NCPTS
National Cervical Pathology Training Service

TRICHOMONIASIS

Definition

- A sexually transmitted infection caused by *Trichomonas vaginalis:* an anaerobic flagellated protozoan parasite.
- In women, it infects the vagina and urethra. Can cause urethritis in men but often asymptomatic.
- Incubation period about 5-28 days in women. Causes profuse malodorous "fishy" yellow/green watery vaginal discharge and vaginal pain. 15% are asymptomatic.
- Can see vulvitis/vaginitis/cervicitis. Profuse yellow frothy discharge. Can cause a "strawberry cervix" appearance. Redness and swelling can extend onto upper thighs.

Prevalence

- Most common in sexually active women: 16-35 years predominantly.
- Very common worldwide but less common in New Zealand
- Has a high co-infection rate with Chlamydia

Diagnosis

- May be diagnosed by cervical cytology. Low sensitivity for diagnosis by cytology (may be low numbers of organisms, may not be detected). False-positives can occur so should be confirmed with microbiological examination.
- High vaginal swab taken for microbiological investigation.
- Culture gives 75-95% detection rate. Can be negative due to low organism numbers.
- Can also use PCR: a more sensitive test

Prognosis

Usually no complications.

- Transient mother-to-child transmission can occur but infection resolves spontaneously in the neonatal period
- Controversial possible role in Pelvic Inflammatory Disease but generally not considered significant
- May be some association with perinatal complications such as post-Caesarian infection, premature rupture of membranes, preterm delivery.

Treatment

- Metronidazole, Tinidazole, Ornidazole given orally. Metronidazole if pregnant or breast-feeding.
- 90% cure rate with antibiotics. Can be resistant to Metronidazole.
- Sexual partners from 2 months preceding onset of symptoms require testing and treating.
- All patients require follow-up to ensure resolution of symptoms and should be checked for cure by culture.

References

1. Counties Manukau DHB Sexual Health Guidelines
   www.nzdoctor.co.nz/sexual-health-guidelines
2. Clinical comment Dr Janet Say Sexual Health Gladstone Clinic Auckland
   www.healthpoint.co.nz
3. Trichomoniasis. Schwbke JR, Burgess D.
   Clin Microbiol Rev 2004 Oct; 17(4): 794-803

4. Trichomoniasis: clinical manifestations, diagnosis and management. Swygard H et al. *Sex Transm Infect* 2004 Apr; 80(2): 94-5
5. Trichomoniasis: under control or undercontrolled? Soper D et al *Am J Obstet and Gynecol* 2004 Jan 190(1): 281-90

TRICHOMONAS: IDENTIFICATION BY CYTOLOGY

Trichomonads:

- are small pear-shaped organisms
- have greenish/grey cytoplasm which may contain eosinophilic granules
- flagella may be well visualised in LBC preparations
- have a small oval eccentric hypochromatic nucleus
- can be degenerate and very difficult to distinguish from degenerate epithelial cells
- are often associated with Leptothrix: non-branching filamentous bacteria that are not pathogenic but should prompt a careful search for Trichomonas

Smear appearances

- Organisms may be present with no background inflammation and no reactive epithelial cells.
- Can be difficult to detect if present in small numbers. As this is a sexually transmitted disease and we do not know the implications of the diagnosis, only report the presence of trichomonas if you are sure of the diagnosis.

In trichomoniasis:

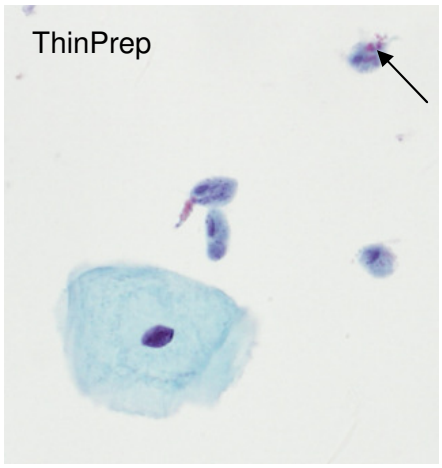
- neutrophils are numerous and there are reactive changes in epithelial cells
- epithelial cells show small perinuclear halos, nuclear enlargement, multinucleation, chromatin degeneration and cytoplasmic eosinophilia which can be intense
- there is intense inflammatory reaction and degenerative cell changes are common
- overdiagnosis (degenerate epithelial cells) and underdiagnosis (degenerate trichomonads) are both common.

Important differential diagnosis: Concurrent Invasive Squamous cell carcinoma

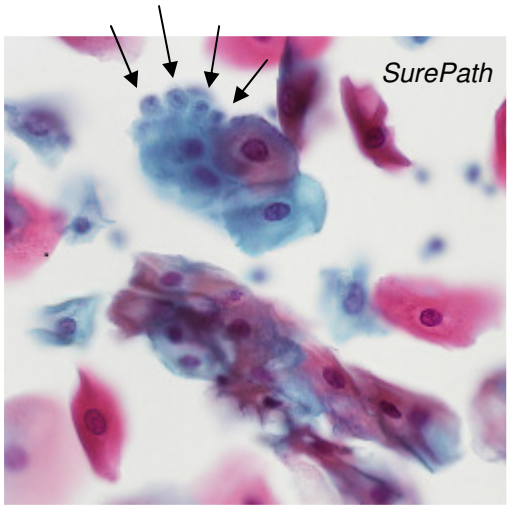
- The florid reactive epithelial cells seen with severe trichomonas infection can mimic squamous cell carcinoma and can be a source of overdiagnosis of SCC.
- Conversely, trichomoniasis can also coexist with SCC and this combination is a recognised source of a serious false negative cytology.
- Colposcopy may be needed to confirm or exclude SCC even if trichomonads are identified.

- **Bethesda 2001 terminology** for reporting the presence of Trichomonas in cervical cytology acknowledges that we are identifying the organism based on morphologic appearances only.
  Report text reads: **There are organisms consistent with Trichomonas vaginalis**

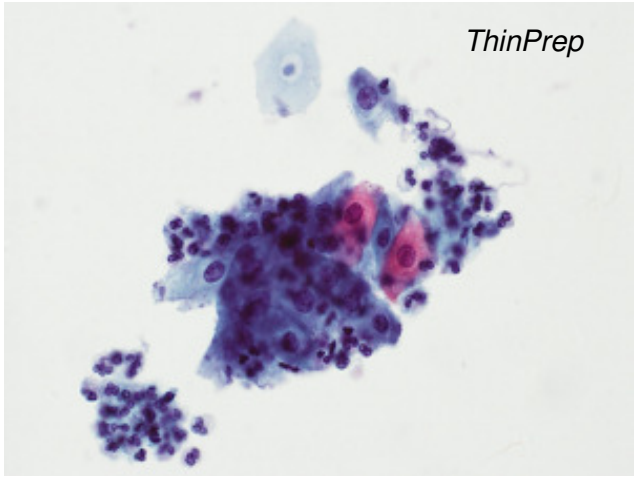
TRICHOMONAS



Well preserved trichomonads: note the eccentric pale nucleus, eosinophilic cytoplasmic granules and a flagellum (arrowed)



A cluster of four trichomonads (arrowed) is present in association with reactive changes in neighbouring groups of squamous epithelial cells



Prominent inflammation and reactive epithelial cells should trigger a careful search for trichomonads.