

CANDIDIASIS (VULVOVAGINAL)

Notes updated: 04.07.14

Definition

- Symptomatic vaginitis, which often also involves the vulva caused by infection with a *Candida* yeast species.
- **Recurrent vulvovaginal candidiasis** affects up to 5% of women. Defined as 4 or more episodes annually, at least one of which is confirmed microbiologically.

Aetiology

- 90% *Candida albicans*. Rest are other species such as *C. glabrata*, *C. parapsilosis*
- Often a commensal organism: asymptomatic carriage in 20% of females and 30-40% of pregnant females. **Presence of candida is not synonymous with clinical infection.**
- Symptomatic candidiasis probably represents increased growth of yeast that previously colonised the vagina without causing symptoms.
- Predisposing factors: diabetes, antibiotic use, pregnancy, and immunosuppression.

Symptoms and signs in women

- Thick white lumpy “cheesy” vaginal discharge.
- Vulval itching, pain, superficial dyspareunia, external dysuria.
- Vulvitis, vaginitis and cervicitis. White vaginal or cervical plaques.

Diagnosis

- Second most common cause of vaginitis (after bacterial vaginosis)
- Mycological confirmation recommended as up to 50% of cases of vulval irritation may be caused by other vulval conditions
- High vaginal swab for culture

Management

- Treatment is not necessary if asymptomatic.
- Treatment of asymptomatic sexual contacts is not necessary.
- Antifungal agents: topical imidazole, oral itraconazole or fluconazole.
- Topical clotrimazole considered the only safe treatment in pregnancy
- Clinical Comment (Dr Rosemary Ikram, Microbiologist). “*Candida* Species that are not *C. albicans* tend to be more resistant to treatment with antifungal agents”

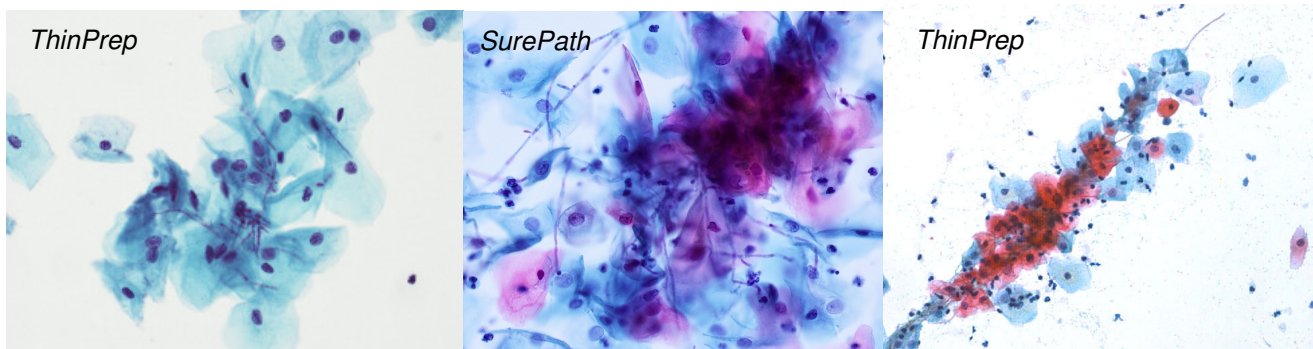
References

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2. <http://clinicalevidence.bmj.com>
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3. Sobel JD. Vulvovaginal candidosis. *Lancet* 2007 Jun 9;369(9577):1961-71
4. Mardh PA et al. Facts and myths on recurrent vulvovaginal candidosis – a review on epidemiology, clinical manifestations, diagnosis, pathogenesis and therapy. *Int J STD AIDS*, 2002 Aug;13(8):522-39
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CANDIDA IN CERVICAL CYTOLOGY

- Usually see **pseudohyphae**: eosinophilic or grey-brown elongated structures with constrictions and with yeasts or other pseudohyphae budding off the sides. Note: Pseudohyphae are elongated budding yeasts.
- Also may see small collections of **oval budding yeasts**. Usually *C. glabrata* if only small yeast forms present.
- May only see small “twigs” of candida in cytology samples. The number of pseudohyphae may be very small even when there are prominent candida-related epithelial cell changes present.
- Epithelial cell changes include **small perinuclear halos** (intracellular oedema), **cytoplasmic vacuoles, chromatin clumping and orangeophilia of squamous cells**.
- Intermediate squamous cells may clump together. This can produce a “speared” appearance of squamous epithelial cells with pseudohyphae (“**shish kebab effect**”)
- *C. albicans* and *C. parasilosis* look the same in cytology specimens.
- *Candida (Torulopsis) glabrata* has small uniform round budding yeasts surrounded by clear halos but does not form pseudohyphae in cytology samples (or in culture).
- **Cytology identifies the presence of candida only**. Relevance to patient can only be established clinically. Not clinically relevant in an asymptomatic patient.
- Cytology may assist with confirming the cause of symptoms but this is highly likely to be achieved with swabs anyway so cytology does not usually play an important role in diagnosis.
- Identifying candida in smears is however important in assisting with the correct interpretation of epithelial cell changes. **Important not to confuse candida-related change with LSIL.**
- *Candida*-related change and LSIL can co-exist in cytology samples so careful appraisal is needed in the presence of candida.
- **Bethesda 2001 terminology** for reporting the presence of *Candida* in cervical cytology acknowledges that we are only able to identify morphologic appearances that are consistent with *Candida* and cannot determine the specific species. The text report reads:
There are fungal organisms morphologically consistent with Candida species

FUNGAL ORGANISMS CONSISTENT WITH CANDIDA



Candida: Pseudohyphae

Spearing “shish- kebab” effect.