

SCOPE OF PRACTICE

TARGET POPULATION

- Clients with confirmed uncomplicated Vulvovaginal Candidiasis (VVC)
- Clients with a presumptive clinical diagnosis of uncomplicated Candidiasis from clinical presentation and clinical examination

EXCLUSION CRITERIA

- Clients with ongoing vulval/vaginal issues including recurrent VVC
- Clients with complications of infection
- Clients presenting with persistent symptoms post treatment
- Clients who are pregnant, breast feeding or immunocompromised

GUIDELINE OBJECTIVES AND ANTICIPATED OUTCOMES

- Provide treatment for clients with a confirmed diagnosed Candidiasis or presumptive treatment for symptomatic clients
- Identification of individual STI risk and provision of appropriate screening
- Identify public health risks to control infections by:
 - Provision of STI education and information
 - Identification and exploration of sexual risk taking behaviours
 - Monitoring antimicrobial resistance

BACKGROUND

CONDITION DESCRIPTION

Vulvovaginal candidiasis (VVC) is caused by the fungus *Candida albicans* in the majority of symptomatic cases. *C. glabrata* is also responsible for a minority of symptomatic cases.^{1,2,3} Other species of candida such as *C.krusei*, *C. tropicalis* and *C. stellatoidea* rarely cause vaginitis.^{1,2,3}

Candida spp are usually of endogenous origin and can be isolated from the genital tract in up to 25% of asymptomatic healthy women.⁴ In order for *candidia* spp. to colonize the vagina, they must first adhere to the vaginal epithelial cells and then grow, proliferate and germinate, before finally causing symptomatic inflammation.^{4,5} Changes in the vaginal environment are usually necessary before the organism can induce pathological effects which are usually transitory in nature.^{3,4,5}

Predisposing factors for Vulvovaginal candidiasis^{2,3,6}

- Changes in hormone levels
- Pregnancy
- Antibiotic use
- Diabetes mellitus
- Moist occluded skin
- Friction/abrasions

Symptoms and signs of candidiasis vary, from classic thick curdy discharge and adherent plaques of yeast on the vaginal wall, to a thin homogenous discharge, with mild itch to severe itch with extensive vulval involvement, oedema and redness.^{2,3,6} Symptoms correlate with a high fungal burden.^{2,3,5}

SYMPTOMS OF VVC

- Vulval pruritus
- External dysuria
- Vulval erythema
- Vulval edema
- Dyspareunia
- Adherent thrush plaques and discharge
- Erythematous satellite lesions

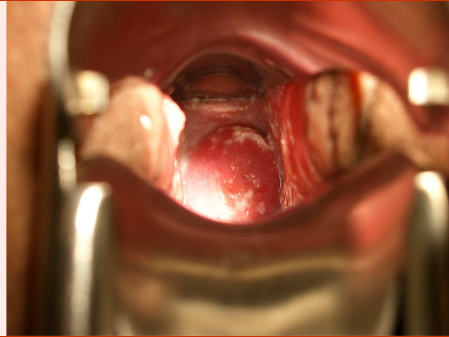


Table F2.1: Symptoms of VVC^{1,2,3,4} (Clinical photo courtesy of MSHC)

OTHER CONSIDERATIONS

Chemical products, local allergy and delayed hypersensitivity may contribute to the induction of symptomatic vaginitis and may play a role in chronic or recurrent candidiasis.^{3,4} As isolation of candida is common in asymptomatic women treatment is not recommended in the absence of symptoms.³

EPIDEMIOLOGY

More than 20% of healthy women may harbour *Candida* spp. in the vagina.^{1,2,3}

INVESTIGATIONS AND DIAGNOSIS

- The diagnosis of vaginal candidiasis should be made in the presence of symptoms
- Vaginal swabs should be taken from the anterior fornix^{5,6}
- A wet-mount preparation should be done to determine the presence of yeast cells and to exclude the presence of *Trichomonas vaginalis* and clue cells.^{2,5,6}
- Positive direct microscopy has high diagnostic value although a minority of patients with symptomatic vaginal candidiasis will have negative microscopy^{4,6,7}
- Vaginal pH is usually normal^{1,2,3,4}
- Culture remains the method for detecting *Candida* although a positive culture may not necessarily indicate that *Candida* is responsible for the vaginal symptoms^{3,6}
- *C. glabrata* and other non-*albicans* species are isolated more frequently in women with diabetes than those without

