

**Vaginitis**  
**Rhodes Clinic Conference**  
**10/01**

**ANSWER KEY**

1. The most common cause of vaginal discharge in premenopausal women is:
- a. **Bacterial vaginosis**
  - b. Vulvovaginal candidiasis
  - c. Trichomoniasis
  - d. Gonorrhea
  - e. Atrophic vaginitis

**TP: Atrophic vaginitis is the most common cause of vaginal discharge in the post menopausal female. Bacterial vaginosis causes a 2-7 fold increased risk of prematurity in pregnant women.**

2. Identify which conditions causing vaginal discharge are not sexually transmitted:
- a. **Bacterial vaginosis**
  - b. **Vulvovaginal candidiasis**
  - c. Trichomoniasis
  - d. Chlamydial cervicitis

**TP: Remember that the sexual partner must always be treated if the infection is sexually transmitted.**  
**Also, both partners should refrain from sexual activity until treatment is completed.**

3. Which tests should always be performed when evaluating a vaginal discharge in a sexually active female:
- a. **Wet mount**
  - b. **KOH prep**
  - c. Chlamydia culture
  - d. GC culture
  - e. Pap smear (if none in 1 year)
  - f. **pH**
  - g. **Amine test (fishy or foul odor upon mixing with one drop KOH)**
  - h. Cervical gram stain
  - i. Chlamydia antigen

**TP: While it is acceptable to always check a Pap smear, it is also reasonable to defer the test if obvious infection is present. Reasons to screen for GC with cervical gram stain and culture: presence of cervicitis, multiple sexual partners, contact with a promiscuous partner or known infected partner, or history of repeated GC in past. Reasons to screen for Chlamydia with antigen determination (IF or ELISA): presence of cervicitis, women <20, 1-2+ major risk factors (new sexual partner <3 months, >1 sex partner in 6 months, promiscuous partner, inconsistent use of barrier contraception). History to be obtained: discharge description, medications, relation to menses, sexual history, allergies.**

**If no dx. on initial exam, have patient abstain from sex/douching/vaginal medications for 72 hours and then return for repeat testing.**

4. Identify the following signs/symptoms/tests as associated with
- 1) Desquamative inflammatory vaginitis
  - 2) Trichomonas vaginitis
  - 3) Both
  - 4) Neither
- 4 a. Clue cells
- 3 b. Frothy, purulent discharge
- 1 c. More common in perimenopausal women
- 3 d. pH > 4.5
- 1 e. Vaginal and cervical spotted rash (occasionally)
- 2 f. Flagyl is treatment of choice
- 1 g. Responds well to 2% Clindamycin gel

**TP: DIV clinically resembles trichomonas and presents in the perimenopausal female with diffuse, exudative vaginitis, massive vaginal cell exfoliation, purulent discharge, and occasional rash. This type of vaginitis was first described in the mid-1990's by Sobel.**

5. True statements about management of trichomonal vaginitis include:
- T a. Flagyl 500 mg bid x 7 days has similar efficacy to 2 gms single dose therapy.
- F b. Treatment of sexual partners is not required unless relapse occurs.
- T c. Treatment in pregnancy should be done with Flagyl.
- T d. Alcohol must be avoided when patient is on Metronidazole.

**TP: The 7 day course is only minimally more effective than the 2 gm dose (98% vs. 95%).  
Flagyl use in the first trimester is controversial, but the 2 gram dose is now felt to be safe.  
Flagyl has disulfiram-like effects. No alcohol for 24 hours after the last dose.**

6. Identify the following signs/symptoms/tests as associated with
- 1) GC infection
  - 2) Chlamydial infection
  - 3) Both
  - 4) Neither
- 2 a. Prevalence among female college students is up to 50%.
- 3 b. Infected men are more frequently symptomatic than infected women.
- 3 c. Cervicitis is far more common than vaginitis.
- 1 d. Standard treatment is Rocephin - 125 mg IM or Cipro-500 mg P.O. plus Doxycycline 100 mg bid x 7 days or Anthromycin - 1 gm P.O.
- 4 e. Follow-up cultures are mandatory.
- 3 f. All patients require serologic testing for syphilis and HIV.

**TP: Young, sexually-active men with pyuria should have chlamydial testing (Ag or culture).**

7. Identify the correct statements about chlamydial infection:
- T a. DNA-based testing is likely to become the screening procedure of choice.
- T b. Annual screening of all sexually active college students is recommended.
- F c. Asymptomatic chlamydial infection is only rarely a cause of sterility and ectopic pregnancy.
- T d. It is reasonable to treat for chlamydia alone if the prevalence of GC is low but likelihood of chlamydia is high (e.g., sexually active college student with mucopurulent cervicitis).

**TP: The DNA test can be done on urine and makes screening easier. Sensitivity is 90% and specificity 100%. Annual screening currently can be done by chlamydia antigen (or culture) in women and by UA for pyuria in men. Puria testing, however, is not very sensitive. New DNA testing on urine (e.g., ligase chain reaction) may soon eliminate the need for endocervical chlamydial specimens in women and can also be done in men.**

8. True statements about gonorrheal infection include:
- T a. 10% of infected males are asymptomatic.
- F b. Most infected women are asymptomatic.
- T c. In all symptomatic women, not only should a cervical gram stain and culture be obtained, but also a rectal culture.
- T d. DGI requires initial hospitalization and use of an antibiotic other than Penicillin.
- F e. Screening in all sexually active women should be performed.
- T f. Treatment of GC should always be accompanied by preventive treatment of chlamydial infection.

