Vulvar Disorders

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Conflict of Interest Disclosure Statement

I am on the advisory board of Merck, Co. Inc.
Learning Objectives

At the end of this presentation you will:

1. Assess your knowledge of vulvovaginal disease
2. Identify the clinical features of some difficult vulvovaginal conditions
3. Familiarize yourself with a variety of treatments for skin diseases

Written Information Available:

University of Michigan Center for Vulvar Diseases (Google)

Then, click on Information on Vulvar Diseases

http://obgyn.med.umich.edu/patient-care/womens-health-library/vulvar-diseases
University of Michigan Center for Vulvar Diseases

There are many reasons for seeing a vulvar disease specialist. The University of Michigan Center for Vulvar Diseases, treating not only part of the vulva. Our multidisciplinary approach at electronic medical record allows the electronic management of patients, from counseling and treatment options to education and counseling to meet every individual’s needs.

The Center for Vulvar Diseases was created in 2003 to better serve and treat women with diseases of the external genitalia. Our center is one of only a handful of clinics that specialize in treating these conditions. We focus on the multidisciplinary approach to help patients improve their health.

The team approach allows us to provide a higher intensity of care and expertise to women who have already demonstrated a resilient and chronic illness or an unusual vulvar condition.

Many women experience different forms of vulvar pain, including vulvodynia. Vulvodynia is pain on the lips of the vulva or upon intercourse with a normal appearing vulva. It is a burning, stinging, itching sensation. Some patients are unable to accept sexual penetration due to muscle spasms and tenderness. Other conditions associated with vulvar pain include:

- Lichen sclerosus or lichen planus– chronic inflammatory skin disorders
- Vulvar intraepithelial neoplasia– a precancerous condition, often associated with warts, the human papilloma virus (HPV)
- Hidradenitis suppurativa– a disease of the apocrine and sebaceous, with pus-filled pockets of fluid
- Bartholin’s cysts– fluid filled cysts at the base of the vestibule

Congreso de las Américas en Colposcopia, February, 2015

Vulvar Disease Clinical Cases
Vulvar Disease Clinical Cases Information
Vulvar Disease Clinical Cases Recalcitrant Vaginitis
Vulvovaginal Surgery
The Gynecologist’s Guide to Steroid Use
Vulvodynia Written Handout, 2015

Sociedad Latinoamericana de Patología Vulvar, April, 2015

The Lichens in Vulvovaginal Disease
The Lichens in Vulvovaginal Disease Handout
Hidradenitis Suppurativa Acne Inversa
Hidradenitis Suppurativa Handout

ACOG, May, 2015

Vulvar Diseases: What Do Your Know?
Your Diagnosis Is

ISSVD Postgraduate Course, July, 2015

Your Diagnosis Is
Your Diagnosis Is Handout

ACOG District II New York October, 2015

Vulvar Disorders
A 21 y.o. G0 presents with a history of chronic immunosuppression secondary to autoimmune hepatitis. She has noted vulvar changes for one year. She complains of vulvar pain and occasional vulvar bleeding.
The histologic images shown represent which vulvar condition(s)?

A. 1 HSIL of the vulva and 2 condyloma
B. 1 and 2 both condyloma
C. 1 and 2 both molluscum contagiosum
D. 1 condyloma and 2 HSIL of the vulva
<table>
<thead>
<tr>
<th>ISSVD 1986</th>
<th>ISSVD 2004</th>
<th>LAST 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIN 1</td>
<td>Flat condyloma or HPV effect</td>
<td>Low Grade</td>
</tr>
<tr>
<td>VIN 2</td>
<td>VIN, usual type</td>
<td>High Grade</td>
</tr>
<tr>
<td>VIN 3</td>
<td>a. VIN, warty type</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. VIN, basaloid type</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. VIN, mixed (warty/basaloid) type</td>
<td></td>
</tr>
<tr>
<td>Differentiated VIN</td>
<td>VIN, differentiated type</td>
<td></td>
</tr>
<tr>
<td>ISSVD 1986</td>
<td>ISSVD 2004</td>
<td>LAST 2012</td>
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<td>VIN, usual type</td>
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</tr>
<tr>
<td></td>
<td>c. VIN, mixed (warty/basaloid) type</td>
<td></td>
</tr>
<tr>
<td>Differentiated VIN</td>
<td>VIN, differentiated type</td>
<td>???</td>
</tr>
</tbody>
</table>
2015 ISSVD Terminology of Vulvar Squamous Intraepithelial Lesions