TEST	SENSITIVITY	VVC/Recurrent VVC
Wet prep	50-60%	VVC/ Recurrent VVC
Wet prep with KOH	70-80%	VVC/ Recurrent VVC
Gram stain	60-70%	VVC/ Recurrent VVC
Culture	30-50%	Recurrent VVC

Table F2.2: Investigation sensitivities^{2,6,7}

TREATMENT AND MANAGEMENT

TREATMENT INDICATORS

- Clinical diagnosis based on examination findings
- Laboratory confirmed diagnosis

TREATMENT

- **Clotrimazole 100MG pessary or cream intravaginally for 6 nights and or**
- **Hydrozole 1% cream bd for 14 days**

MANAGEMENT

Topical therapies give cure rates of 80-95% in non-pregnant women.

In cases associated with severe vulvitis and pruritis, topical applications of low potency corticosteroid cream for a duration of ??? days may be beneficial.^{8,9} Unresponsive VVC requires MO review for longer duration of topical and or oral treatments.^{7,8,10,11}

OTHER CONSIDERATIONS

- Genital skin care education
- Control of predisposing conditions including diabetes
- Condoms and diaphragms may be affected by treatment and precautions should be taken.
- There is no evidence that dietary modification is useful
- Avoid menses if taking the OCP during treatment

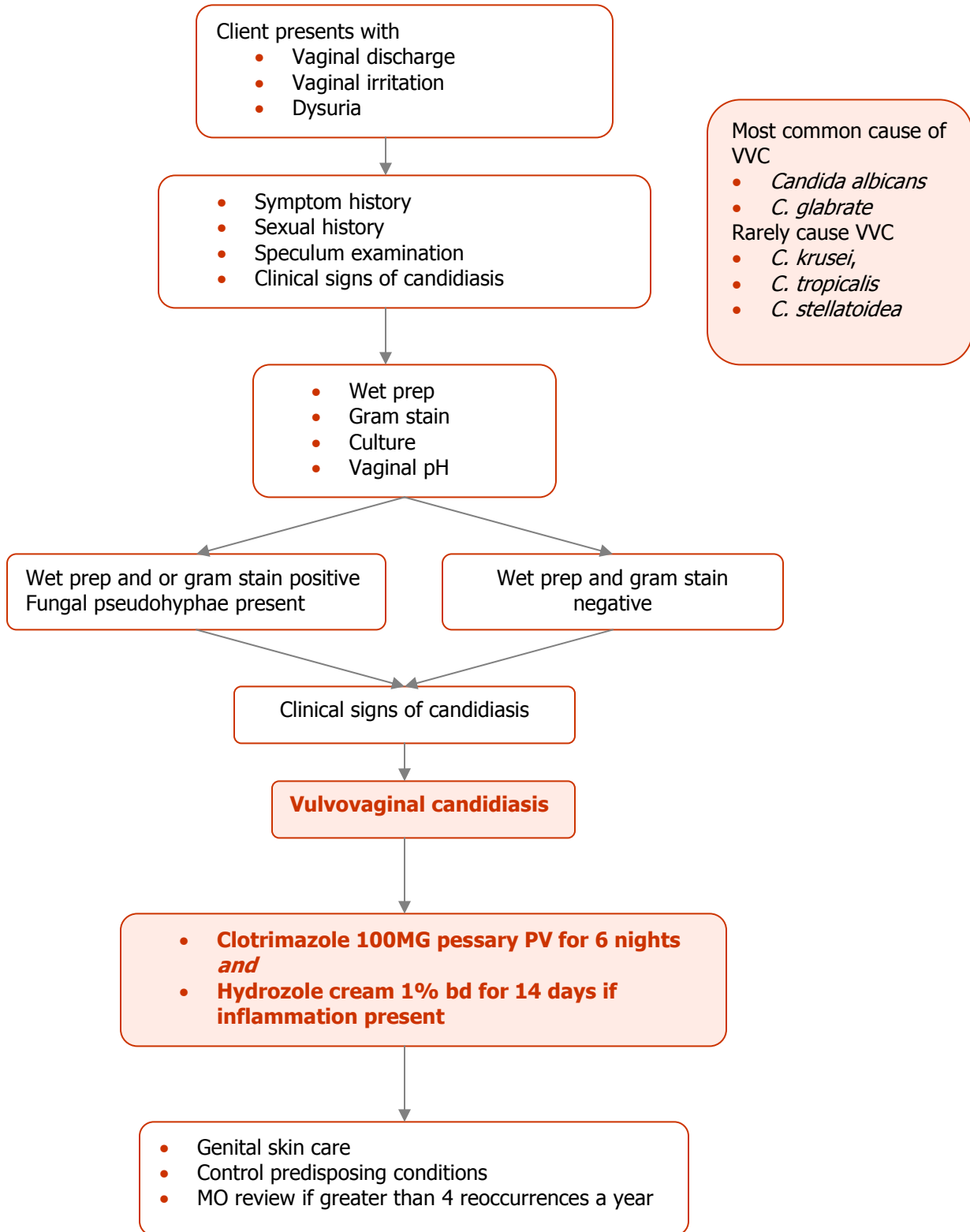
PUBLIC HEALTH CONSIDERATIONS - FOLLOW UP AND REVIEW

