BCCDC Non-Certified Practice Decision Support Tool: Vulvovaginal Candidiasis (VVC)

Scope

RNs may diagnose and recommend over-the-counter (OTC) treatment for uncomplicated vulvovaginal candidiasis (VVC).

Definitions

- Uncomplicated VVC – sporadic or infrequent occurrence with < 3 episodes per year presenting with mild to moderate symptoms (minimal or localized edema and erythema, absence of fissures)
- Complicated VVC – may include the following:
    - recurrent infection (≥ 3 episodes in a 12-month period)
    - severe symptoms (vulvar erythema, edema, excoriation and fissure formation)
    - chronic, continuous and unremitting symptoms, despite proper use of recommended treatment in the presence of lab-confirmed *Candida* species

Etiology

A common clinical condition with signs and symptoms of vulvar and/or intravaginal inflammation (commonly known as a 'yeast infection') in the presence of *Candida* species. VVC is not usually sexually transmitted. The most common cause of VVC is *Candida albicans* (*C. albicans*), however, non-albicans *Candida* (NAC) species are emerging (e.g., *C. glabrata*, *C. tropicalis*, *C. parapilosis*).

Epidemiology

VVC is the second most common cause of vaginitis. Incidence and prevalence are difficult to determine, and varies between countries and ethnicities, however an estimated 75% of people will have at least one episode of VVC in their lifetime and 40 – 45% will experience two or more episodes. Rarely occurring before menarche, VVC incidence peaks during reproductive years and typically declines following menopause (though hormone-replacement therapy [HRT] may disrupt that decline).

Risk Factors

- antibiotic use
- corticosteroid use
- diabetes

- SGLT2 inhibitors (used to manage Type 2 Diabetes Mellitus)
- HIV infection
- hyperestrogenemia (e.g. HRT, combined hormonal contraceptives)
- immunocompromised
- pregnancy
- genetic predisposition

Clinical Presentation

- abnormal changes to vaginal discharge; odourless vaginal discharge may appear white, clumpy, thick and/or curdy
- vulvar and/or intravaginal itch, irritation and/or burning
- superficial dyspareunia (usually at the vaginal introitus)
- external dysuria
- vulvar and/or vaginal erythema and/or edema
- vulvar fissures, dryness, cracks in skin and/or excoriation

For individuals who are in peri-menopause or menopause, consider consultation with or referral to MD or NP for differential diagnosis and alternate treatment options.

Physical Assessment

Assess:

- vulva and vagina for erythema and edema
- vulvar skin for fissures, dryness, cracks or excoriation (e.g., labial folds)
- vaginal discharge
- vaginal pH (typically ≤ 4.5 with VVC), if available

Perform KOH whiff test (typically negative with VVC), if available

**pH and KOH whiff findings may not be as expected for VVC in the presence of co-infection with Bacterial Vaginosis or Trichomonas vaginalis*

Diagnostic and Screening Tests

Testing is recommended for symptomatic individuals only. Depending on available supplies and agency guidelines, the following diagnostic tests may be used:

Specimen	Tests
vaginal swab (individual- or clinician-collected)*	• vaginal swab or smear on slide for gram stain or wet mount microscopy • vaginal pH • KOH whiff test • Vaginal swab for yeast culture (with MD/NP consultation for recurrent or complicated infection)

*For individuals on testosterone or after vaginoplasty, refer to the STI Assessment DST for recommended diagnostic tests.

Notes

- blind vaginal swab acceptable (individual- or clinician collected) if pelvic exam not required for assessment
- for more information on KOH whiff testing see: Safe Use of 10% Potassium Hydroxide in STI Screening located in the BCCDC Communicable Disease Control (CDC) Manual Chapter 5: Sexually Transmitted Infections.

Management

Diagnosis and Clinical Evaluation

The diagnosis and treatment of VVC is made based on the health history and clinical findings.