<table>
<thead>
<tr>
<th>Lesion Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low grade squamous intraepithelial lesion (Flat condyloma or HPV effect)</td>
<td></td>
</tr>
<tr>
<td>High grade squamous intraepithelial lesion (VIN usual type)</td>
<td></td>
</tr>
<tr>
<td>Intraepithelial neoplasia, differentiated-type</td>
<td></td>
</tr>
</tbody>
</table>

Treatment for condyloma HSIL in this patient should be:

A. Laser
B. Wide local excision (WLE)
C. A combination of laser and WLE
D. No treatment. Observation only.
Clinical Pitfalls of Vulvar Colposcopy

- Acetowhitening is nonspecific
- Marked acetowhite changes in up to 65% of normal women
- Normal anatomic variants – like vestibular micropapillae – often confused with HPV colposcopically and histologically
Colposcopic Techniques

- 3% to 5% acetic acid
- Soak initially for 3-5 minutes
- Use copious amounts
- Reapply often
- Avoid using in presence of breaks in epithelium or inflammation

Anesthesia
• 1% lidocaine (with or without epinephrine)
• 27-30 gauge needle to inject 1-3 cc's of anesthetic agent
• Inject subepidermally

Biopsy
• Keyes punch
  • 3-5 mm diameter dermatologic instruments (usually 4 mm)
• Fine suture (3.0 or 4.0 Vicryl Rapide) vs. Monsel’s or silver nitrate
Cervical biopsy instruments that can also be used for vulvar biopsy
Tips
A 19 year old lady presents with vulvar erosions (majority perianal and buttock) and ulcers increasing for weeks. The itchy lesions started around the vulva and anal area. She is now consumed with itching and discomfort and nothing works.
• Biopsy - lichen simplex chronicus and secondary impetiginized excoriations. Rebiopsy - ulceration with mixed inflammation.

• Symptoms are relieved with Sitz baths and a compounded cream - amitriptyline, baclofen, cyclobenzaprine, diclofenac, gabapentin, ketamine, and lidocaine.

• She is suicidal, depressed and co-dependent on her mother.
Your Diagnosis Is?

A. Contact Dermatitis
B. Herpes Simplex in Immunosuppressed
C. Crohn’s disease
D. Behcet’s Disease

Severe Primary Irritant Contact Dermatitis

Due to topical compound - 7 tubes a day
A. The most common contact dermatitis is allergic contact dermatitis.

B. Primary irritant contact dermatitis can complicate all vulvar conditions.

C. Contact dermatitis can be acute or chronic.

D. Over cleansing and use of “Wipes” are a common cause of contact dermatitis.

The following statement about contact dermatitis is incorrect:
Contact Dermatitis

Allergic:
Type IV delayed hypersensitivity reaction
Only low dose of substance needed e.g. Poison ivy, neomycin, benzocaine

NOT COMMON

Patch Testing
North American Patch test series
Treatment of Vulvar Contact Dermatitis

Stop Contact – Irritant or Allergen
- Stop irritants - Educate patient
- Stop scratching - Treat infection – yeast/bacteria
- Patch Test as indicated

Control inflammation
- triamcinolone 0.1% oint twice a day for 7-10 d
  (may need clobetasol 0.05% ointment)
- If severe, systemic corticosteroids

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Question 1

I see patients with chronic vaginitis

A. Yes
B. No
Question 2

I like to see patients with chronic vaginitis

A. Yes

B. No

Vaginal discharge in lactating dairy cattle in New Zealand
### pH and Wet Mount

<table>
<thead>
<tr>
<th></th>
<th>pH (3.0-4.5)</th>
<th>WBC</th>
<th>Paras-basals</th>
<th>Features</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>3.0-4.5</td>
<td>Few or none</td>
<td>no</td>
<td>Nil lactobacilli</td>
<td>Creamy, mucous, white</td>
</tr>
<tr>
<td>Yeast</td>
<td>3.0-4.5</td>
<td>no</td>
<td>no</td>
<td>Hyphae Spores (400x)</td>
<td>Curdy</td>
</tr>
<tr>
<td>Bacterial Vaginosis</td>
<td>&gt;5.0</td>
<td>No to small</td>
<td>no</td>
<td>Clue Cell</td>
<td>Yellow, grey w/ odor</td>
</tr>
<tr>
<td>(Amsel Criteria)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trichomoniasis</td>
<td>&gt;5.0</td>
<td>yes</td>
<td>maybe</td>
<td>Motile trich</td>
<td>Green, yellow, bubbly</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIV</td>
<td>&gt;5.0</td>
<td>yes</td>
<td>yes</td>
<td>Mixed bacteria, absent or reduced lacto</td>
<td>yellow</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atrophic Vaginitis</td>
<td>&gt;5.0</td>
<td>likely</td>
<td>yes</td>
<td>Scant cells, few bacteria</td>
<td>Scant, dry</td>
</tr>
</tbody>
</table>

