# The Angry Vagina: Management of Vaginitis for Primary Care

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## Disclosures

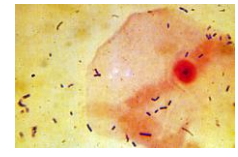
- Non-Declaration Statement
  - I have no relevant relationships with ineligible companies to disclose within the past 24 months

## Objectives

- Identify the most common types of vaginitis and differentiate between presenting symptoms
- Discuss co-morbid conditions that interfere with successful treatment of vaginitis, both organic and patient-created
- Given a clinical scenario, construct a treatment plan for a patient presenting with vaginitis

## The Happy Vagina

- Normal vaginal ph is 4.0-4.5
- Usual flora is *Lactobacillus*
- Self managing organ



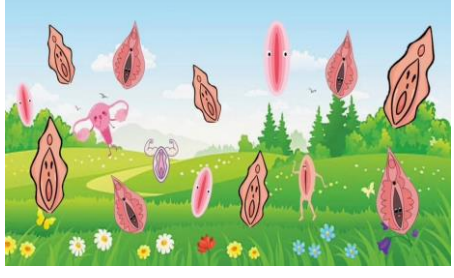


Image courtesy Megan Werbel, PAS-II, University of Florida

## Leukorrhea

- Normal vaginal discharge is:
  - Clear to milky
  - Has a subtle scent
  - Changes in thickness and amount depending on the menstrual cycle
- Normal vaginal discharge is not:
  - Irritating
  - Pruritic
  - Foul smelling
  - Yellow/Green/Grey/Bloody

## Vaginitis

- This is an abnormal discharge that is accompanied by vulvar or vaginal burning, irritation, or itching
- The most common cause in a patient of reproductive age is Bacterial Vaginosis (BV)
- Other easily identifiable causes are Candida, Trich, and atrophic vaginitis. STIs cause cervicitis.
- 7-10% of patients will never have an identifiable cause for their vaginitis!

## Bacterial Vaginosis (BV)

- Causes of BV:
  - *Gardnerella*
  - *Prevotella*
  - *Mobiluncus*
  - *Bacteroides*
  - *Atopobium*
- Decrease in *Lactobacillus*

## Bacterial Vaginosis Signs and Symptoms

- Thin, gray discharge
- Prominent vaginal odor
- Minimal inflammation
- No pruritus

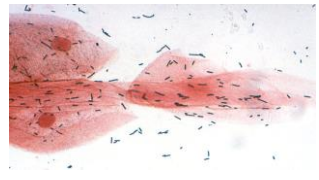
## Co-Morbid Conditions

- What can alter the vaginal pH?
  - Menses
  - Intercourse
  - Douching
  - Soaps
  - Diet
  - Exercise
- Recurrence of this issue is high and prevention is difficult

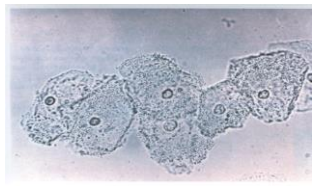
## Bacterial Vaginosis Diagnosis

- Vaginal pH > 4.5
- Positive amine test (whiff test)
- Positive saline microscopy

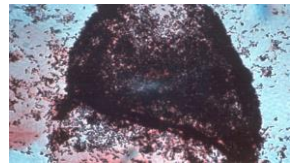
## Gram Stain of Normal Vaginal Secretions



## Bacterial Vaginosis Saline Microscopy



## Bacterial Vaginosis Gram Stain



## BV Treatments

Single-Agent Bacterial Vaginosis Treatment

| | |
|---|---|
| **Recommended regimens** | |
| Metronidazole (Flagyl) | 500 mg orally twice daily for 7 days |
| Metronidazole gel 0.75% (Metrogel vaginal) | 5 g (1 full applicator) intravaginally once daily for 5 days |
| Clindamycin cream 2% (Cleocin, Clindesse) | 5 g (1 full applicator) intravaginally at bedtime for 7 days |
| **Alternative regimens** | |
| Secnidazole (Solosec) | 2 g orally once |
| Tinidazole (Tindamax) | 2 g orally once daily for 2 days<br>1 g orally once daily for 5 days |
| Clindamycin | 300 mg orally twice daily for 7 days |
| Clindamycin ovules (Cleocin) | 100 mg intravaginally at bedtime for 3 days |