Positive lab results support a diagnosis in the presence of symptoms. Because yeast can be a normal finding in vaginal flora, positive lab results in the absence of symptoms do not support diagnosis or treatment of VVC.

Consultation and Referral

Consult with or refer to a physician (MD) or nurse practitioner (NP) in the following scenarios:

- complicated VVC
- more than two episodes of VVC within an 8-week timeframe
- pregnancy or breast-/chest-feeding
- individuals who are immunocompromised

Treatment

Treatment	Notes
Treatment for Vaginal Symptoms	1. Review information on the BCCDC Medication Handouts and your agency's drug reference database, including: • allergies, interactions and side effects • how to take the medication • after-care information 2. **Clotrimazole** • full 6- to 7-day regimen is recommended if there is current or recent antibiotic use 3. **Miconazole** • full 6- to 7-day regimen is recommended if there is current of recent antibiotic use • may be contraindicated when taken with certain anticoagulants. Consult MD/NP 4. **Fluconazole** • contraindicated with known hypersensitivity to other azole drugs • contraindicated in pregnancy; consult an MD or NP for alternate treatment options • used with caution during breast-/chest-feeding; consult an MD or NP • may be contraindicated when taken with other medications. Advise to read the medication package insert carefully and to consult with a pharmacist if taking other medications 5. **Intravaginal Boric Acid** • may be recommended when symptoms of VVC persist after completion of first choice azole treatments, though data on efficacy is limited and inconclusive • treatment failure could be due to infection with non-*albicans* strain of yeast (e.g., *C. glabrata)* • boric acid can be fatal if ingested orally 6. Consult with or refer to MD or NP if individual is unable to take recommended treatments
First Choice	
Vaginal insert: clotrimazole (Canestan®) or miconazole (Monistat®) vaginal inserts or cream; insert as per package (for 3, 6 or 7 nights) Oral treatment: fluconazole 150 mg tablet PO in a single dose	
Alternate Treatment (refer to Note 5)	
Intravaginal capsules: boric acid 600 mg once per day for 14 days	
Treatment for External Symptoms	
First Choice	
clotrimazole topical cream applied twice daily for 10 to 14 days miconazole topical cream applied twice daily for 10 to 14 days	

Notes

Because available options for first-line treatment with azole antifungals all offer similar efficacy, treatment should be individualized depending on drug availability, tolerability, price, and individual preference. Individuals may refer to package insert for instructions on proper use of topical and intravaginal options.

Monitoring and Follow-up

- **Repeat testing:** No
- **Test-of-cure** (TOC): No
- **Follow-up:** further assessment and treatment may be indicated if symptoms persist for more than one week following antifungal treatment, or if symptoms recur

Partner Notification

- **Reportable:** No
- **Trace-back period:** N/A
- **Recommended partner follow-up:** not required unless they are experiencing symptoms

Potential Complications

- recurrent VVC (RVVC) - 3 or more episodes within one year
- severe VVC – extensive vulvar erythema, edema, excoriation or fissure formation
- chronic VVC – a chronic, continuous and unremitting form of VVC; typically evolving from recurrent VVC

Additional Education

- self-diagnosis for recurrent or persistent symptoms is discouraged. Inaccurate self-diagnosis can lead to delay in correct diagnosis and treatment, unnecessary expenditure, resistance to current treatments (azoles) and precipitation of vulvar dermatitis
- many topical and intravaginal agents are oil-based and may weaken latex condoms and diaphragms, and cause them to fail
- mild soap can be used to clean external genitalia
- continue to apply topical antifungal cream for at least 10 days even if symptoms begin to resolve earlier
- while symptomatic with VVC, there is an increased risk of STI acquisition or transmission
- there are mixed results and insufficient evidence (e.g., from randomized controlled trials) to support the use of alternative therapies such as probiotics, ingestion or elimination of certain foods, application of medical-grade honey etc. as effective methods to treat or prevent VVC.
- Standard Education for Sexually Transmitted & Blood-Borne Infection (STBBI)

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