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**BCCDC Non-certified Practice Decision Support Tool
Vulvovaginal Candidiasis (VVC)**

VULVOVAGINAL CANDIDIASIS (VVC)

DEFINITION

Vulvar and/or intravaginal yeast infection most often caused by *Candida albicans*.

POTENTIAL CAUSES

Candida albicans is responsible for 90% of vulvovaginal candidiasis (yeast infections).

PREDISPOSING RISK FACTORS

- Pregnancy
- Antibiotic use
- Corticosteroid use
- Immunocompromised
- Diabetes
- HIV infection

TYPICAL FINDINGS

Sexual Health History

- May or may not have had sexual contact
- Client stated abnormal changes vaginal discharge
- Dyspareunia (usually at the vaginal introitus)
- Vulvar and/or intravaginal itch, irritation and/or burning

Physical Assessment

Offer sexually active women experiencing vulvar/vaginal symptoms (irritation/abnormal discharge) full STI screening which includes pelvic exam and cervical/vaginal swabs. Clinical signs of VVC may include:

- Erythema and edema of vulva and/or vagina
- Fissures, dryness or cracks to vulvar skin (e.g., labial folds)
- Vaginal discharge may appear white, clumpy, thick, or curdy
- Vaginal pH ≤ 4.5

Diagnostic Tests

Vaginal wall swabs collected for:

- Depending on the agency lab kits and guidelines, the following diagnostic tests that may be used:
 - Vaginal smear on slides - sent to BC Public Health Microbiology Reference Laboratory (BC-PHMRL) - 2 slides for yeast, BV, *Trichomonas vaginalis* (*T. vaginalis*)
 - KOH wet mount (for yeast) and/or normal saline wet mount on slides - for BV and *T. vaginalis*, if onsite microscopy is available
 - Transport medium – for BV, yeast, and possibly *T. vaginalis*
 - *T. vaginalis* rapid antigen detection – only available at certain testing locations
- pH and KOH whiff test

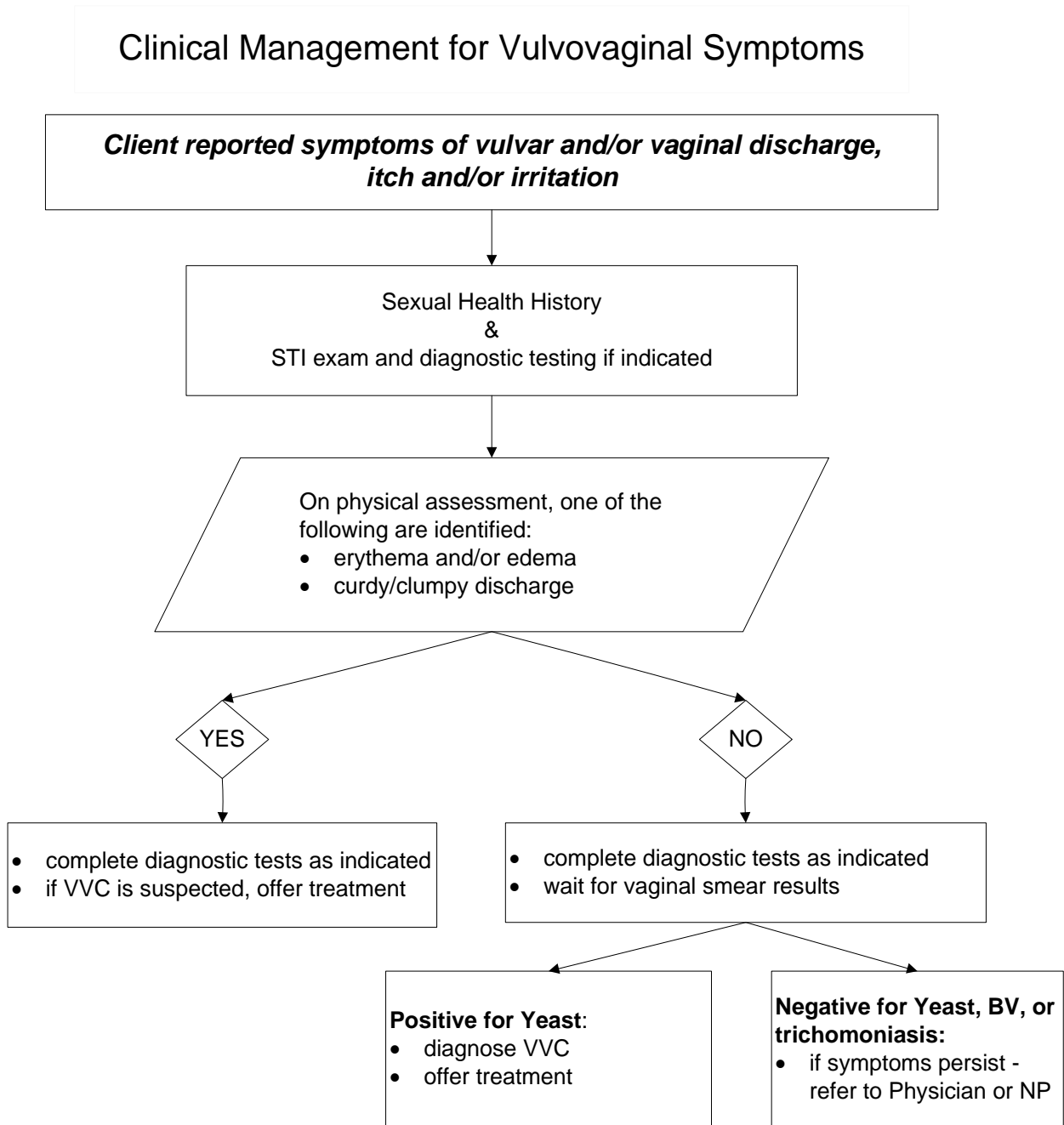
Notes:

- If a client does not require or defers a pelvic examination, then a *blind vaginal swab* may be collected (by the client or the clinician).
- For more information on KOH whiff testing see: *Safe Use of 10% Potassium Hydroxide in STI Screening* located in the *BCCDC Communicable Disease (CD) Manual Chapter 5: Sexually Transmitted Infections*.

