

4:45 – 5:30 pm

Case Studies in Vaginitis

SPEAKER
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Presenter Disclosure Information

The following relationships exist related to this presentation:

- ▶ Martin A. Quan, MD: No financial relationships to disclose.

Off-Label/Investigational Discussion

- ▶ In accordance with pmiCME policy, faculty have been asked to disclose discussion of unlabeled or unapproved use(s) of drugs or devices during the course of their presentations.

Vaginitis

- one of the most common gynecologic disorders
- 10 million office visits/ year and 7 % visits to gynecologists
- 1 % antibiotics prescribed in ambulatory setting

Vaginitis: Differential Diagnosis

- Infectious vaginitis- 60 %
 - Bacterial vaginosis
 - Candida vaginitis
 - Trichomonas vaginitis
- Cervicitis- 20%
- Normal discharge- 10%
- Atrophic vaginitis

Differential Diagnosis (con't)

- Psychosomatic vaginitis
- Iatrogenic vaginitis
 - Foreign body vaginitis
 - Allergic / irritant vaginitis
- Miscellaneous
 - Cervical polyps/ neoplasms
 - Vulvar and vaginal neoplasms
 - Macerated condylomata

Useful historical items

- age
- menstrual status
- characteristics:
 - onset
 - color
 - consistency
 - viscosity

Associated symptoms

- pruritis
- burning
- malodor
- dysuria
- dyspareunia

Historical items

- Past medical history
 - diabetes
 - recent infection
 - medications
 - method of contraception
- Sexual history
- Hygienic practices

Physical examination

- careful gynecologic exam
- inspection of discharge
- close examination of vulvovaginal area
- careful inspection of cervix

Office Laboratory Methods

- vaginal pool wet mount
 - saline prep (0.9 % saline)
 - KOH prep (10%)
- “whiff” test: (+) in BV
- vaginal pH: normal 3.5 to 4.5
- “Q-tip” test: (+) in cervicitis

Office Laboratory (con’t)

- vaginal cultures- used on selective basis
 - Trichomonas:
 - modified Diamond’s, Trichosel, InPouchTV
 - Candida:
 - Sabouraud’s, Nickerson’s media

Case # 1

A 17 y/o female HS student presents with a 1 day history of a vaginal discharge-- slightly sticky & cloudy-- associated with mild soreness. Denies itching, burning, or malodor. Microscopic exam
“Whiff test”- neg. Vaginal pH- 6.0

Physiologic discharge

- responsible for 10 percent of cases of vaginal discharge
- composed of vaginal squamous cells suspended in fluid medium
- clinical characteristics:
 - clear to slightly cloudy
 - non-homogeneous
 - highly viscous

Normal vaginal discharge

- not associated with:
 - itching
 - burning
 - malodor
- normal increase in volume
 - ovulation
 - following coitus
 - after menses
 - during pregnancy

Vaginal pH

- normal: pH of 3.5 to 4.5
- pH over 4.5 is abnormal:
 - 81 to 97 % of bacterial vaginosis
 - 60 % of Trichomonas vaginitis
- invalid if specimen contaminated with semen, blood, douche preps, cervical secretions
- obtain from lateral fornix

Case # 2:

28 y/o female grad student is seen for a 5-day history of a thin greyish-white discharge associated with vaginal burning and a fishy odor.....

Case # 2:

28 y/o female grad student is seen for a 5-day history of a thin, greyish-white vaginal discharge associated with vaginal burning and a fishy odor. Microscopic exam

Whiff test: (+) . Vaginal pH: 5.5

Bacterial vaginosis

Diagnostic criteria (requires 3 of the 4):

1. thin, homogeneous discharge
2. vaginal pH over 4.5
3. positive "whiff" test
4. clue cells on wet mount

Vaginal pool wet mount

Increased number of white cells:

- > 10 wbc/hpf
- > 1 wbc per epithelial cell
- increase in cervicitis, trichomonas
- variable in candida
- reduced number in B. vaginosis

Vaginal pool wet mount

Increased number of white cells:

- > 10 wbc/hpf
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- reduced number in B. vaginosis

Mgmt of Bacterial vaginosis

- Metronidazole- 1st generation nitroimidazole regarded by many as “drug of choice”
- 500 mg BID x 7 days still “gold standard” (Phieffer, NEJM 1978)

Mgmt of Bacterial vaginosis

ORAL:

- clindamycin 300 mg BID x 7 days

TOPICAL:

- vaginal metronidazole gel 0.75%: 1 applicatorful qd or bid x 5 d
- vaginal clindamycin cream 2%: 5 g q d x 7 d
- vaginal clindamycin ovules: 100 mg qhs x 3 days

Mgmt of Bacterial vaginosis Worst-case efficacy

<u>DOSE</u>	<u>relapse after 4 wk</u>
Metronidazole 500 mg BID x 7 d	20 %
Metronidazole 2 g x 1 dose	50 %
Metronidazole vaginal gel	34 %
Clindamycin vaginal cream	42 %
Clindamycin vaginal ovules	49 %

Koumens et al, Clin Infect Dis 2002;35 (suppl 2):S152

Mgmt of Bacterial vaginosis

Tinidazole (2nd generation)

- FDA approval in 2007 for treatment of BV
- 2 grams (4 tabs) once daily x 2 d* or 1 gram (2 tabs) once daily x 5 d

* 2010 STD Guidelines rec. 3 days

Mgmt of male in B. vaginosis

- **No benefit:**
 - Eschenbach, Scand J Inf Dis 1983
 - Swedberg, JAMA 1985
 - Vejtorp, Brit J Ob Gyn 1988
 - Moi, Genitourin Med 1989
 - Vutyavanich, Ob Gyn 1993
 - Colli, Genitourin Med 1997
- **Benefit:**
 - Mengel, J Fam Pract 1989

Mgmt of Recurrent B.V.