### Causes for Elevated Vaginal pH

- Menses
- Heavy cervical mucus
- Semen
- Ruptured membranes
- Hypoestrogenism
- Desquamative vaginitis
- Trichomoniasis
- Bacterial vaginosis
- Foreign body with infection
- Streptococcal vaginitis (group A)
A 49y.o. G4P2 presents for consultation of chronic vulvar pruritus and irritation. Her vaginal pH is 4.0.
Her most likely diagnosis is:

A. Trichomonas  
B. Candida glabrata  
C. Candida albicans  
D. Bacterial vaginosis
She is doing well for 12 months then returns with discomfort. A culture reveals Candida glabrata.

Candida glabrata responds best to:

A. Oral fluconazole
B. Boric acid per vagina
C. Intravaginal metronidazole
D. Terconazole (Terazole®)
Other Antifungals
Boric Acid

- Puratronic, 99.99995% (metals basic)
- Formula
  \[ \text{H}_3\text{BO}_3 \]
- Formula Weight
  61.83
- Form
  Crystalline Powder
- Melting Point
  170.9\(^{\circ}\)
- Merck Number
  11,1336
Candida Glabrata

- Low vaginal virulence
- Rarely causes symptoms, even when identified by culture
- Exclude other co-existent causes of symptoms and only then treat for C. glabrata

Does she qualify for the diagnosis of having recurrent Candida infections?

A. Yes
B. No
The definition of recurrent Candida infections requires a minimum of how many infections per year

A. 2  
B. 3  
C. 4  
D. 5  

Candida iphone app
Michael Lanham, MD

- Libby Edwards, MD
- Hope Haefner, MD
- Lynette Margesson, MD
- Duane Newton, PhD
- Jack Sobel, MD
- Colleen Stockdale, MD
- Paul Nyirjesy, MD
- Alpha testers
• Design of mobile application, including glossary of educational images and index of treatment options
• Functional application without need for frequent internet access – option in low-resource areas

Vulvovaginal Candidiasis

General information
Wet mount examples
Recurrent infections
Follow-up recommendations
Patient information

Vulvovaginal Candida Infections

Patients with vulvovaginal candida infections are seen in healthcare provider's offices regularly. There are over 11 million cases of vulvovaginal candidiasis infections annually in the United States. Candida albicans is the species that most often causes these infections. It is a dimeric fungus that forms both spores and mycelia. The second most common species to affect the vulvo-vaginal area is Candida glabrata. Rarely is vulvar candidiasis seen without concomitant vaginal candidiasis.

Symptoms/Signs

The main symptoms of candidiasis are itching, burning/brenting, and with urines, discharge, and vaginal soreness. Signs associated with candidiasis are rashes, fever, and abdominal pain, or vaginal discharge. The incidence of asymptomatic fungal vaginosis in the vagina is quoted as 7-12 percent. The asymptomatic patient does not require treatment at most times.

Diagnosis

To initially diagnose a patient with vulvovaginal candida infection, a pcr test of the vagina from the initial laboratory can be performed on the patient. Evaluation of the wet and dry stool tests placed in a small amount of normal saline will reveal a colony hyper or spores. Candida albicans is the most common form identified, followed by Candida glabrata.
Vulvovaginal Candidiasis

General information
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A wet mount preparation reveals spores of C. albicans which are uniform in size, isolated and almost always associated with hyphae filaments.
Diagnostic considerations

Cultures
Cultures should be obtained when symptoms are not explained on the wet prep or a patient presents with recurrent candidiasis.

Recurrent Candida
For patients with recurrent Candida infections (6 or more per year), a culture to identify the species of Candida is recommended. Sensitivity testing is rarely needed, unless the patient fails therapy.

Predisposing factors include uncontrolled diabetes mellitus, steroid use, tight-fitting clothing/synthetic underwear, antibiotic use, increased frequency of catch, "candy lingers", and AID use. Additionally, immune system alterations such as HIV/AIDS may be associated with higher incidence and greater persistence of yeast infections. C. glabrata and other non-albicans Candida species are observed in 20%-20% of women with recurrent vulvovaginal candidiasis.

For patients with recurrent Candida infections who are menopausal, consider glucose testing to rule out diabetes.

