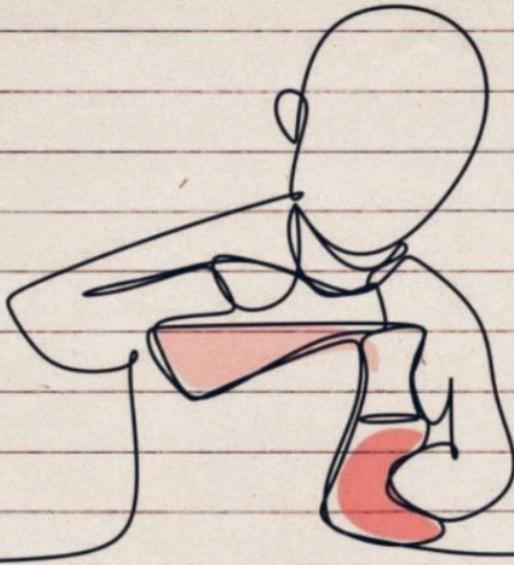
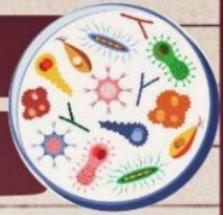


Hope academic team

genitourinary system



# Microbiology

## Lecture : 8

Done by : *Reem Kurkar*



# Trichomoniasis

*Trichomonas vaginalis* which responsible for sexually transmitted infections (Trichomoniasis) occur in a female vagina ,.... and this sexual transmitted diseases is not caused by bacteria but rather Protozoa specifically a-parasite and exists mainly by eating cells that destroy ((phagocytosis of cells fragments ) and this cells fragments is used by Protozoa to survive.

# Introduction

- A **sexually transmitted disease (STD)**, also known as **sexually transmitted infection (STI)** or **venereal disease (VD)**, is an illness that has a significant probability of transmission between humans or animals by means of sexual contact, including vaginal intercourse, oral sex, and anal sex.

Some patients have infection without disease , so we preferred sexually transmitted infection rather than std (disease) .

# Genus Trichomonas

- Its includes a group of **flagellated protozoa** It infect humans and animal:
  - Multiple by binary fission
  - Move by flagella
  - 4 species caused disease
    - **Trichomonas** and Giardia : Non invasive
    - Leishmania, Trypanosoma: Invasive, intermediate insect host

# Human Trichomonads: \*مر عنها الدكتور

- 3 species of trichomonads found in human.
- Two are normally harmless.
  - *Pentatrichomonas hominis*
  - *T. tenax*
  - ***T. vaginalis*** which is a serious sexually transmitted pathogen.

