

Vulvovaginitis: Adult & Pediatric

Genitourinary

Clinical Decision Tools for RNs with Additional Authorized Practice [RN(AAP)s]

Effective Date: June 9, 2022

Background

Vulvovaginitis is an inflammation and irritation of the vulva, vaginal mucosa, or both from infectious or non-infectious causes (Anti-infective Review Panel, 2019).

Vulvovaginal candidiasis (VVC), bacterial vaginosis (BV), and atrophic vaginitis (AV) are not considered sexually transmitted infections (Bulfin, Thomas, & Porter, 2019).

Infectious causes of vulvovaginitis are due to a disruption of the normal lactobacilli dominant flora of the vagina (Anti-infective Review Panel, 2019). Vulvovaginal candidiasis is most commonly caused by *Candida albicans* or other *Candida* species. Bacterial vaginosis is commonly caused by *G. vaginalis*, *M. hominis*, and other anaerobic bacteria (Anti-infective Review Panel, 2019). Non-infectious AV may be due to a lack of estrogen, excessive physiologic secretions, hypersensitivity (e.g., latex condoms, soaps), multiple dermatologic conditions (e.g., eczema, psoriasis), vaginal foreign body, trauma, or lack of adequate vaginal lubrication during intercourse (Anti-infective Review Panel, 2019; Bulfin et al., 2019).

Immediate Consultation Requirements

The RN(AAP) should seek immediate consultation from a physician/NP when any of the following circumstances exist:

- BV in pregnancy related to risk to the fetus, or
- BV in clients with alcohol use disorder related to potential disulfiram reaction (Interprofessional Advisory Group [IPAG], personal communication, October 2, 2019).

Predisposing and Risk Factors

Predisposing and risk factors for VVC in adult and pediatric clients include:

- current or recent antibiotic use;
- sexual activity;
- pregnancy;
- medications (e.g., antibiotics, corticosteroids);
- diabetes mellitus;
- immunodeficiency (e.g., HIV);
- heat, moisture, or occlusive clothing;
- high estrogen states;
- consumption of cranberry juice or acidophil-containing products;
- intra-vaginal oil use;
- Lewis blood group non-secretor status;
- African American ancestry;
- atopy;
- previous history of vaginal candidiasis;
- sex workers and their sexual partners;
- hygiene (Bulfin et al., 2019; McCance & Huether, 2019).

Conditions and risk factors associated with BV include:

- sexual activity,
- new sexual partner,
- presence of intrauterine device,
- concurrent sexually transmitted infection,
- smoking and second-hand smoke exposure, and
- vaginal douche and cleaning with soap (Bulfin et al., 2019; McCance & Huether, 2019).

Conditions and risk factors associated with AV include:

- peri or postmenopausal females,
- bilateral oophorectomy,
- primary ovarian insufficiency,
- ovarian failure (e.g., following radiation, chemotherapy),
- anti-estrogenic medication,
- maternal lactation,
- prolactin elevation,
- smoking and second-hand smoke,
- vaginal nulliparity, or
- immune disorders (Bachmann & Santen, 2019).

Health History and Physical Exam

Subjective Findings

The RN(AAP) should enquire about the type, duration, and timing of vaginal discharge in relation to menses; the presence of any of the aforementioned risk-factors; as well as:

- odour of the vaginal discharge (presence of a foul-smelling vaginal discharge is more likely in BV, and may increase after intercourse);
- vaginal irritation, or burning;
- itching (common with VVC);
- dyspareunia;
- lack of vaginal lubrication;
- identify any association with recent or current antibiotic use;
- any urinary symptoms; and/or
- vaginal spotting (Anti-infective Review Panel, 2019; Bulfin et al., 2019).

The RN(AAP) should also enquire about fever, pelvic pain, diabetes mellitus, immunosuppression, symptoms suggestive of menopause, sexual history, medication history, surgical history, pregnancy, and lactation.

Objective Findings

The RN(AAP) should perform a speculum exam to evaluate for vaginal or cervical erythema, edema, and lesions (Anti-infective Review Panel, 2019). The signs and symptoms of vulvovaginitis may include the following:

- erythema of external genitalia,
- pruritus,
- vaginal discharge (amount, consistency, colour), and
- vulvar and/or vaginal irritation or dryness (Anti-infective Review Panel, 2019; Bulfin et al., 2019).

