



# Microbiology



Practical

➤ A 23-year-old alcoholic and drugs (cocaine) addict single male arrived from his trip to South East Asia six months ago. He gave history of multiple **sexual partners**. Two months ago he developed **ulcer on his penis which disappeared completely**. A full physical notes a **rash on both his palms and his soles?**

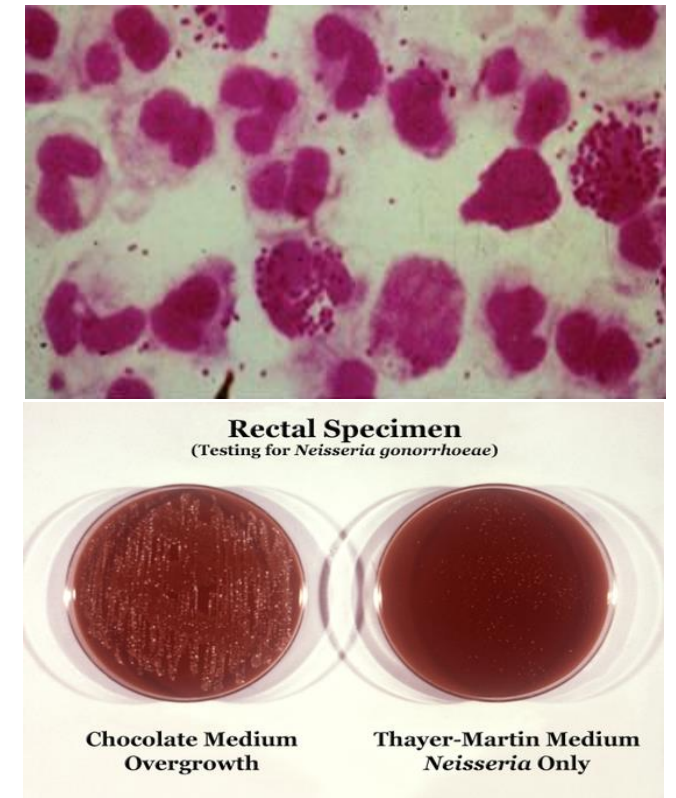
- What are the possible causes for his presentation?
  - ✓ Treponema Pallidum → Causes Syphilis
  - ✓ Herpes Simplex Virus-2 → Causes Genital Herpes
  - ✓ Haemophilus Ducreyi → Causes Chancroid
- How could you differentiate between them based on the signs and symptoms of the patient?

Ulcer	Etiology	Ulcer	Lymphadeno pathy (Babo)	Systemic
Chancroid	<i>Haemophilus Ducreyi</i>	Wet , painful	Inguinal tender	Present
Chancer	<i>Treponema Pallidum</i>	Dry, painless and raised margin	Inguinal part of generalize disease	Depends on stage
Ulcerated Vesicles	<i>Herpes Simplex Virus 2</i>	Multiple shallow painful	Occasionally present	In primary

- Based on the findings, what is the most likely diagnosis? Briefly outline the management of this patient?
  - ✓ **Diagnosis:** Secondary Syphilis
  - ✓ **Treatment:**
    - Benzathine penicillin IM---allergy ---> Doxycycline
    - Patient Counseling and Education
    - He should be tested for other STD **especially HIV**
- The lesion are sampled and identified through **dark-field microscopy**.

- A 35-year-old Filipino married male presented to the emergency room complaining of **dysuria** for the last 24-hour and noted some **"pus-like" drainage** in his underwear and the tip of his penis.
  - What are the possible causes for his presentation?
    - ✓ Gonococcal urethritis
    - ✓ Non-gonococcal urethritis
  - What investigations do you like to order for him? Explain how those investigations would help you?

	Organisms	Smear/Culture	Immunological tests	Molecular testing
GCU	<i>Neisseria gonorrhoeae</i>	Gram-ve diplococci & cellpus / <b>Selective media</b>		+ve
NGCU	<i>Chlamydia trachomatis</i>	Pus cell/ <b>McCoy Cell culture</b>	DFA	+ve
	<u>Others</u> <i>Trichomonas vaginalis</i> <i>Mycoplasma genitalium</i>	➤ Wet mount; pus &TV/ <b>Culture</b> ➤ Pus cell / <b>Special media culture</b>	EIA  EIA	+ve  +ve



- Based on the findings, what is the most likely diagnosis?
  - ✓ Gonococcal urethritis
- Briefly outline the management and treatment of this patient?
  - ✓ Ceftriaxone or azithromycin. (others antibiotics that can be used ciprofloxacin, tetracycline)
  - ✓ Screen for other STDs.
  - ✓ Partner should be treated as well.

