Chronic Recurrent Vaginitis: What Really Works?

Everything You’re Itching to Know

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- Visiting Scholar at Boston College
- National Speaker, Media Consultant
- NEW, Coauthor, Gyn Exam text, 2012, Springer
- Coauthor, Advanced Health Assessment of Women: Skills and Procedures, 2010
- 2011 Inspiration in Women’s Health Award, NPWH Honorable mention
- Fellow in the AANP
- President Emerita, Senior Advisor, NPACE
- Worked in Alaska for 7 years
- Owned private practice for 12 years
Vaginitis Objectives

- Discuss optimal diagnostic testing for vulvovaginitis 30 minutes
- Discuss common vulvar dermatologic conditions including causes, diagnosis & treatment of selected conditions 30 minutes
T T T

- Test - often and early
- Treat - effectively
- Test - of cure, follow-up

Normal Flora of Healthy Vagina

Lactobacilli
- pH 4.0
- Estrogen
- STI protection

Gardnerella
Mycoplasmas
anaerobes
Mobiluncus
Others

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Vulvitis: Need to Clarify
Vaginal, Cutaneous Yeast, Contact, Allergic, Other

Vulvar Symptoms

- Irritants, over cleansing
- Allergens
  - Condom allergy is rare
- Infections
  - Genital Herpes Type 2
- Skin conditions
  - Lichen Simplex Chronicus / LSC
  - Lichen Sclerosis / LS
  - Lichen Planus / LP
- Other
  - Eczema, atrophy, etc.
Vulvar Irritants, Allergens

- Soaps
- Pads
- Shaving
- Oral sex
- Spermicides
- Lubricants
- Underwear
- Dyes, fragrances
- Soap in undies
- Bubble baths
- Shampoo
- Hot tubs
- OTCs, Scripts
- Preservatives in these
- Over cleansing
- You name it...

Personal or Family History of Skin Sensitivities?

- Fair skin
- Light hair
- Sensitive skin
- Skin conditions
- Family history
- Sensitive vulva
Vulvar Care Guidelines, “Less is More”

- Wash with warm water only: NO soap
- Soak and Seal
- Use mineral oil, Vaseline, Crisco: to prevent & treat itching
- Avoid shaving, thong underwear and douching!
- Wear all cotton, white underwear (wide design)
- Wash underwear in very hot water
- Use ½ laundry soap, double rinse, do NOT hand wash
- Sleep without underwear, wear loose clothing
- Avoid sex if symptoms, pain, infection: for 1 week+
- Use non-irritating lubricants: Standard KY, Femglide, Poise, and Sliquid
- Do NOT use: Astroglide or warming/scented lubricants

Diagnosis of Vulvovaginitis

- Vaginal discharge: inaccurate
- pH testing; “Nitrazine” paper or NEW swab “VS-Sense”
- KOH, amine, whiff test:
- Vaginal microscopy: 60-80% accurate
- Affirm test: Gardnerella, yeast, trich: Clinically correlate!
- Vaginal cultures: NOT recommended
- Vaginal “funga” culture useful (with speciation), up to 2 weeks
- NEW: PCR Testing: 1 collection, multiple detections
  - GenPath, MDL, Quest, Lab Corp, etc.
- STI testing: as indicated
  - Genital Herpes Type 1, 2 by IGG serology

Lowe NK et al. Accuracy of the clinical diagnosis of vaginitis compared with a DNA probe laboratory standard. Obstet Gynecol 2009 Jan; 113:89. Findings: 64.5% clinical correlation with DNA testing. Trich highest, BV lowest
NEW: Vaginal pH Swab Test (VS-Sense)

negative  positive

Clinical Presentation of VVC: Vulvovaginal Candidiasis
Diagnostic Tests for Chronic VVC

- Wet mount negative:

- Fungal culture and speciate!
  - Non PCR: 1 week+ for results
  - PCR: 3-5 days (NEW)

- Unilateral symptoms:
  - Rule out genital herpes
  - HSV Serology IGG for Type 2
First Episode of Recurrent Herpes

- Atypical symptoms common
- 1/6 Americans, ¼ women
- Prevalence incr. w age 1/3 > 30 yr
- **Always rule out**
  - Especially if premenstrual
  - Unilateral sx
  - Even if relieved with yeast meds