- Routine treatment of sex partners is usually not warranted. Male partners with balanitis may benefit from treatment.
- Test of cure is not recommended for uncomplicated VVC
- Medical review is required for recurrent VVC

MEDICATION FORMULARY ^{10,11}

DRUG	INDICATIONS	ROUTE	DOSE	FREQUENCY	THERAPEUTIC CLASS/ Poisons Schedule	CONTRAINDICATIONS/ INTERACTIONS	PRECAUTIONS/ ADVERSE EFFECTS
Clotrimazole	Uncomplicated vulvovaginal candidiasis	Intra vaginal	100mg	One pessary daily for 6 days	Topical antifungal A S3	Viral tuberculous skin infections, eye contact, occlusive dressings, severe circulation impairment	Persisting symptoms, recurrent infection, diabetes, pregnancy, lactation, adolescents Avoid menses
						Latex products	Local irritation, skin rash, urinary frequency, abdominal cramps
Hydrozole Cream clotrimazole/ hydrocortisone	Candidal infections Fungal infected dermatitis Tinea infections	Topical	1% in 30g	2-3 times daily for 14 days	Topical Antifungal A		Extensive use, non dermal fungal primary skin infections, Psoriasis, immunocompromised, pregnancy, lactation, children
							Dermatological effects

CLINICAL ALGORITHM



REFERENCE

1. McMillan A. Vaginal infections and vulvodynia. In: McMillan A, Young H, Ogilvie M M, Scott G R, editors. *Clinical practice in sexually transmissible infections*. London: Saunders; 2002. p.473-516.
2. Bradshaw C. Vaginal symptoms. In: Russell D, Bradford D, and Fairley C, editors. *Sexual health medicine*. Melbourne: IP Communications; 2005. p. 72-86
3. White DJ, Vanthuyn A. Vulvovaginal candidiasis. *Sexually Transmitted Infections* 2006; 82: 28-30.
4. Denham I, Bowden F. Genital and sexually transmitted infections.. In: Yung A , McDonald M, Spelmen D, Street A, Johnson P, Sorrell T, McCormack J, editors. *Infectious diseases a clinical approach*. 2nd ed. Melbourne: IP Communications; 2005. p.372-387.
5. Hillier S. Normal genital flora. In: Holmes K K, Sparling P F, Mardh P A, Lemon S M, Stamm W E, et al, editors. *Sexually transmitted diseases*. 3rd ed. New York: McGraw Hill; 1999. p. 191-204.
6. Sobel JD. Vulvovaginal candidiasis. In: Holmes K K, Sparling P F, Mardh P A, Lemon S M, Stamm W E, et al, editors. *Sexually transmitted diseases*. 3rd ed. New York: McGraw Hill; 1999. p. 629-640.
7. Marrasso J, Ocbamichael N, Meegan A, Stamm WE, editors. *The practitioner's handbook for the management of STD's*. 4th ed. Washington: University of Washington; 2007.
8. Melbourne Sexual Health Centre. *Treatment guidelines: vulvovaginal candidiasis*. Melbourne: Bayside Health; 2005.
9. Venereology Society of Victoria. *National management guidelines for sexually transmissible infections*. Melbourne: Venereology Society of Victoria; 2002.
10. Therapeutic Guidelines Limited. *Therapeutic guidelines antibiotic version 13*. Melbourne: Therapeutic Guidelines Limited; 2006.
11. Chen S, Hoy J. Antifungal agents. In: Yung A , McDonald M, Spelmen D, Street A, Johnson P, Sorrell T, McCormack J, editors. *Infectious diseases a clinical approach*. 2nd ed. Melbourne: IP Communications; 2005. p. 532-539
10. Queensland Health. *Queensland clinical practice guidelines for advanced sexual and reproductive health nursing officers*. Public Health Service Branch. Queensland Government. 2007.