# Trichomonas vaginalis:

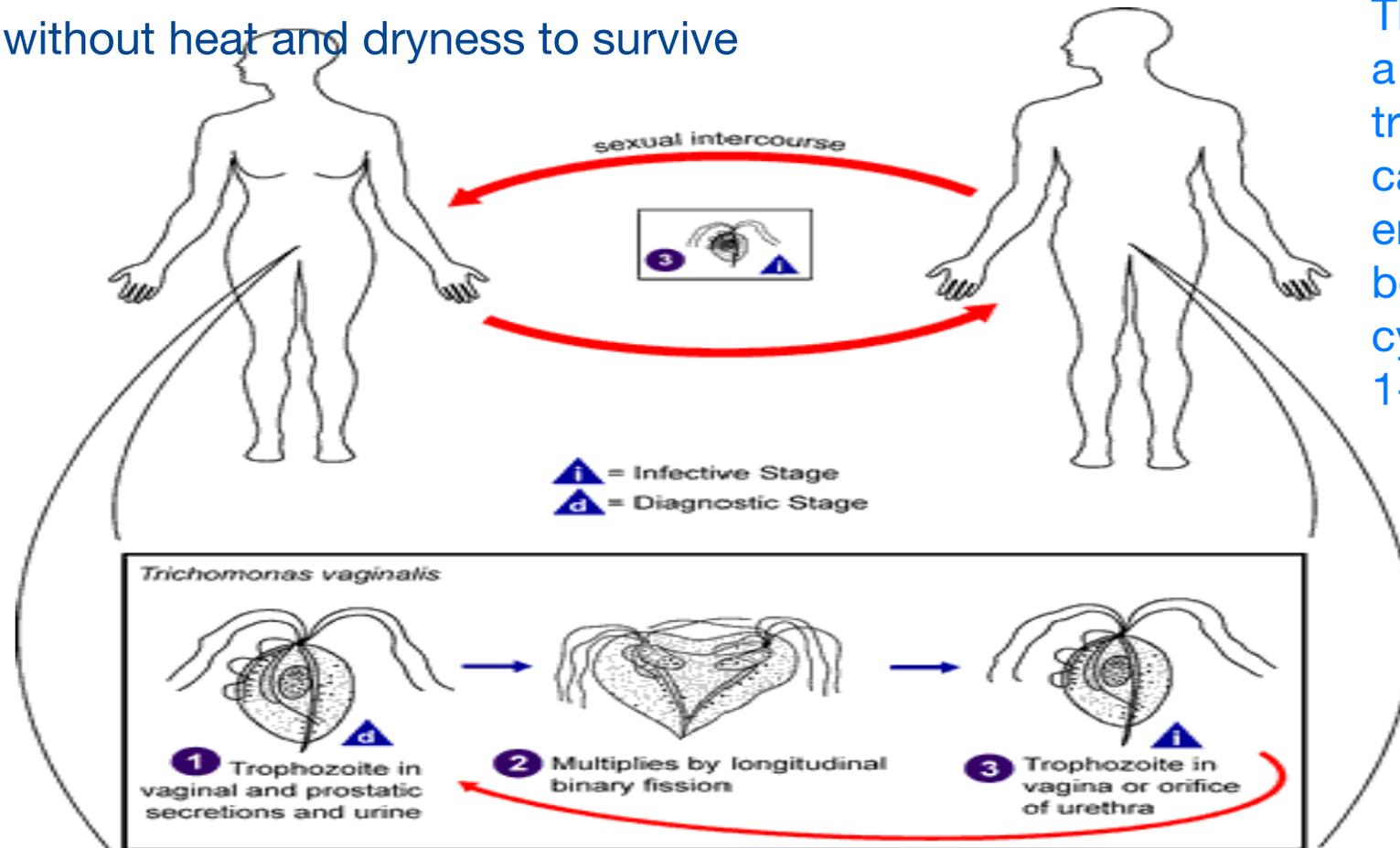
- Trichomoniasis is a common sexually transmitted disease with a worldwide distribution.
- transmittable, sexually and through contact with toilet seats and towel. [Indirect contact \(rarely\)](#)
- T. vaginalis despite its name, infects both men and women.
- In females the organism inhabits the vagina and urethra
- In males it is found in the urethra, prostate or, seminal vesicles.

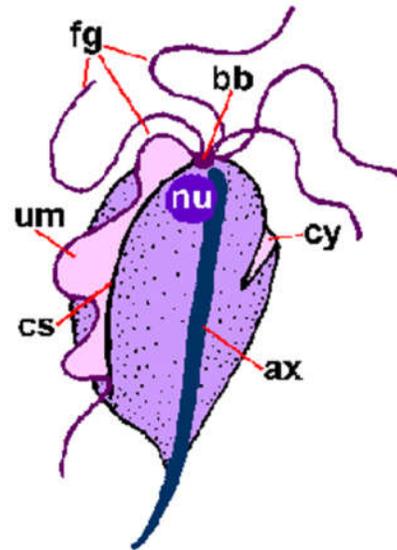
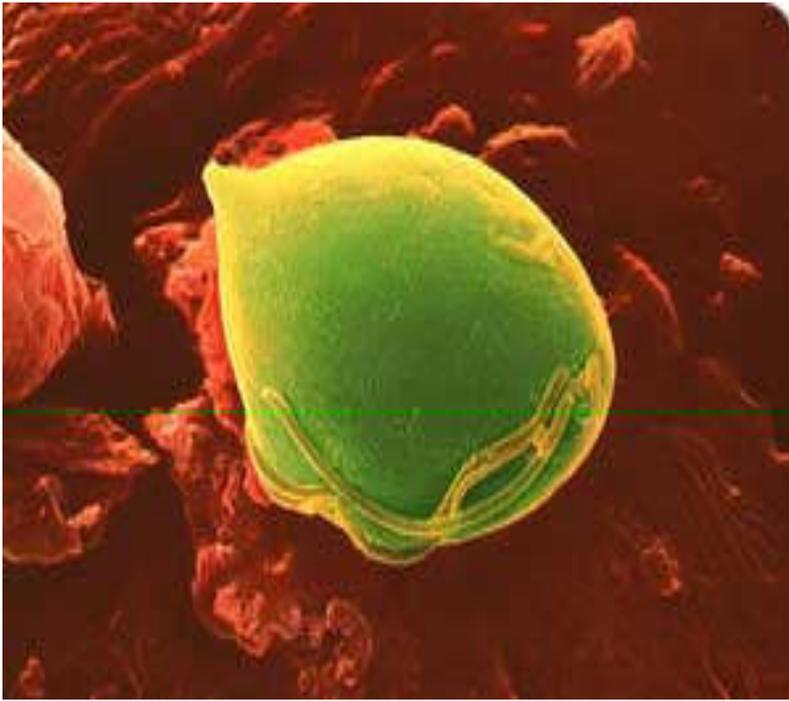
Has only one stage so its simple life cycle