- Suppression is effective
  - Valacyclovir 500-1gm po daily
  - Acyclovir 400 mg po BID

VVC, Yeast: Per CDC 2010

**Uncomplicated or Complicated**

- Sporadic, infrequent
- Not chronic/recurrent
- Mild/moderate symptoms
- Non-immune compromised

- Likely C. albicans
- 1 to 7 day therapy equal
- Oral or vaginal meds
- Prescription = OTC efficacy

- RVVC - 5%
- 4 or more infections/ year
- Severe symptoms
- Non-albicans
- Uncontrolled diabetes, debilitation, immunosuppression

- Fungal culture KEY
- **Longer Therapy needed**
**Chronic C. albicans: Fungal Culture and Speciate**

- **ORAL:**
  - Fluconazole 150 mg oral Day 1, 3, 6, total 3 doses
  - Culture negative, then 100/150/200 mg weekly x 6 mo OR
- **VAGINAL:** 1-2x week x 6 months
  - Butaconazole (Gynazole)
  - Clotrimazole, tioconazole ointment (Monistat 1)
- “Test of cure” 2 weeks post-treatment, then monthly (culture)


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**Chronic Non-C. albicans: Fungal Culture & Speciate**

Longer duration Rx: 7-14 days
- Butaconazole/ Gynazole: single dose, x weekly x 2; x2 monthly
- Boric acid suppositories pv qd x 14 days (600 mg), x2 weekly
  - Max 6 months, safety/toxicity issues, AVOID oral & in Pregnancy
- Nystatin suppositories pv qd x 14 days (100,000 u), x2 weekly
  - Unclear efficacy, but very safe
- F/u: 1-2 weeks post-rx repeat culture: if negative
- Maintenance: 2 x weekly x 6 months+, monthly culture, PRN

- REFER to specialist if symptoms recur

(www.CDC.gov/stds  2010)
Patient with 10 year history of Chronic Vaginitis

NEW: High Correlation with Yeast and Mycoplasma Genitalium

- n - 516
- High correlation with yeast and M. genitalium
- P < 0.05

Lesser association between C. trachomatis, and U. urealyticum, no assoc. w N. gonorrhea

Mycoplasma Genitalium

- “Sexual transmitted”
- More prevalent than gonorrhea
- Less prevalent than Chlamydia
- Urethritis: In men & women
- Cervicitis in women:
  Role poorly understood
  Still debated & more research needed

Mycoplasma Genitalium:

- Spontaneous preterm delivery: Independent risk factor
- PID: Frequently detected from cervix, endometrium
- Endometritis and PID treatment failure
  persistent endometritis and continued pelvic pain.
- Cefoxitin, Doxycycline - may NOT be effective:
Mycoplasma Genitalium: To Treat or Not to Treat?

“No convincing evidence to treat *solely* these organisms when treating; urethritis, cervicitis, BV or trichomoniasis” Dr. Nyirjesy 2010

- Role of Mycoplasma and Ureaplasma Species in Female Lower Genital Tract Infections
- Patel MA, Nyirjesy P.
- DOI 10.1007/s11908-010-0136-x

Mycoplasma Genitalium: Treatment

- NO cell wall, so B-lactam antibiotics NOT effective
- Only use: Tetracyclines, macrolides, fluoroquinolones

- **Azithromycin** 1 gm orally stat, partner too
- **Azithromycin** x 5 days: 500 mg po day 1, then 250 mg day 2-5
- **Moxifloxacin** 400 mg orally x 7 days (NOT ofloxacin)

- Consider testing, treating partner: per Dr. Gilbert, NYC
  If patient symptomatic!
TTT

- Test - often and early
- Treat - effectively
- Test - of cure, 1-2 months
BV Linked to Increased Risk of ObGyn Complications

- STIs
  - Herpes HSV-2
  - HPV
  - GC and Chlamydia
  - HIV
- PID and Infertility
- Cervicitis
- Cystitis
- Post-Gyn surgery and Postpartum infections
- Increases risk of Preterm delivery
Diagnose BV per CDC
3 of 4 Amsel’s Criteria

- Coaty, white discharge: must correlate w/other criteria
- Elevated pH > 4.7: sensitive but not specific

- KOH amine “whiff” test: predictive
- Clue cells: predictive

- Pap & vaginal cultures: NOT reliable
- Affirm test: correlate with other criteria, pH, amine
Clinical Presentation of BV
2010 CDC Guidelines, BV Not-Pregnant