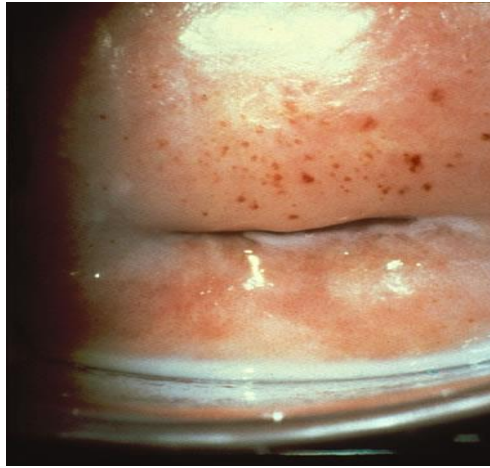
➤ A 24-year-old female noted **vaginal itching and irritation with a discharge**. Previously, she developed a yeast infection that was treated with over-the-counter medications and resolved. Thinking that this was recurrence, she again self-treated. This time, however, the symptoms did not resolve.

- What are the possible causes of the presentation?
  - ✓ Bacterial vaginosis
  - ✓ Candida vaginitis
  - ✓ Trichomonas vaginalis
  - ✓ Allergic vaginitis
  - ✓ Chlamydia trachomatis
  - ✓ Neisseria gonorrhoeae
- What investigations would you like to order for her? Explain how those investigations would help you?

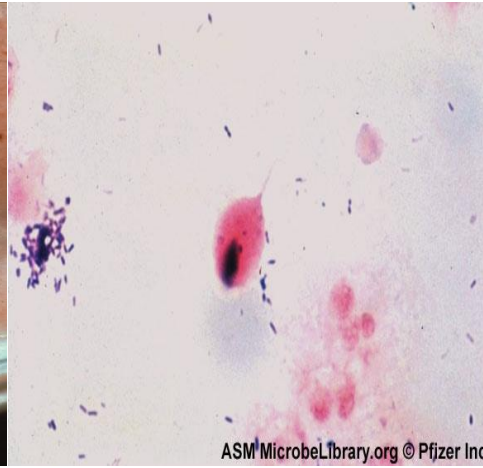
	PH	Whiff test	Gram stain / Wet prep	Culture	Immunologic/ molecular test
Bacterial vaginosis	>4.5	+++	Clue cells	Not helpful	DNA Probe (gardnerella vaginalis)
Candida vaginitis	<4.5	-	Yeast and pseudohyphae	Candida	DNA Probe
Trichomonas vaginalis	>4.5	+-	Trichomonas	Motile Trophozoites	EIA DNA Probe

- Clinical diagnosis of bacterial vaginosis: 3 out of 4 of these criteria:
  1. PH greater than 4.5
  2. Positive whiff test
  3. Any clue cells
  4. Homogenous discharge

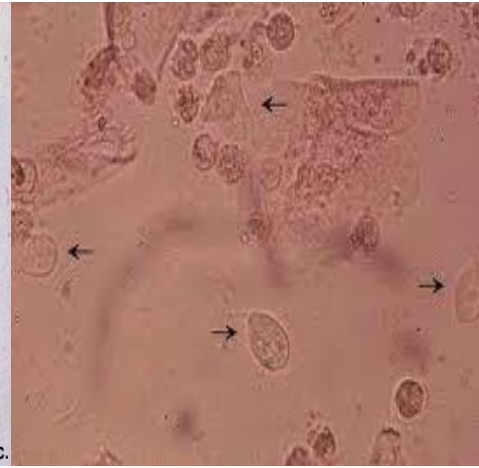
- She presented to her family physician for management. On examination there was a bad odor along with a frothy discharge and strawberry cervix.
  - Swab of the secretions was taken in order to perform tests.



Strawberry cervix



Trichomonas Vaginalis

Wet prep "swimming"  
trophozoites

Gram Stain

- Based on the findings, what is the most likely diagnosis?
  - ✓ Trichomoniasis
- Briefly outline the management and treatment of this case?
  - ✓ Metronidazole
  - ✓ Husband should be treated
  - ✓ No sex until they are cured
  - ✓ Patient Counseling and Education