## Recurrent Infections

- Suppressive therapy for those with 3+/12 months
  - Metronidazole x 7-10 days followed by twice weekly dosing x 4-6 months
  - Metrogel 2x/week x 16 weeks
  - Clindamycin gel as alternative
- Alternatives:
  - Vaginal health probiotics
  - Vaginal microbiome transplants
- Avoidance of Offending Agent
  - Condoms/Abstinence
  - WSW 25-50% concordant infection rate

## Complications of BV untreated

- Endometritis
- Pelvic Inflammatory Disease
- Post operative infections
- Pre term delivery

## Asymptomatic BV

- Treat or not to treat (always the question)?
- Some populations should always be treated:
  - Patients undergoing hysterectomy
  - Patients undergoing termination
- Careful consideration for:
  - Uterine instrumentation**
  - Pregnant patients without history of pre-term birth**

## Pregnancy and Pre-Term Birth

- USPSTF: *D* recommendations for patients without risk for pre-term delivery. *I* recommendation for patients at increased risk for pre-term birth
- Considerations: within pre-term risk groups, there may be subgroups for which BV becomes the perfect agent for induction of pre-term labor
- Treatment in pregnant patients should be oral agents: topical agents associated with increase in LBW

## Candidiasis

- Agents:
  - *Albicans*
  - *Glabrata*
  - *Tropicalis*
- Overgrowth of *C. Albicans* (normally found in mouth, vagina, and rectum) can become pathologic

## Risk Factors for Candidiasis

- Obesity
- Warm Climates
- Immunosuppression
- Diabetes
- Pregnancy
- Broad Spectrum Antibiotic use
- Orogenital Sex

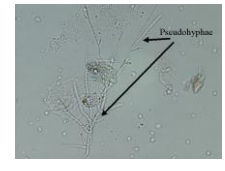
## Signs and Symptoms of Candida

- Pruritus
- Erythema
- Edema of vulva and labia
- Satellite pustules
- White, curd-like discharge
- Excoriations

## Diagnosis of Candida

- Diagnosis is KoH prep and saline prep
- May need culture if recurrent
- pH 4-4.5

## Microscopy Findings




## Uncomplicated Candida Treatment

- Topical anti-fungal agents
  - Miconazole - OTC
  - Clotrimazole - OTC
  - Terconazole - prescription
- Oral anti-fungal agents
  - Fluconazole 150 1 now, repeat in 3 days

## Complicated Candida

- Complicated if:
  - Frequent
  - Recurrent (4+/year)
  - Severe
  - Immunocompromised patient
- Treatment is based on culture, directed to agent, and longer
  - Example: 600 mg boric acid/vagina x 2weeks or Fluconazole 150 q 3 days x 14 days then recurrence prevention 100 mg q week x 6 months
- Must watch liver function tests

## Complications of Candidiasis

- Skin breakdown
- Invasive Candidiasis
- Gastrointestinal issues
- Fatigue
- Sexual dysfunction

## Trichomoniasis

- Common sexually transmitted infection
- More symptomatic in women than men
- Frequently seen with other infections (esp. *N. gonorrhoeae)*
- Can incubate for 3d-4w from exposure
- Can infect as high as the bladder

## Trichomoniasis Symptoms

- Urinary frequency
- Dysuria
- Dyspareunia
- Erythema
- Foul, thin, "frothy" discharge
- Intermenstrual bleeding
- Vaginal pruritis

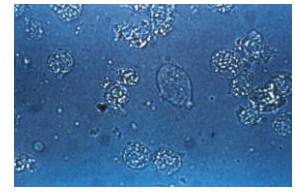
## Diagnosis of Trichomoniasis

- Pap smear
- Saline preparation
- Urinalysis
- NAAT/DNA

## Diagnosis breakdown

| TEST | SENSITIVITY (RANGE ) |
|---|---|
| Pap test | 60 to 80 % |
| Saline preparation | 60 to 80 % |
| Culture | 90 to 100 % |

## Wet Prep of Trichomoniasis



## Trichomoniasis

## Trichomoniasis Treatment

- Drug of choice is oral metronidazole
  - **7 d course taken BID**
  - Alternatively, tinidazole 2g x 1 dose

## Trichomoniasis Treatment

- Sexual partner should be treated
- Couple should use condoms until partner is treated

## Atrophic Vaginitis (Genitourinary Syndrome of Menopause)

- Causes:
  - Decreased estrogen creates a thinned vaginal mucosa and flattened rugae
  - Vaginal squamous epithelium thin
  - Parabasal squamous cells rise in number
  - Mucosa becomes easily friable
- This is an inflammatory reaction that can cause a sloughing of cells