**TP: Twenty-five percent of infected women are asymptomatic. Rectal cultures improve diagnostic yield in women.**

**Hospitalization is recommended for initial therapy in DGI especially for noncompliant patients, uncertain diagnosis, and for purulent synovial effusions. Use Rocephin - 1 gram IM or IV every 24 hours until 1-2 days after improvement begins, then switch to Cefixime - 400 mg bid or Cipro - 500 mg bid for one full week of ATBs. Treat also for chlamydia (e.g., Doxy x 7 days).**

**Screening in sexually active women should be limited to high-risk groups.**

9. A 17 y.o. college student is treated by you for Trichomonal vaginitis. Her mother calls the clinic asking for information on your diagnosis. What should you do?
- Explain diagnosis and treatment but do not reveal that Trich is a sexually-transmitted disease.
  - Refuse to discuss the diagnosis without the student's permission.**
  - Explain diagnosis and treatment in full and enlist parental help in STD prevention.

**TP: All adolescents in the US can consent to confidential diagnosis and treatment of all STDs. Medical care can be provided without parental consent or knowledge.**

10. A 20 y.o. sexually active woman presents with lower abdominal tenderness, fever to 101 degrees, adnexal tenderness, and cervical motion tenderness. Cervical discharge is present. Many authorities would recommend prompt hospitalization on basis of above description alone. Other reasons to hospitalize would include:
- T** a. Pregnancy  
**T** b. N&V  
**F** c. Presence of many WBCs on cervical gram stain  
**T** d. Failure to respond to outpatient ATB treatment within 3 days
11. Identify causes of a “normal” vaginal discharge.
- Ovulation**
  - Antibiotic use
  - Pregnancy**
  - Oral contraceptive use**
  - Cholinergic agents

**TP: Microscopy showing <1 PMN/epithelial cell is a tipoff to a “normal” discharge. An inflammatory discharge has  $\geq 4$  PMNs/epithelial cell.**

12. Identify the following statements as T-F regarding vaginitis/cervicitis.
- T** a. A definitive diagnosis based on microscopic examination can be made only  $\leq 70\%$  of the time.
  - F** b. A strawberry cervix is a common finding that is pathognomic of trichomoniasis.
  - T** c. Mucopurulent cervicitis may be caused by candidal or trichomonas vaginitis.
  - T** d. Cervical mucopus ( $>4-10+PMNs/OIF$ ) may be caused by Chlamydia, GC, or HSV.
  - T** e. Chlamydia may be treated with a single, 1 gram Azithromycin dose.

**TP: Strawberry cervix is present only 2% of the time with Trichomonas.**

13. What one clinical sign/symptom is suggestive of a physiologic vaginal discharge?
- a. Bad odor
  - b. Pruritis
  - c. Pooling in posterior fornix**
  - d. Adherence to vaginal wall
  - e. Urinary symptoms
14. Risk factors for vulvovaginal candidiasis include all except:
- a. Diabetes
  - b. Steroids
  - c. HIV infection
  - d. Obesity
  - e. Stress
  - f. Antibiotics
  - g. Sexual contact**
15. The four criteria for diagnosis of bacterial vaginosis are homogeneous discharge, clue cells,  $pH < 4.5$ , and  $\approx$  whiff test. True or **False**

**Comment: pH is usually  $>4.5$**

Chart of Vaginal Infections

	<u>Trich.</u>	<u>Candida</u>	<u>Bacterial Vaginosis</u>	<u>GC</u>	<u>Chlamydia</u>
Discharge (not very helpful in diagnosis)	Yellow-green	Thick, white	Variable, often thin, creamy	Thick, purulent	Thick, yellow-white
pH	>5	≤4.5	>4.5	-	-
Amine test	+	-	+	-	-
Cytolysis of Vag. Cells	-	-	-	-	-
Wet Prep	Trich. WBCs>Eps	WBCs>Eps or Eps>WBCs	Rare PMNs Eps>WBCs Clue Cells	WBCs>Eps	WBCs>Eps
KOH Prep	-	Budding yeast & Pseudo hyphae	-	-	-
Cervicitis	-	-	-	++	++
Special Tests	-	-	-	Gram stain & GC culture-cervix	Gram stain Chl Antigen-cervix
Rx.	Flagyl-500 mg bid x 7d Flagyl-2 gms P.O.once Rx partner	Imidazole derivative (cream) * Fluconazole -150 mg P.O.once * e.g., <b>Monistat Supp q h.s. x3</b>	Flagyl gel 0.75% -5 gms Intravag. bid x 5d Clindamycin in 2% cream 5 gms qhs x 7 days Flagyl - 500 mg bid x7d	Rocephin -125 mg IM & Doxy-100 mg bid x 7d (or single dose Azithromycin Rx partner	Azithromycin -1gm P.O. or Doxy 100 mg bid x 7d Rx partner

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