Physical findings that may be present based on possible etiology:

VVC

- labial and vulvar erythema, and swelling often with fissures and excoriation;
- vaginal walls covered with adherent white exudate (creamy or cottage cheese like), when exudate is removed, underlying area may bleed;
- cervix will appear normal (Anti-infective Review Panel, 2019).

BV

- external genitalia are usually normal in appearance;
- scant-to-moderate grey, foul-smelling ("fishy") discharge (a lack of odour most likely rules out BV) (Anti-infective Review Panel, 2019).

AV

- tissue fragility, fissures, and petechiae;
- vagina becomes shortened, narrower (introital stenosis);
- prominent urethral meatus;
- ureteral eversion or prolapse;
- vulvovaginal pallor;
- loss of vaginal rugae and elasticity; and
- decreased vulvovaginal secretions/lubrication (Bachmann & Santen, 2019).

Differential Diagnosis

The following should be considered as part of the differential diagnosis:

- sexually transmitted infection (STI),
- cystitis,
- normal physiologic discharge,
- vulvodynia,
- dyspareunia, or
- pelvic inflammatory disease (PID) (Bulfin et al., 2019).

Making the Diagnosis

A provisional diagnosis of VVC can be made based on the following history and presenting symptoms: vaginal itching, vulvar edema, thick, white "cottage cheese" discharge, and/or external dysuria. Culture will be positive for yeast (Anti-infective Review Panel, 2019).

A provisional diagnosis of BV can be made based on the history and physical exam and is confirmed with receipt of test results. Bacterial vaginosis is usually asymptomatic with a strong odour to the vaginal discharge (Anti-infective Review Panel, 2019).

A provisional diagnosis of AV can be made based on the history and physical exam and confirmed using a vaginal slide (Bachmann & Santen, 2019).

Investigations and Diagnostic Tests

A swab of vaginal discharge may be collected to help determine the presence of *G. vaginalis*, *Candida*, or AV if the underlying cause is unclear (Bulfin et al., 2019). The specimen should be collected from the vaginal wall to decrease false elevations in pH due to cervical mucus, blood, semen, or other substances. As clinical symptoms can present as STIs, conduct appropriate

investigations. Obtain a Pap smear if necessary, according to the most current *Prevention Program for Cervical Cancer Guidelines* recommended by the Saskatchewan Cancer Agency (2012).

Management and Interventions

Goals of Treatment

The primary goals of immediate treatment are to differentiate between various causes of vulvovaginitis, relieve symptoms, identify predisposing factors and prevent recurrence (Bulfrin et al., 2019).

Non-Pharmacological Interventions

The RN(AAP) should recommend, as appropriate, the following non-pharmacological options such as non-hormonal vaginal moisturizers and lubricants for AV (Bachmann & Santen, 2019).

Pharmacological Interventions

The pharmacological interventions recommended for the treatment of vulvovaginitis are in accordance with the *Anti-infective Guidelines for Community-acquired Infections* (Anti-infective Review Panel, 2019) and the RxFiles: Drug Comparison Charts (RxFiles Academic Detailing Program, 2021).

VVC

Asymptomatic clients with VVC do not require treatment.

| | Drug | Dose | Route | Frequency | Duration |
|---|----------------------------------|---------------------------|----------------|-----------|----------|
| Pediatric and Adult (not pregnant) | | | | | |
| | Fluconazole | 150 mg | p.o. | once | n/a |
| OR | Clotrimazole | 500 mg | intravaginally | once | n/a |
| OR | Clotrimazole | 200 mg | intravaginally | daily | 3 days |
| OR | Clotrimazole (Canesten) 1% cream | 5 g (one applicator full) | intravaginally | qhs | 6 days |
| OR | Clotrimazole (Canesten) 2% cream | 5 g (one applicator full) | intravaginally | qhs | 3 days |