## GSM Symptoms

- Vaginal Dryness
- Vaginal Pruritis
- Irritation
- Thin, white to light yellow discharge without odor
- "Stuck" labia
- Dyspareunia
- Urinary Symptoms

## GSM Diagnosis

- Physical Exam is a key component
  - Mons pubis/labia lose bulk
  - Prominent urethral meatus
  - Thinning pubic hair
  - Introital narrowing
  - Smooth, shiny, dry vaginal mucosa
    - May have thin, sticky discharge present
  - Easily friable tissue in absence of other pathology
- pH >4.6 to as high as 7
- Cytology will show greatly increased parabasal or intermediate cells

## GSM Treatment

- Aimed at local relief of symptoms
  - Only one option will treat both vaginal and systemic (3 month systemic vaginal ring-17B Estradiol)
  - Otherwise 3 month estradiol local only
  - 2 Estrogen creams and one tablet
- Can be used even in patients who have contraindications to estrogen therapy (not all, but most)
- DHEA transforms vaginal epithelium to E2 and androgens
- The SERM ospemifene is an oral tablet that will help treat dyspareunia
- Local Laser therapy to vaginal walls to enhance repair mechanisms

## GSM Complications

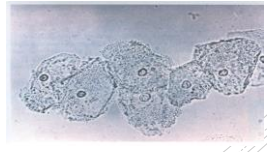
- Urinary urgency, dysuria, urethral eversion, prolapse, and recurrent UTIs are associated with urethral and bladder mucosal
- The relationship between urinary incontinence and low estrogen is very controversial.
  - Relationship may be better found in other issues (higher BMI, new onset diabetes, weight gain)
  - The use of local estrogen may improve periurethral vascularity and reduce detrusor contraction and there is not evidence of harm in otherwise non-contraindicated patients.

## Case 1

- 28 yo G2P2 presents to the office complaining of 5 days of vaginal discharge. Menses ended 7 days ago. The pt is using the Nexplanon implant for contraception. The discharge is thin and mildly pruritic toward the end of the day. The pt is concerned about odor. PMH is significant for DM diagnosed after last pregnancy. Pt is diet controlled and last A1C 2 months ago was 7.4.

## Physical Exam

- External genitalia are without abnormality. Vagina has no lesions. There is no noted erythema. Vault has moderate amount of adherent thin grey discharge with odor. Cervix is parous and closed without CMT.
- Wet prep:



## Case 1 results and Treatment

- Diagnosis:
  - Bacterial Vaginosis
- Treatment:
  - Patient is not pregnant
  - Prefers to take oral medication
  - No preference on dosing
  - Drink EtOH?
  - Insurance?
    - Metronidazole 500 mg BID x 7 days
    - Secnidazole 2 g x 1 dose
    - Tinidazole 2 g x 2 days

## Case 2

- 45 yo G1P1 complains of persistent vaginal discharge and itching for the past 3 months. Has been seen twice by separate providers and has just started health insurance. Has tried OTC agents without success for the past month and notes that the pills given at both appointments made things better for a few days each time. Pt is not sexually active. LMP 24 days ago. PMH significant for poorly controlled HTN, currently taking Lisinopril 5 mg.

## Physical Exam

- External genitalia erythematous and vulva with moderate edema. Excoriations noted surrounding labia. Significant erythema in intertrigonal folds. Vagina with significant edema and erythema of walls. Moderate clumpy white discharge noted. No lesions seen. Cervix parous, closed, no lesions or CMT.
- Wet mount:

## Case 2 Considerations

- Diagnosis:
  - Candida
  - Which subtype
- Need to consider Complicated V Uncomplicated
- This patient is complicated
  - Needs a culture
  - Needs workup for other causes as well
    - Labs for glucose intolerance at a minimum
    - LFTS if long term azole
- Consideration of prevention for future

## Take Home Points

- All discharge should be evaluated under a microscope
- A recurrent yeast infection should spark your interest and warrant a workup or a referral
- Sex does not stop happening at any age
- Untreated BV has long term complications and is an easy treatment

## References


- Algorithms for Managing Vulvovaginal Symptoms
  - Reichman et al, Current Infectious Diseases, 2019;21(10):40. Epub 2019 Oct 8.
- CDC Treatment Guidelines 2021
  - https://cdc.gov/std/treatment-guidelines/vaginal-discharge.htm
- Vaginitis in Non-Pregnant Patients
  - ACOG Practice Bulletin 215, January 2020

THANK YOU!

- Questions/Comments
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