CLINICAL EVALUATION

The diagnosis of vulvovaginal candidiasis is made based on the health history and/or clinical findings.

- Positive lab results support a diagnosis for symptomatic clients. Because yeast can be a normal finding in vaginal flora, positive lab results for asymptomatic clients do not support diagnosis or treatment of VVC.
- Treatment may be offered based on clinical findings and/or physical assessment.



MANAGEMENT AND INTERVENTIONS

Goals of Treatment

- Treat infection
- Prevent complications

TREATMENT OF CHOICE

Clients may purchase first choice treatments over-the-counter (OTC) and choose between the formulations in the treatment chart. Clients can refer to the package insert for proper application.

Treatment for Vaginal Symptoms	Notes
<p>First Choice</p> <p>Vaginal insert or oral treatment</p>	<ol style="list-style-type: none"> 1. Treat with 6 day vaginal insert regimen if client is concurrently receiving antibiotics. 2. Fluconazole should not be taken with grapefruit juice and is contraindicated in clients who have shown hypersensitivity to other azole drugs. 3. Fluconazole may be contraindicated when administered while the client is taking several types of medications. 4. Miconazole may be contraindicated when taken with certain anticoagulants. Consult with a physician or NP for clients on anti-coagulant therapy. 5. Advise the client to read the medication package insert carefully prior to taking fluconazole and to consult with a pharmacist regarding medication reconciliation if they are taking other medications when purchasing fluconazole. 6. See BCCDC Medication Information Sheets for further medication reconciliation and client information regarding fluconazole, clotrimazole and miconazole. Available at http://smartsexresource.com/sites/default/files/handouts/STI_handout_yeast_20120605.pdf and http://smartsexresource.com/sites/default/files/handouts/Ref%20161%20Fluconazole%20Treatment%20Feb_2014_0.pdf 7. For clients who continue to experience symptoms of VVC after completion of first choice treatment (azole therapy), Boric Acid treatment intravaginally may be recommended. Treatment failure could be due to an infection with a non-<i>albicans</i> strain of yeast (e.g. <i>Candida glabrata</i>).
<p>Vaginal Insert:</p> <ul style="list-style-type: none"> ○ clotrimazole (Canestan®) or miconazole (Monistat®) vaginal inserts or cream; insert as per package (for 3, 6 or 7 nights) <p>OR</p> <p>Oral treatment:</p> <ul style="list-style-type: none"> ○ fluconazole 150 mg tablet PO in a single dose 	
<p>Alternate Treatment</p> <p>Intravaginal capsules:</p> <ul style="list-style-type: none"> ○ boric acid 600 mg once per day for 14 days 	

Treatment for External Symptoms	Notes
<p>First Choice Topical cream</p>	<ol style="list-style-type: none"> 1. See BCCDC Client and Medication Information Sheets for further medication reconciliation and client information regarding miconazole and clotrimazole. Available at http://smartsexresource.com/sites/default/files/handouts/STI_handout_yeast_20120605.pdf 2. Advise client to refer to medication package insert and to consult with pharmacist regarding medication reconciliation. 3. Miconazole may be contraindicated when taken with certain anticoagulants. Please consult with a physician or NP for clients on anti-coagulant therapy. 4. Advise client to continue with application of cream for at least 10 days even if symptoms begin to resolve earlier.
<p>clotrimazole topical cream applied twice daily for 10 to 14 days</p> <p>OR</p> <p>miconazole topical cream applied twice daily for 10 to 14 days</p>	

Notes:

- Clients who have experienced more than two VVC infections within 8 weeks should be referred to a physician or NP.
- There are mixed results regarding the benefit of oral probiotics in reducing recurrent vulvovaginal candidiasis and maintaining balanced vaginal flora. Although studies demonstrate the benefit of reducing episodes of bacterial vaginosis through ingestion of oral lactobacilli in yogurt, the same reduction in episodes of VVC is less apparent. However, some clients, especially those with recurrent VVC, may benefit from the oral ingestion live bacterial cultures such as those found in certain yogurts or in capsule form in addition to topical or oral antifungal treatment.

PREGNANCY AND BREASTFEEDING

Refer to NP or physician.

PARTNER COUNSELLING AND REFERRAL

Sexual partners do not require treatment unless they are experiencing symptoms.

POTENTIAL COMPLICATIONS

- Recurrent VVC (4 or more episodes within one year)
- Severe VVC - extensive vulvar erythema, edema, excoriation or fissure formation

CLIENT EDUCATION

Counsel client:

- Sexual partners do not require treatment unless they are experiencing symptoms.
- Take all medication as directed.
- Regarding the side effects of medication.
- Oral antibiotics, corticosteroid use, HIV, and diabetes may cause yeast infections.
- Return if symptoms persist after treatment

CONSULTATION AND/OR REFERRAL

Consult physician or NP for the following:

- 4 or more episodes of VVC within one year – to access alternate treatment and/or rule out other potential infections/dermatological conditions.
- Clients have experienced more than two episodes of VVC within an 8 week time frame.
- severe VVC.
- pregnant or breastfeeding.

DOCUMENTATION

- VVC is not reportable.
- As per agency guidelines.

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