- The life cycle consist only of a trophozoite stage
- It lacks cyst form but the trophozoite survives 1-2 hours outside host on moist surfaces.
- In urine, semen, water, it is viable for up to 24h

Need media without heat and dryness to survive

That's why it's need a sexually transmission and can't survive in the environment because there's no cyst stage just can 1-2 hours

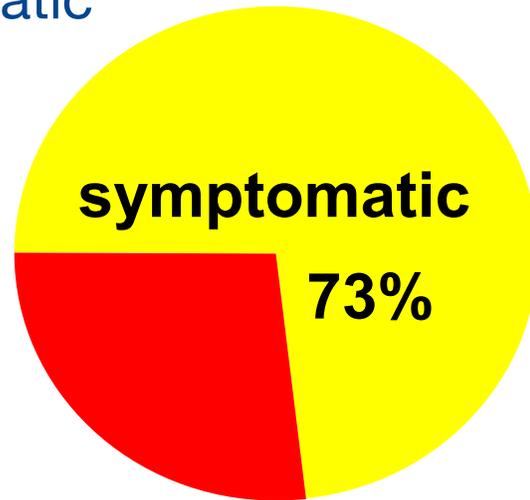




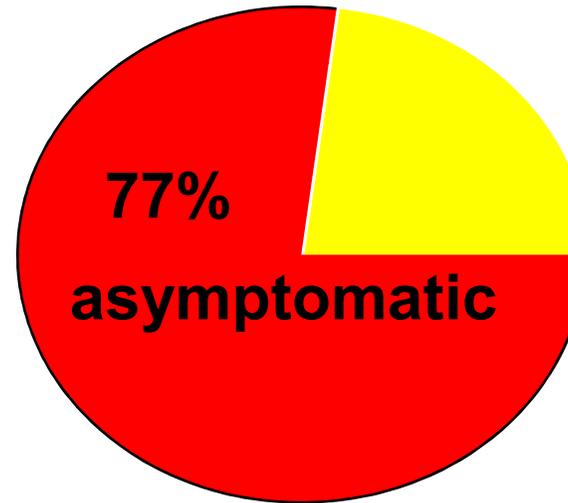
© CDC

# Proportion of asymptomatic trichomoniasis

Remember most females have a symptoms but most males are asymptomatic



**Women**



**Men**

The majority of men in the study were asymptomatic, denying penile discharge or itching, dysuria and lower abdominal pain. In contrast the majority of women with trichomoniasis were symptomatic, complaining of vaginal discharge or itching, dysuria or lower abdominal pain.

Symptoms included penile or vaginal discharge or itching, dysuria, or lower abdominal pain.

# Symptoms

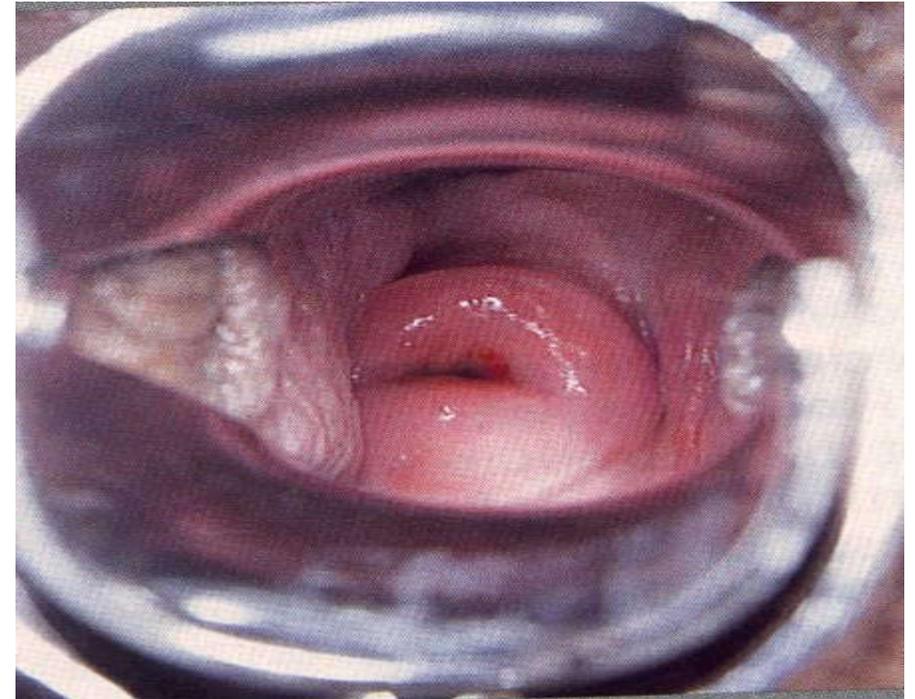
- Symptoms usually appear within 5 to 28 days of exposure.
- Symptoms are nonspecific and cannot be used to differentiate trichomoniasis from other genital infections.

