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Although many providers may think of vulvovaginal infections as fairly straightforward and easy to treat, treatment failures and recurrent infections occur commonly. Patients faced with such infections are frequently offered repeated courses of the same ineffective regimens. However, for most women with chronic or recurrent vaginal infections, there are approaches to evaluation and treatment which can yield more satisfactory outcomes. In this article, we will review the current literature about the etiology, diagnosis, treatment, and management of recurrent or refractory infections.

Vulvovaginal candidiasis

While women are led to believe that they can accurately self-diagnose VVC, only 11% who have never had an episode of VVC and 34% who have can accurately recognize the written description of VVC [2]. In 2002, Ferris and colleagues prospectively investigated a cohort of 95 women who had self-diagnosed VVC and were about to purchase an OTC antifungal for self-treatment. After proper evaluation, only 34% had VVC while an additional 20% had VVC with another infection, most frequently BV. Women in the study who experienced a prior episode of VVC were no more likely to correctly identify their infection than women with first-time symptoms, and the women who did correctly identify their symptoms were no more confident about their self-diagnosis than others [3]. It is estimated that up to 50% of women using OTC products for self-diagnosed VVC may eventually need to visit a clinician because of improper diagnosis and therapy [3]. Thus, VVC is frequently misdiagnosed and mismanaged due to inaccurate self-diagnosis and self-treatment. The absence of rapid, simple, and inexpensive home diagnostic tests may further impede proper identification.

The initial approach to a patient with symptoms of VVC (itching, burning, and abnormal discharge) includes thorough history and physical examination, with attention paid to risk factors including antibiotic use, prior episodes of VVC, immunosuppression, and diabetes mellitus. Office tests, including vaginal pH, saline and 10% potassium hydroxide (KOH) smears are crucial to making an initial diagnosis. In patients with suggestive symptoms but negative microscopy, a yeast culture is also helpful, as hyphae or blastospores are only identified with microscopy in about 50% of cases [4]. In patients whose initial tests are negative, and who are unable to return easily for evaluation, diagnosis may be significantly aided by providing patients with swabs with transport medium for self-sampling to be directly sent to a laboratory [5]. Furthermore, a positive yeast culture permits speciation of the causative organism, which in turn may have important implications for antifungal therapy. Although culture also allows access to the organism for antifungal susceptibility testing, such testing is rarely used in clinical practice unless patients experience repeated clinical or mycologic treatment failure. Where available, drug sensitivities can be considered for fluconazole, miconazole, itraconazole, amphotericin B, and capsofungin but may be of limited usefulness [6]. Diabetics and pregnant women may have different profiles of drug resistance from the nondiabetic nonpregnant patient [6]. Although polymerase chain reaction (PCR) testing for yeast has been available for a number of years and may yield more rapid results than culture, disadvantages of PCR testing include little data about performance compared to culture, variations in quality between laboratories, an inability to detect less common types of yeast, and significantly increased costs. There is no indication for *Candida* PCR in most clinical settings.

First-line therapy for an acute episode of vaginitis is generally very effective and can be accomplished with the use of an oral or topical azole, with topical medications preferable in pregnancy. A

Table 1
Classification of VVC [42].

Uncomplicated vulvovaginal candidosis
• Sporadic and infrequent infections AND
• Mild to moderate symptoms or findings AND
• Suspected *C. albicans* infection AND
• Nonpregnant, nondiabetic woman
Complicated vulvovaginal candidosis
• Four or more recurrences per year OR
• Severe symptoms or findings OR
• Suspected or proven Non-*albicans Candida* infection OR
• Impaired host immune system (diabetes, immunosuppression, pregnancy, other vulvovaginal conditions)