(Sobel et al, Am J Ob Gyn 2006;194:1283)

Prospective RCT of 112 women with recurrent BV following 10-day course of metronidazole gel

- 0.75% metronidazole gel BIW vs placebo x 16 weeks with 12-week post-Rx F/U
- RR = 0.43 (CI = 0.25-0.73) during Rx
- RR = 0.70 at end of 28 wk study period
- Adverse side effect: Candida vaginitis

Case # 3

A 34 years old female is seen for a one week history of a itchy, white, curd-like discharge. She notes that one week prior she was treated for a UTI with ciprofloxacin.

Mgmt: Topical imidazole agents

- **single-day regimens:**
 - clotrimazole 500 mg vaginal tab
 - tioconazole 3%- 300 mg/d x 1 d
- **3-day regimens:**
 - butoconazole 2%: 120 mg/d x 3 d
 - clotrimazole 1%: 200 mg/d x 3 d
- **7-day regimens:**
 - miconazole 2%- 100 mg/d x 7 d
 - clotrimazole 1%- 100 mg/d x 7 d

Mgmt of Candida vaginitis

- **Polyene antifungal agent:**
 - nystatin 100,000 units/d x 7 to 14 d
- **Triazole antifungal agents**
 - vaginal terconazole (Terazol®)
cream 0.4%- 20 mg/d x 7 d
cream 0.8%- 40 mg/d x 3 d
suppository- 80 mg/d x 3 d
 - oral fluconazole (Diflucan®)
single dose 150 mg. MR in 72 hrs

Mgmt of Recurrent Candida

- **identify predisposing factors**
 - diabetes, antibiotics, medications, candida in partner, HIV infection
- **fungal cultures**

Mgmt of Recurrent *C. albicans*

Options from 2010 CDC Guidelines

Extended course of therapy

- Topical therapy for 7 to 14 days
- Fluconazole 100-200 mg PO on days 1, 4, and 7

Maintenance 6 mo regimens:

- Fluconazole 100-150 mg PO q week*
- Clotrimazole 500 mg vaginal suppository q week
- Topical clotrimazole 200 mg BIW

*preferred

Case #4

A 44 years old nurse is seen for a 2 mo hx of recurrent “yeast” infections. She reports that despite treatment with several OTC as well as prescription yeast meds, her infection continues to recur. Her 10% KOH prep shows only:

Vaginal pool wet mount

KOH prep: “budding spores and the absence of pseudohyphae”

- *Candida glabrata*
- *Saccharomyces cerevisiae*

Mgmt of *Candida glabrata*

- Topical imidazole agent x 7-14 days
- Topical nystatin x 7-14 days
- Boric acid vaginal capsules 600 mg vaginal q d x 7-14 d

Case # 5

28 year old housewife is seen by you for a one week history of a frothy, greenish, malodorous vaginal discharge. She also complains of dyspareunia and vaginal irritation. Vaginal pH is 6.5 and the “whiff” test is positive. Examination of cervix:

Vaginal pool wet mount

Trichomonas vaginalis:

- motile trichomonads: 49 to 70 %
- pear-shaped, larger than WBC
- examine immediately, use fresh saline
- round up when inactive or die

Diagnosis of Trichomonas

- **Definitive diagnosis:**
 - trichomonads on wet mount
 - OSOM Trichomonas Rapid Test
 - culture: Diamond's, InPouch TV, Trichosel
 - nucleic acid tests
 - Affirm III
 - PCR: APTIMA®

Mgmt of Trichomoniasis

- Metronidazole- 1st generation nitroimidazole long regarded as "treatment of choice"
- Two regimens prescribed:
 - 2 grams as single dose
 - 500 mg BID x 7 days
- Single dose regimen preferred

Mgmt of Trichomoniasis Alternative to Metronidazole

- Tinidazole ("Tindamax®")
- FDA approval 5/04
- antiprotozoal agent (nitroimidazole)
- dose: 2 grams as single dose with food
- longer half-life
- less GI side effects

Mgmt of Trichomonas vaginitis

- adverse reactions: side effects including antabuse reaction (24 hr for metronidazole, 72 hr for tinidazole)
- use during pregnancy
- use in patient who is breastfeeding
- Trichomonas is a STD requiring STD measures

Mgmt of Trichomonas

STD measures:

- partner(s) require Rx
- evaluation for other STDs
- counseling re HIV testing and need for safer sexual practices

Case # 6

42 years old married female attorney is seen by you for her annual physical examination. Pap smear reveals evidence for trichomonas. Her husband (of 10 years) is also a patient of yours and both he and the patient adamantly deny any instance of infidelity.

Trichomonas on Pap smear

- sensitivity: 60 percent
- specificity: 92 percent (standard Pap); 96 percent (liquid-based)
- Bayes theorem

PREVALENCE

20 %-	1 in 2 is false (+)
1 % -	19 in 20 is false (+) (9 in 10 if liquid-based*)

Trichomonas on Pap smear

- sexual transmission
 - recent acquisition
 - remote acquisition (dormant)
- non-venereal transmission ?
 - ? rare
 - isolation from fomites (i.e. toilet seat)

Vaginitis: Meeting the Clinical Challenge

- common gynecologic problem
- key to management is accurate diagnosis
 - history and examination
 - office lab: wet mount, pH, “whiff test”, Q-tip test
- specific dx allows for effective Rx