# Clinical Aspects

- **Males:**
  - Urethritis and Prostatitis.
  - Asymptomatic.
  - Dysuria.
  - Non purulent discharge.
  - Non gonococcal urethritis. Is not caused by gonococcal infection
    - Sensation of burning
    - Pain rectum examination

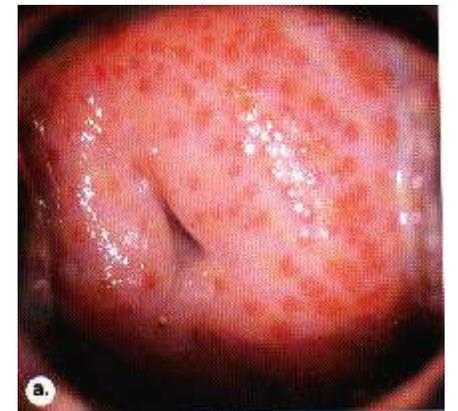
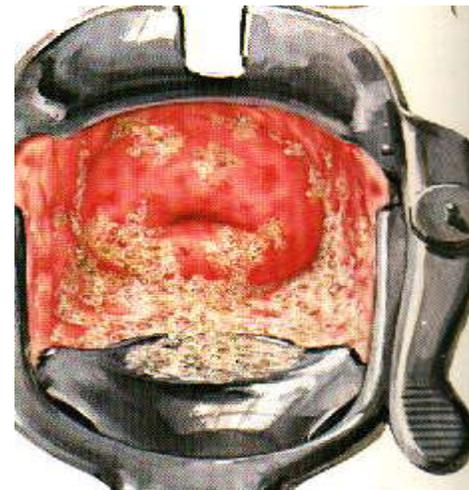
# Vaginitis -Trichomoniasis

- Reddened vaginal and endocervical mucosa
- Profuse, frothy discharge, yellow-greenish in color foul odor, vulvar pruritus
- Patchy vaginal erythema and haemorrhage



(strawberry cervix 2%)

Characteristic but not very common



# Diagnosis:

## Specimens:

- Vaginal discharge (female)
- Urine sediment after prostate massage

1. Vaginal pH (normally 3.8-4.5): Bacterial vaginosis, trichomoniasis, and atrophic vaginitis often cause a vaginal pH higher than 4.5.
2. Whiff test
3. Wet mount (Vaginal smear)
4. Culture
5. Direct immunofluorescence assay
6. Polymerase chain reaction

# Wet mount microscopy

- Performed on vaginal swab specimens (or male urine sediment) resuspended in a drop or 2 of saline
- Organisms must be viable *and* motile
- Must be performed within 15 minutes of specimen collection
- 50 - 70% sensitivity with expert microscopist



# Diagnosis

A wet mount preparation of discharge from the patient should be examined microscopically as a first step in diagnosing *T vaginalis* infection.

The presence of typical **pear-shaped trophozoites**, usually 7 to 23  $\mu\text{m}$  in length, with "bobbling" **jerky non directional motility** and, on **careful examination**, the wavelike movement of the undulating membrane, are usually sufficient to identify *T vaginalis*.