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|---------------------------------------|-----------------------------------|------------------------------------|----------------|------------------|-----------------|
| OR | Clotrimazole (Canesten) 10% cream | 5 g (one applicator full) | intravaginally | once | n/a |
| | Drug | Dose | Route | Frequency | Duration |
| OR | Miconazole suppository | 100 mg (one suppository) | intravaginally | daily | 7 days |
| OR | Miconazole suppository | 400 mg (one suppository) | intravaginally | daily | 3 days |
| OR | Miconazole suppository | 1200 mg (one suppository) | intravaginally | once | n/a |
| OR | Miconazole 2% cream | 100 mg (one applicator full) | intravaginally | qhs | 7 days |
| OR | Miconazole 4% cream | 200 mg (one applicator full) | intravaginally | qhs | 3 days |
| OR | Nystatin | 10,000 units (one applicator full) | intravaginally | qhs | 14 days |
| Pediatric and Adult (pregnant) | | | | | |
| | Clotrimazole (Canesten) 1% cream | 5 g (one applicator full) | intravaginally | qhs | 7-14 days |
| OR | Miconazole 2% cream | 100 mg (one applicator full) | intravaginally | qhs | 7-14 days |
| OR | Miconazole 4% cream | 200 mg (one applicator full) | intravaginally | qhs | 7-14 days |

BV

Asymptomatic clients with BV do not require treatment. Instruct client to abstain from alcohol while taking metroNIDAZOLE because of the disulfiram reaction with this medication.

| | Drug | Dose | Route | Frequency | Duration |
|--|-------------------------|---------------------------|----------------|-----------|----------|
| Pediatric and Adult (not pregnant) | | | | | |
| | MetroNIDAZOLE | 500 mg | p.o. | q12h | 7 days |
| | Drug | Dose | Route | Frequency | Duration |
| OR | MetroNIDAZOLE 0.75% gel | 5 g (one applicator full) | intravaginally | qhs | 5 days |
| OR | Clindamycin 2% cream | 5 g (one applicator full) | intravaginally | qhs | 7 days |
| Pediatric and Adult: Second line (not pregnant) | | | | | |
| | MetroNIDAZOLE | 2 g | p.o. | once | n/a |

Client and Caregiver Education

The RN(AAP) provides client and caregiver education as follows:

- Counsel about appropriate use of medications (dose, frequency, route, importance of compliance, etc.).
- For VVC and BV, instruct to abstain from sexual intercourse until symptom-free or to always use non-latex condoms during sexual intercourse.
- Recommend lubricants if AV is present and advise that increased sexual activity may help reduce the symptoms.
- Recommend avoidance of tightly fitting synthetic underwear if Candida infections are recurrent.
- Advise about proper perineal hygiene to prevent recurrence.
- Avoid strong, scented soaps, perfumed products, and bubble baths.
- Advise to have showers rather than baths.
- Advise that some vaginal/vulval antifungal treatments (e.g., preparations containing clotrimazole, econazole, fenticonazole, and miconazole) may damage latex contraceptives.
- Advise abstinence or the use of non-latex barrier methods during antifungal use and for several days after finishing the antifungal treatment (Anti-infective Review Panel, 2019; Bachmann & Santen, 2019; Bulfin et al., 2019).

Monitoring and Follow-Up

For clients diagnosed with VVC, the RN(AAP) should:

- follow-up with clients seven to 10 days after completion of therapy.
- check the client's blood glucose level if VVC is recurrent.
- consider that the oral contraceptive pill (OCP) may be a contributing factor in clients with frequent infections.
- advise that partner treatment is not necessary in most situations but that in cases of recurrent VVC of unknown cause, it may be helpful to treat the client's asymptomatic partner (topical clotrimazole one percent cream bid for seven days) and send swab to rule out *Candida glabrata* as cause of infection.

For clients diagnosed with BV and AV, the RN(AAP) should advise the client to follow-up if symptoms do not resolve.

Complications

The complications which may be associated with vulvovaginitis include chronic VVC and urinary tract infection. Bacterial vaginosis in pregnancy may result in increased risk of miscarriage, preterm delivery, low birth weight, prematurity, and premature rupture of membranes, and postpartum endometritis.

Referral

Refer to a physician/NP if client presentation is consistent with those identified in the *Immediate Consultation Requirements* section, recurrent VVC, vulvovaginitis that does not resolve with treatment, or the infection is caused by *Candida glabrata*, or those clients with AV for whom symptoms persist or are particularly bothersome, after one month of treatment with vaginal lubricants/moisturizers (IPAG, personal communication, October 2, 2019).

References

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