Overview of Vulvar Dermatology

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Disclosures

No financial relationships or conflict of interest to disclose
Learning Objectives

At the end of this lecture, the participant will gain knowledge on:

• How to perform a:
  • Basic vulvar physical exam
  • Wet prep
  • Vulvar biopsy
• Gentle vulvar skin care
• The basics of topical steroids
• An approach to recalcitrant problems
Recommended References


Outline

• **History**
• Diagnostic Tools
  • Physical examination
  • Biopsy
  • Wet prep
• Management
  • Approach
  • Gentle skin care
  • Topical steroids
  • Recalcitrant problems
History

- **Chronic symptoms**
  - Depression, anxiety
  - Sexual dysfunction
  - Impact on relationship

- History of hygiene practices and local topical applications used often critical

- Sexual history

- Pre-, Peri-, Post-menopausal

- ROS can be helpful
  - Oral signs and symptoms
  - Itch: Atopy (allergic rhinitis, asthma, eczema)
  - Skin disease outside of genitalia
  - PMH/FH: skin disease, autoimmune disease
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Physical Exam

- Know anatomical terms
- Know normal
- Consistent examination sequence
- Site → diagnosis
Physical Exam – Prepubertal

Frog-leg position – Lie on back on exam table
Knees flexed, soles resting in opposition, hips externally rotated
No stirrups required, “butterfly or frog”
Cough or blow out candles → visualize anterior vagina

Physical Examination

- Active disease
- Scarring
- Wide range of normal
- Subtle abnormalities $\rightarrow$ significant symptoms
- Disease on macerated skin can have atypical morphology
- Look at mucosal surfaces (mouth, eyes) and skin
Physical Examination

- Active disease
- Scarring
- **Wide range of normal**
- Subtle abnormalities $\rightarrow$ significant symptoms
- Disease on macerated skin can have atypical morphology
- Look at mucosal surfaces (mouth, eyes) and skin
• Redness
• Papillomas
• Labia minora size
Physical Examination

- Active disease
- Scarring
- Wide range of normal
- **Subtle abnormalities \rightarrow significant symptoms**
- Disease on macerated skin can have atypical morphology
- Look at mucosal surfaces (mouth, eyes) and skin
Physical Examination

- Active disease
- Scarring
- Wide range of normal
- Subtle abnormalities → significant symptoms
- **Disease on macerated skin can have atypical morphology**
- Look at mucosal surfaces (mouth, eyes) and skin
Well-demarcated, non-scaly pink plaque = Psoriasis
Poorly demarcated, lichenified and excoriated plaque = Lichen Simplex Chronicus
Poorly demarcated, non-scaly, lichenified plaque = Lichen Simplex Chronicus
Physical Exam

- Active disease
- Scarring
- Wide range of normal
- Subtle abnormalities → significant symptoms
- Disease on macerated skin can have atypical morphology

- **Look at mucosal surfaces (mouth, eyes, vagina) and skin**
Outline

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Biopsy

• Where?
  • **Within lesion itself**
    • Thick area to rule out HSIL or cancer
    • Scaly area to look for eczema, tinea, psoriasis
  • At border of lesion
    • Erosion or ulcer
    • Vesicle or bulla
  • On normal skin adjacent to lesion
    • Immunofluorescence (auto-immune bullous disorder)
Biopsy

• Where?
  • Within lesion itself
    • Thick area to rule out cancer
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  • **At border of lesion**
    • Erosion or ulcer
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    • Immunofluorescence (auto-immune bullous disorder)
Biopsy

- Site
  - Edge of erosion
Biopsy

• Where?
  • Within lesion itself
    • Thick area to rule out cancer
    • Scaly area to look for eczema, tinea, psoriasis
  • At border of lesion
    • Erosion or ulcer
    • Vesicle or bulla
  • On normal skin adjacent to lesion
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Biopsy

- Apply LMX (lidocaine 4% cream) x 15 min, wipe off
- Inject lidocaine 1% with 1:100,000 epinephrine
- Shave or punch biopsy that includes dermis/submucosa
  - Option 1:
    4mm punch biopsy, twist
    Adjust depth based on your ddx
    Forceps (needle) + scissors to remove
    5-0 silk or pressure for hemostasis
Option 2:
Modified shave biopsy
Throw a stitch, snip
Pressure, hyfercator, Monsel’s for hemostasis
Biopsy

- Avoid midline when possible
- **Biopsy multiple morphologies if diagnosis in doubt**
- Dermatopathology and Gyne Pathology analysis can complement each other
Biopsy

• Avoid midline when possible
• Biopsy multiple morphologies if diagnosis in doubt
• Dermatopathology and Gyne-Surgical Pathology analysis can complement each other

www.aafp.org
Outline

• History
• **Diagnostic Tools**
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  • **Wet Prep**
• Management
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Wet Prep