**Recommended:** Similar efficacy
- Metronidazole 500 mg orally bid x 7 days
- Metronidazole gel, 1 applic vaginally @hs x 5 days
- Clindamycin cream 1 applic vaginally @hs x 7 days

**Alternatives:** Similar efficacy
- Clindamycin 300 mg orally bid x 7 days
- Clindamycin Vaginal Ovules, 1 vaginally @ hs x 3 days
- Clindamycin 100 mg vaginal single dose
- Tinidazole 2 g orally daily x 3 days (Cat C)
- Tinidazole 1 g orally daily x 5 days (Cat C)

2010 CDC Guidelines for BV in Pregnancy

**Recommended:**
- Oral preferred because of possible subclinical upper-genital-tract infection!
- Metronidazole 500 mg orally twice a day for 7 days
- Metronidazole 250 mg orally TID for 7 days*
- Clindamycin 300 mg orally twice a day for 7 days

**Other Regimens:**
- Clindamycin vaginal; may be associated with adverse pregnancy outcomes if used in second half of pregnancy after 20 weeks

**Low and High risk for preterm delivery:**
- Evidence insufficient to assess impact of screening for BV
- Evidence inconsistent if Rx of asymptomatic pt w BV reduces adverse pregnancy outcomes
Chronic BV: Common & Complex

- 30% recur in 1-3 months, 80% at 9 Months
- Follow-up 1 month for Test of Cure: Amsel’s
- Condoms!
- Avoid IUS: esp. Copper/Paragard
Chronic Bacterial Vaginosis: Rule out HSV

- **Longer therapy**: double initial therapy duration
  
  Clindamycin, Tinidazole, Boric acid, MTZ pv higher dose

- **Test of Cure**: 1 month

- **4-6 months “intermittent” vaginal therapy**: twice wkly
  
  Sobel et al, AJOG 2006;194:1283-1289. Metronidazole vaginal x 10 days, then x 4 months

- **Condoms, avoid douching, avoid Paragard/Copper IUS**
  

- **Possibly effective**: no thongs, reduce stress,

- **NEW: Vitamin D & BV**: Bodnar, L. J Nutr. 2009;139:1157-1161
  
  Vit D and DIV/LP, Vit D ≥50 ng/ml, Cutis 2010 July; 89

- **NOT effective**: LB supplements, yogurt, pH acidifying agents, H2O2 douches, treating male partner
CDC Trichomoniasis Treatment
High in Teens and Older Women Over 40!

- Common, often ignored, latent, no screening guidelines
- Risks: Preterm Labor, HIV, other STIs
- Increased in women > 40 years and older
  - Ages 18-39 yrs = 8-9%, 40-44 yrs = 10%
  - 45-49+ yrs = 13%!
  - Most unscreened and untreated!


Diagnosing Trichomoniasis in Women

- “Variable symptoms”, discharge, itching
  - Profuse yellow, green, gray/watery
- Vaginal pH: elevated ≥ 4.7
- Amine/Whiff/KOH: negative
- Wet Mount:
  - 60-70% accurate, MUST read immediately
  - Avoid hypersonic saline, or drying!
- Pap: NOT reliable, correlate w/ pH/wet mount
Diagnosing Trich in Women:
IF Negative Wet Mount, Must Confirm

Lab Culture is *Gold STANDARD*: Diamond’s, In-Pouch TV, etc. BUT 3 day process, Sensitivity 95%, Specificity 99.8%

**In-office:**
- Affirm VP III: 45 minutes or overnight
- “Osom” Rapid Antigen Test by Genzyme: “In-office” option (CLIA waived): 10 mins
- BOTH: Sensitivity 83%, Specificity 97%

**Lab based:**
- Amplicor: PCR by Roche, S/S 88-97%/98-99%
- PCR NEW: GenPath, MDL, Quest, Lab Corp: 3-5 days

Trichomoniasis Treatment
2010 CDC STI Guidelines:

- Always treat male partner (MTZ x 1 week best for men)
- First Line: Equal efficacy:
  - Metronidazole 2 gms orally, (Category B)
  - OR
  - Tinidazole (Tindamax) 2 gm orally (Cat C)
    - Contraindicated in pregnancy/ lactation
- Alternatives
  - Metronidazole, 500 mg orally BID for 7 days (men)
  - Tinidazole 2 gms orally x 5 days
Atrophic Vaginitis

