

# Lecture 2



## Laboratory Diagnosis of Vaginitis

- Additional Notes
- Important
- Explanation
- Examples

# Introduction

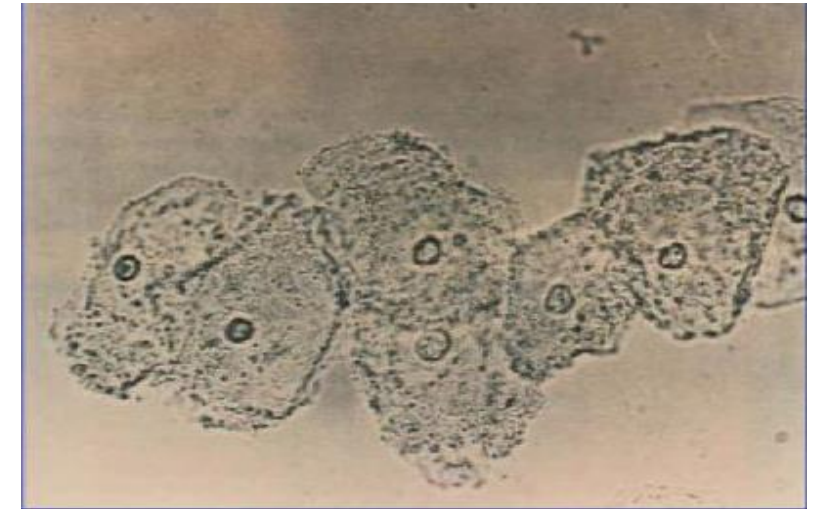
- Vaginitis is the general term for disorders of the vagina caused by infection, inflammation, or changes in the normal vaginal flora.
- Symptoms include vaginal discharge, odor, pruritus, and/or discomfort. These symptoms are **extremely common**.
- The **most common causes are (>90%)**:
  - ✓ **Bacterial vaginosis** (40%)
  - ✓ **Candida vulvovaginitis** (25%)
  - ✓ **Trichomoniasis**. (25%)
- Vaginal discharge is a prominent symptom of vaginitis.
  - ✓ Normal vaginal discharge consists of 1 to 4 mL fluid (per 24 hours), which is white or transparent, thick or thin, and mostly odorless.
- Laboratory documentation of the etiology of vaginitis is mandatory before initiating therapy, given the nonspecific nature of the symptom.

# Pathogeneses

- The non keratinized stratified squamous epithelium of the vagina in premenopausal women is rich in glycogen.
- Glycogen is the substrate for lactobacilli, which convert glucose into lactic acid
- Thereby creating an acidic vaginal environment (pH 4.0 to 4.5).
- This acidity helps maintain the normal vaginal flora and inhibits growth of pathogenic organisms.
- Disruption of the normal ecosystem can lead to conditions favorable for development of vaginitis.
- Disruption may caused by many things, like: phase of the menstrual cycle, sexual activity, contraceptive choice, pregnancy, foreign bodies, estrogen level, sexually transmitted diseases, and use of hygienic products or antibiotics.

# Bacterial Vaginosis

- It is the most common cause of vaginal discharge in women of childbearing age.
- A change in the balance of normal vaginal bacteria
  - ✓ reduction in concentration of the normally dominant Gram +ve bacilli
  - ✓ increase in concentration of other organisms, especially anaerobic gram negative rods "Gardnerella Vaginalis"
- Clinical Presentation:
  - ✓ Itching and burning micturition.
  - ✓ milky-white or gray vaginal discharge.
  - ✓ Fishy-smelling. "after intercourse"
- Diagnosis: 3 out of 4 of these criteria.
  1. Vaginal pH >4.5
  2. Positive Whiff test:
    - defined as the presence of a fishy odor when a drop of 10% potassium hydroxide (KOH) is added to a sample of vaginal discharge
  3. Presence of clue cells
  4. Homogeneous, thin, grayish-white discharge that smoothly coats the vaginal walls



Clue cell wet mount

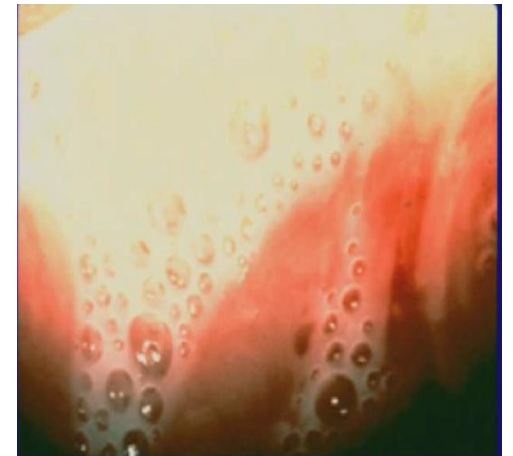
# Candida Vaginosis

- Overgrowth of a normal inhabitant of the vagina.
- *Candida albicans*, and *C. glabrata* accounts for almost all of the Candida vulvovaginitis.
- Clinical Presentation:
  - ✓ Pruritus, Irritation, soreness.
  - ✓ painful sexual intercourse burring on passing urine.
  - ✓ A thick, curdy, white (like cottage cheese) vaginal discharge.
- Diagnosis:
  - ✓ *C. albicans*; Wet prep to see clumps of pseudohyphae.
  - ✓ *C. glabrata*; Budding yeast and no pseudohyphae.
  - ✓ Vaginal Yeast Cultures is not routinely indicated
- Treatment: Oral azole (Fluconazole, or Itraconazole).



# Trichomoniasis

- Sexually transmitted parasite.
- The most prevalent non-viral sexually transmitted disease (STD) agent.
- Clinical Presentation:
  - ✓ May be asymptomatic.
  - ✓ Vaginal discharge, malodorous smelling, Frothy yellow-green in color.
  - ✓ Pruritus in females.
- May be associated with:
  - ✓ Premature rupture of membranes
  - ✓ Preterm labor and birth
  - ✓ Low birth weight
  - ✓ Increased transmission of other STDs including HIV.
- Diagnosis:
  - ✓ The presence of motile trichomonads on wet mount is diagnostic of infection.



Clinical syndrom	Etiology	Treatment
<p>Bacterial vaginosis</p> <p>Malodorous vaginal discharge, pH &gt;4.5</p>	<p>Etiology unclear: associated with <i>Gardenerella vaginalis mobiluncus</i>, <i>Prevotella sp.</i>,</p>	<p>Metronidazole Tinidazole</p>
<p>Candidiasis</p> <p>Pruritus, thick cheesy discharge, pH &lt;4.5</p>	<p><i>Candida albicans</i> 80-90%. <i>C. Glabrata</i>, <i>C. tropicalis</i></p>	<p>Oral azole: Fluconazole Itraconazole</p>
<p>Trichomoniasis</p> <p>Copious foamy discharge, pH &gt;4.5 Treat sexual partners</p>	<p><i>Trichomonas vaginalis</i></p>	<p>Metronidazole Tinidazole</p>