• Evaluating the vagina
  • Infections
    • Yeast
    • Bacterial vaginosis
    • Trichomonas
  • Inflammation
    • Atrophic vaginitis
    • Erosive lichen planus
    • Desquamative inflammatory vaginitis (DIV)
    • Atrophic vaginitis
    • Etc.
Wet Prep

• Insert cotton swab ➔ pool of vaginal secretions
• Have ready: two glass slides + two cover slips + small glass test tube with few drops normal saline
• Roll onto first glass slide
  • 1-2 drops KOH + cover slip
• Stick qtip into normal saline glass test tube
  • Roll onto second glass slide + cover slip
Wet Prep

• Analyze with microscope
  • 10x
    • Epithelial cells
    • WBCs
    • Bacteria
    • Buds, Pseudohyphae
    • Trichomonas
  • 40x: Bacteria, yeast buds (brief)
Normal Wet Mount

Mature epithelial cells (no parabasals)
More epithelial cells than WBCs
+ lactobacilli
- yeast, clue cells, trich
+/- Foreign bodies
Epithelial Cells
Mature vs. Immature (Parabasal) Cells

- Many causes for increased parabasal cells
  - Estrogen deficiency, erosive lichen planus, DIV

Normal epithelium  Estrogen deficiency
Mature vs. Immature (Parabasal) Cells

Normal

Erosive Lichen Planus

DIV

Estrogen Deficiency

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White Blood Cells
White Blood Cells

• Normal
  • More epithelial cells than WBCs (i.e. ≤1:1 ratio WBC:epi)

• Abnormal (inflammation)
  • >1:1 ratio WBC:epithelial cells

• Inflammation from myriad of causes
  • Infection (e.g. trichomonas)
  • Irritation (e.g. foreign body, estrogen deficiency)
  • Inflammation (e.g. lichen planus, DIV, immunobullous disease)
Bacteria
Bacteria

- Lactobacilli >>> others
- Normal pH ≤4.5
- If pH>4.5
  - No lactobacilli
  - Decrease estrogen
  - Inflammation
Clue Cells a.k.a. Bacterial Vaginosis

- Epithelial cells swathed in bacteria → ragged borders

Ragged cell edges due to bacteria
Chains of cocci – Streptococci
Chains of cocci – Streptococci
Yeast
Yeast

Pseudohyphae and budding yeast of Candida albicans
Yeast

Pseudohyphae and budding yeast of Candida albicans
Yeast

Buds of non-albicans Candida species
Foreign Materials
Artifacts
Artifacts

Fibers + Air bubbles

Lipid droplets

Degenerating Sperm Head
# Consistent Wet Mount

- Checklist or chart

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<th>Finding</th>
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<th>None</th>
<th>Slight</th>
<th>Mod</th>
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<td><em>(estimate # per epithelial cell)</em></td>
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<tr>
<td>Immature epithelial cells</td>
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<td></td>
<td></td>
<td><em>(estimate %)</em></td>
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<tr>
<td>Clue cells</td>
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<tr>
<td>Hyphae/Pseudohyphae</td>
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<tr>
<td>Budding yeast</td>
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<tr>
<td>Lactobacilli</td>
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<td></td>
<td></td>
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<td><em>(comment on other bacteria when relevant)</em></td>
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<tr>
<td>Other</td>
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</table>
Wet Prep Limitations

• Sensitivity user and sample dependent
• Laborious
• Supplemental tests for detection
  • Trichomonas
    • In office rapid antigen tests (10 min), high sensitivity and specificity
    • Nucleic Acid amplification tests (done in lab), high sensitivity specificity
  • Yeast
    • Fungal culture can speciate
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- **Management**
  - **Approach**
  - Gentle skin care
  - Topical steroids
  - Recalcitrant problems
Management—Approach

- Isolation
  - Vulvar symptoms common
  - Most patients feel alone

- Less is more
  - Society of cleanliness
  - Do NOT need to scrub, spray, douche, sterilize the vulva!

- Disorders often multifactorial, sometimes iatrogenic
- Use ointments on inflamed skin
- Referral to other specialties can help!
Management—Approach

- **Isolation**
  - Vulvar symptoms common
  - Most patients feel alone
  - Websites: [www.ISSVD.org](http://www.ISSVD.org), [ww.NVA.org](http://ww.NVA.org)

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- **Disorders often multifactorial, sometimes iatrogenic**

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- Referral to other specialties can help!
Lichen planus +
Atrophic vulva/vagina
Lichen Simplex Chronicus + 
Candida albicans infection

Remember: 
Topical steroids + 
Topical estrogen = 
Field day for yeast
Management—Approach

• Isolation
  • Vulvar symptoms common
  • Most patients feel alone
  • Websites: www.ISSVD.org, ww.NVA.org

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Topical Applications

- Use a mirror or diagram
  - Where to put the medicine
  - How much
Management— Approach