- Vulva- ‘Sticky sign’
- Erythema, mottling
- Pallor
- Flattening of rugae
- Leukorrhea variable
- Esp. amount
- May mimic BV, Trich, HSV
- Or other etiologies
Diagnostic Work up of Atrophic Vaginitis

- Vaginal pH abnormally high $\geq 5$
  - Proxy test for estrogen levels = maturation index
  - Negative Amine KOH "Whiff" test
- Few Lactobacilli
- Mixed bacteria, grainy epithelial cells
- WBC's variable
- Immature epithelial cells, maturation index
- Avoid non-specific vaginal cultures, Pap inaccurate
- Test for STIs as appropriate!

Figure 19-11. Different histologic layers of vaginal stratified squamous epithelium. (From Naib Z. Exfoliative Cytology. 3rd ed. Boston, Mass: Little, Brown; 1965.)
Atrophic = Abnormal Vaginal pH, CPT code 83986

- pH Range 4.0-7.5
  - Normal = 4.0-4.5 (proxy for normal estrogen levels)
  - BV, Trich, Atrophic = > 4.5
- CLIA Waived

- Nitrazine Vaginal pH test “NitraTest”: order by roll
  - Requires multiple steps,
  - Match color with numerical pH reading (yellow=4.0 normal)

- NEW: Vaginal pH Swab Test “VS-Sense”: 90% accurate
  - Rapid results: 10 second test for BV, Trich, Atrophy
  - Yellow swab = Normal pH
  - Blue swab = Abnormal, elevated pH
Differential Diagnosis

- BV
- STIs; Trich, Herpes, etc
- Precancers

- Vulvar dermatoses
  - Lichen sclerosis
  - Lichen simplex chronicus
  - Lichen planus
  - Irritant, allergen, eczema, etc.
Local Vaginal Estrogen Options: Minimal Systemic Absorption

Sig: Daily for 2-4 weeks, every other day, then twice weekly prn

- **Vaginal estrogen creams**: 0.5-2 gms pv at bedtime
  - Conjugated Equine Estrogen /CEE “Premarin”
  - Estradiol “Estrace”, etc.
- **Estradiol vaginal tablet** “Vagifem” 10 mcg dose ONLY
  - If dry atrophy, or introital dyspareunia= may be less effective
  

- **Vaginal estradiol ring** “Estring”: every 3 months
  - Effective, convenient, may help OAB as pessary

Atrophic Vaginitis: Local Vaginal Estrogen
Prevent Secondary VVC/Yeast – 50% Risk!

- Daily for 2 to 4+ weeks; longer if comorbidities
- Twice Weekly maintenance OR
- Vaginal estrogen ring (Estring) every 3 months
- Daily Introital application:
- Minimal systemic absorption
  - Breast tenderness initially secondary to thin epithelium
  - Probably OK if breast cancer history
- Sexual rehab: COMPLEX!
  - Dilator exercises, regular sex, lubricants, romance, sleep
  - Orgasm before intercourse, Manage OAB, Hot flashes, Vv, etc.
Vulvitis: Complex
Vaginal, Cutaneous Yeast, Contact, Allergic, Atrophy
Non-neoplastic Epithelial Disorders
Selected Conditions

- Vulvitis:
  - Vaginitis: mixed, atrophic effects
  - Contact, irritant, allergic, infectious, cutaneous yeast
  - Sensitive skin, various skin conditions
- Lichen Simplex Chronicus / LSC
  - Squamous Cell Hyperplasia / SCH, Eczema
- Lichen Sclerosis / LS
- Lichen Planus / LP
  - Desquamative Inflammatory Vaginitis / DIV

Lichen Simplex Chronicus (LSC)
Skin Thickening from Scratch, Itch

- Unclear etiology
- Pruritus, burning, pain
- Irritants, allergens, infections
- Appearance variable
- Vulvar KOH
- Vaginal yeast culture
- Biopsy, when in doubt!