<https://www.youtube.com/watch?v=6UxomhJI9Wk...>

<https://www.youtube.com/watch?v=bFoEJZlHiVc>

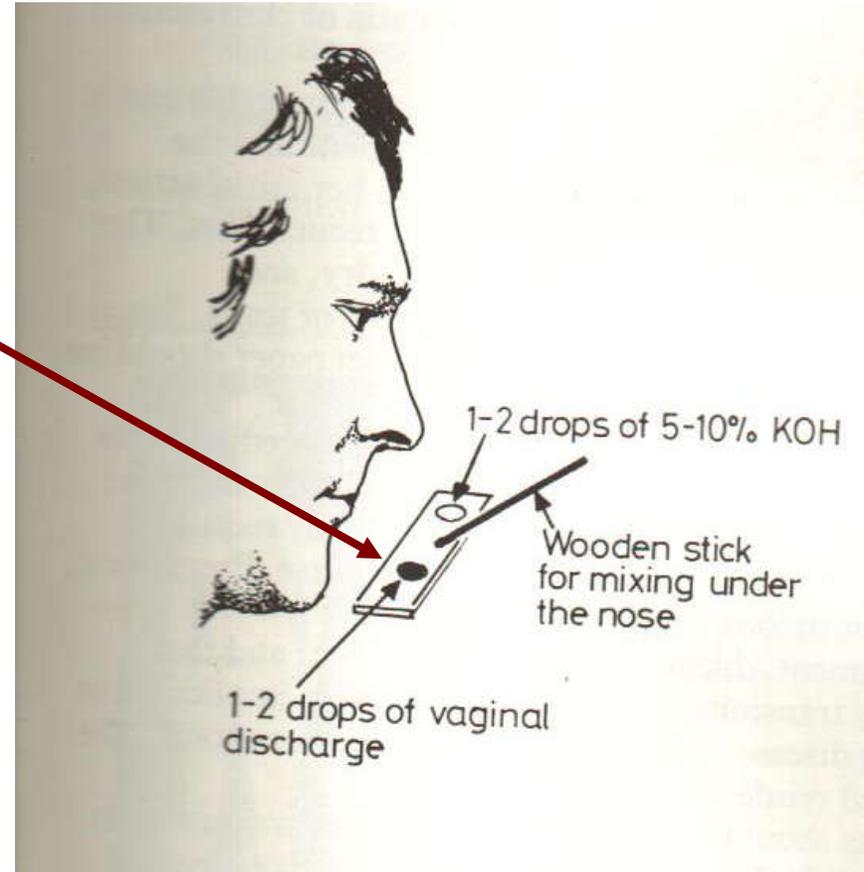
- Material that is negative by wet mount examination should be cultured because culturing is a considerably more sensitive, although time-consuming, method of diagnosis.



## Potassium hydroxide amine test (Whiff test) :

Upon application of 10% potassium hydroxide (KOH) to a vaginal swab sample, a fishy odor is released, which can suggest trichomoniasis or bacterial vaginitis.

### **Whiff test: 10 % KOH**



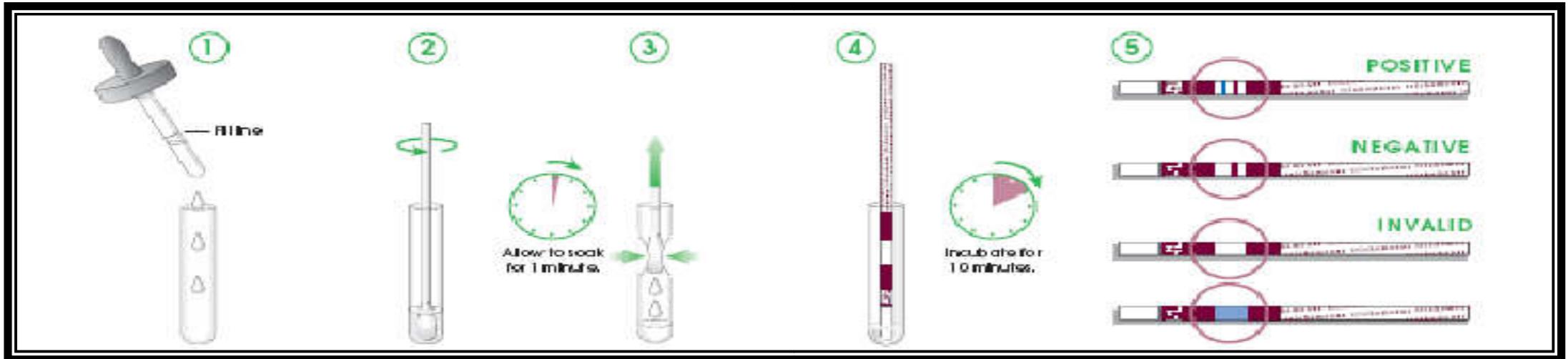
# ***T. vaginalis* culture**

- Diamond's medium with antifungal and antibacterial additives

# The most important Rapid antigen detection



- Dipstick from Genzyme
- Antibodies on stick capture *T. Vaginalis* antigen in specimen
- Sensitivity slightly better than wet mount microscopy ~80%
- Only validate in women



# Treatment

- **Metronidazole 2 g orally in a single dose**
- **Tinidazole 2 g orally in a single dose**
- **Metronidazole 500 mg orally twice a day for 7 days**
  - Treat sexual partners.
  - Disulfaran-like effect (stop alcohol).
  - Teratogenicity (never use in first trimester)