• Isolation
  • Vulvar symptoms common
  • Most patients feel alone
  • Websites: www.ISSVD.org, ww.NVA.org

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Gentle Skin Care

• Gentle washing with hands only (no scrubbers!)
• No soap or mild cleanser
  • e.g. Dove unscented sensitive skin, Cetaphil cleanser
• Eliminate potential irritants/allergens
  • Wipes, douches, strong soaps, OTC medications, anesthetics
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Topical Corticosteroids

- **USA Classification System**
  - Group I = **Clobetasol propionate 0.05%**
    - *Betamethasone dipropionate 0.05%, augmented*
  - Group II = **Fluocinonide 0.05% (Lidex)**
  - Group IV = **Triamcinolone acetonide 0.01% (TAC) oint**
  - Group V = Triamcinolone acetonide 0.01% (TAC) cream
  - Group VII = **Hydrocortisone 1%, 2.5%**

- **Vehicle**
  - Lotion
  - Cream
  - Ointment

<table>
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<tr>
<th>Irritation</th>
<th>Moisturizing</th>
<th>Greasiness</th>
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<tbody>
<tr>
<td>Lotion</td>
<td>Cream</td>
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Topical Corticosteroids – Side Effects

Local (vast majority)

• Skin atrophy/thinning
• Telangiectasias
• Purpura/bruising
• Acne
Topical Corticosteroids – Side Effects

Local (vast majority)
- Skin atrophy/thinning
- Telangiectasias
- Purpura/bruising
- Acne
- Striae/stretch marks = irreversible
Topical Corticosteroids—Side Effects

- Systemic (rare) // prednisone
  1. Mucous membrane application
     E.g. Dexamethasone swish and spit
     E.g. Intravaginal clobetasol
  2. Large body surface area + Skin barrier compromise

- Take care around eyes
  - Glaucoma
  - Cataracts
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Recalcitrant Problems

• Consider poor adherence
• Re-evaluate for infection (yeast, herpes, bacteria)
• Re-evaluate for steroid or contact dermatitis
• Re-evaluate for wrong diagnosis
• Re-evaluate HSIL/SCC
Recalcitrant Problems

- Consider poor adherence
- **Re-evaluate for infection (yeast, herpes, bacteria)**
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Lichen sclerosus, controlled but now with HSV
Recalcitrant Problems

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Steroid dermatitis
Allergic contact dermatitis

Methylchloroisothiazolinone (MCI) Preservative in baby wipes

Allergen of the Year 2013
American Contact Dermatitis Society
Allergic Contact Dermatitis

- Developed sensitization to an allergen
  - Type IV hypersensitivity reaction
    - Delayed hypersensitivity reaction
    - Cell-mediated reaction
  - Testing: Patch testing
- Different than Type I immediate hypersensitivity
  - IgE mediated reactions
    - e.g. anaphylaxis to food allergen
    - e.g. allergic rhinoconjunctivitis
  - Testing: RAST (blood, specific IgE), Prick testing
- Patients with one type are more likely to have the other
Allergic Contact Dermatitis

- Patch testing
  - Performed by dermatologists, allergists
    - Ask before refer
  - T.R.U.E. test performed by most dermatologists
  - Expanded series performed by specialists in contact allergies
  - Allergens applied and taped to back on Day 1
  - Removed on Day 3
  - Read on Day 3, Day 5
  - Look for reactions to specific *likely* allergens

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Nickel Allergy
Allergic Contact Dermatitis

- Vagisil (benzocaine)
- Antibiotics (neomycin, polymyxin, bacitracin)
- Preservatives
  - Formaldehyde releasers (Quaternium 15, Bronopol, Diazolidinyl urea, etc.)
  - Non-releasers (Methylchloroisothiazolinone/Methylisothiazolinone in baby wipes – 2013 Allergen of the Year)
- Clothing dyes (inguinal vault)
- Carbamates (released from rubber post-bleaching—underwear bands)
- Sanitary napkins (acetyl acetone, formaldehyde, fragrance, methacrylates)
- Corticosteroids
- Lanolin containing products (Desitin max strength, A&D oint)
- Fragrance (Balsam of Peru, eugenol)
- Spermicides (Nonoxynol, Hexylresorcinol)

Allergic Contact Dermatitis

- Pearls for treatment
  - Bring in all products → ingredients
  - **Stop all topical exposures**—creams, wipes, sprays, douches, spermicides, pads
  - Use petroleum jelly only +/- topical/oral steroid
  - Barrier before/after bathroom use
  - Urinate with water poured against skin
  - Sitz baths
Recalcitrant Problems

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Pemphigus vulgaris initially diagnosed as aphthous ulcers of Behçet’s Disease
Recalcitrant Problems

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• Re-evaluate for wrong diagnosis
• **Re-evaluate HSIL/SCC**