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**LSC Management:**
Scratch, Itch Cycle from Skin Thickening
Diagnosis of Exclusion

- Eliminate irritants, allergens, etc. no soap, etc.
- Vulvar care: vaseline, open to air, tea compresses, ice
- **Treat yeast:** vaginal and cutaneous
  - External anti-fungal 3+ wks: nystatin ung 100,000u/gm
  - Intravaginal anti-fungal if needed x 2 weeks
- **Topical steroids** (avoid Lotrisone, Mycolog combo)
  - Clobetasol 0.05% ung BID x 2-4 weeks, then taper
  - Hydrocortisone ointment 1% OTC, bid prn
- **Oral options**
  - Diphenhydramine/ Benadryl 25-50 mg po hs
  - Hydroxyzine /Atarax 10-50 mg po hs

**High Grade VIN**
Vulvar Intraepithelial Neoplasia

- KOH: negative
- Skin problem hx: negative
- Unresponsive to topicals

- Refer
- Will require multiple biopsies
**Lichen Sclerosis (Late)**

White patches, loss of landmarks, etc.

- Biopsy to confirm
- Clobetasol 0.05% ung
- Daily/bid x 2-4 weeks
- QOD x 2-4 weeks
- Then twice wkly
- Dynamic self care
- Emollients!
- Vaseline, Crisco
- 5% malignancy risk
- F/u every 3 months

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**Lichen Planus**

- Lacey, reticulated lesions
- Focal erythema
- Associated gum disease
- Mimics LSC, LS early
- Loss of lower labia minora
- Vulvar biopsy
- Manage same as LS
- Subset DIV, Desquamative Inflammatory Vaginitis
- Intravaginal steroids
  - Hydrocortisone acetate 25 mg BID/TID x2 wks
  - 10% hydrocortisone pv
- REFER to specialist
Vaginitis Objectives: Summary

- Discuss optimal diagnostic testing for vulvovaginitis
- Describe strategies to prevent and treat acute and chronic Bacterial Vaginosis (BV), Yeast (VVC) and Trichomoniasis, Atrophy, Mixed
- Discuss common vulvar dermatologic conditions including causes, diagnosis & treatment of selected conditions

Test
  • often and early

Treat
  • effectively

Test - of cure
  • follow-up 1 month
Thank You and Good Luck!

Questions Welcome

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References

  (Vulvovaginal candidiasis, desquamative inflammatory vaginitis, and atrophic vaginitis, chapter 17).

  • Sobel, JD. Vaginitis, Cervicitis. In Infectious Diseases by Tan et al. 2008 (2nd ed), chapter 17, 326-350. Philadelphia: ACP.

Bacterial Vaginosis/BV


Yeast

• Kye Hyun Kim, Mi-Kyung Lee, Vaginal Candida and Microorganisms Related to Sexual Transmitted Diseases in Women with Symptoms of Vaginitis, Korean J Clin Microbiol Vol. 15, No. 2, June, 2012. http://dx.doi.org/10.5145/KJCM.2012.15.2.49 (n = 516, high correlation with yeast and M. genitalium P < 0.05)


Atrophic Vaginitis


References

Yeast/BV Probiotics and prevention (conflicting results)


Shalev E, Battino S, Weiner E, et al. Ingestion of yogurt containing *Lactobacillus acidophilus* compared with pasteurized yogurt as prophylaxis for recurrent candidal vaginitis and bacterial vaginosis. *Arch Fam Med*. 1996;5:593-596. (RCT w N=46, Yes BV, No yeast)

References

Vitamin D and Vaginitis

- Peacocke M. et al. Desquamative Inflammatory Vaginitis as a Manifestation of Vitamin D Deficiency Associated With Crohn Disease: Case Reports and Review of the Literature Cutis 2010 July; 89. (N=4, sx improved when Vit D levels high normal)

- Bodnar, L. Vitamin D deficiency is associated with bacterial vaginosis in the first trimester of pregnancy. *Journal of Nutrition*. 2009;139:1157-1161. (BV rates higher if Vit D lower)

Vulvar Dermatology

Resources

www.asccp.org (new PAP, HPV guidelines)
www.cdc.gov/stds (new 2010 guidelines)
www.nams.org (menopause info for clinicians, pts)
www.asha.org (great patient education materials)
www.issvd.org (vaginitis info for clinicians, pts)
http://obgyn.med.umich.edu/patient-care/womens-health-library/vulvar-diseases
    (clinician and pt resources)
www.nva.org (National Vulvodynia Association)
www.acog.org