Treatment for recurrence

Yeast Culture/Speciation...
- Candida albicans
- Candida glabrata
- Candida krusei
- Candida parapsilosis
- Candida tropicalis
- Candida lusitaniae
- Trichosporon
- Saccharomyces
- Rhodotorula rubra
- Candida kefyr
- Kluveromyces...
### Treatment for recurrence

- **Yeast Culture/Speciation**
  - *Candida albicans*  
  - *Candida glabrata*  
  - *Candida krusei*  
  - *Candida parapsilosis*  
  - *Candida tropicalis*  
  - *Candida lusitaniae*  
  - *Trichosporon*  
  - *Saccharomyces*  
  - *Rhodotorula rubra*  
  - *Candida kefyr*  
  - *Kluyveromyces*  

### Oral

#### Fluconazole

- **Non-compounded**
- **Clotrimazole**
- **Miconazole**  
- **Nystatin**  
- **Compounded**  
- **Amphotericin B sulfa**  
- **Flucytosine**

#### Fluconazole

- Simple: 150 mg oral tablet, one tablet in single dose.
- Recurrence: 150 mg oral tablet every 3 days for three times, then 150 mg orally weekly for up to six months.

### Miconazole

- Miconazole 2% cream (Monistat 7®), place 1 applicatorful (100 mg) per vagina nightly for 7 nights.
- Miconazole 4% cream (Monistat 3®), 1 applicatorful (200 mg) per vagina nightly for 3 nights.
- Miconazole vaginal (Monistat 1®) place one suppository (1200 mg) per vagina nightly for 1 night.
- Miconazole (Monistat 3®), one suppository (200 mg) per vagina nightly for 3 nights.
Vulvovaginal candidiasis Patient information

PATIENT INFORMATION
What are the symptoms of Candida (yeast) infection?
These are the symptoms of vaginal candidias infection:
- genital itch - this is the most common symptom of thrush; itching is especially worse before your period;
- soreness or burning inside (in the vagina) during or after sex;
- abnormal discharge - that can be thick and white or sometimes it can seem normal;
- a change in the smell of your vaginal secretions;
- redness and inflammation of the outside (vulva);
- soreness or discomfort on urination (peeing);
- pain - particularly if the infection occurs a number of times or hasn’t been treated properly; and
- small white spots on the vaginal wall or curds in the discharge.

How is it diagnosed?
A diagnosis of vaginal Candida infection is often made based on a number of things including your symptoms, physical examination, examination of vaginal secretions under the microscope and vaginal culture. However, there are many other conditions of the vagina and vulva that have symptoms in common and even associated with Candida, so if there is doubt about the diagnosis, or when it is recurrent, it is essential that your healthcare provider takes a vaginal swab for laboratory testing before treatment is started.
A 45 y.o. G2P1 presents with complaints of vulvar pruritus. It awakens her at night. A yeast culture was negative. She has been intermittently treated without success with Class 1 topical steroids for over a year.
Your Diagnosis Is?

A. Lichen sclerosus
B. Lichen simplex chronicus
C. Hidradenitis suppurativa
D. Lichen planus
**Lichen Simplex Chronicus (LSC)**

End stage of the itch cycle

Itch ➔ Scratch ➔ Itch

Worse with heat, humidity, stress and irritants

**Scratching feels so good**

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**Stop Itch Scratch Itch Cycle**

Confirm diagnosis – biopsy?
Control infection (cefadroxil, fluconazole)
- Stop irritants
- Educate patient
- Send for Patch Testing if not improving

- Cool sitz baths/gel packs
- Sedate – doxepin or hydroxyzine or amitriptyline PM, consider fluoxetine AM dependent on other medications
- Topical superpotent steroids - clobetasol 0.05% oint bid x 2 wks, OD x2 wks, MWF x 2 wks
- Severe – oral prednisone taper (40 mg po q am x 5 days, then 20 mg po q am x 10 days) or IM triamcinolone 1mg/kg up to 80 mg/dose
Treatment Tips LSC

For recurrent infection:
Swab skin folds and nose for C&S to identify organisms
- R/O MRSA, Candida

To prevent recurrent infections -
Bleach Baths - 2-3 times a week for 5-7 min
Tub -½ cup bleach in 10” water
Sitz bath -1 ¼ teaspoons of bleach per gallon of water (4 liters)
Summary

When patients do not respond to therapy
  – Reconsider the diagnosis
  – Check for infection - fungal, bacterial, HSV
  – Consider contact dermatitis to a medication, over washing, etc.
  – Evaluate for pre-cancer or cancer
If in Doubt, Cut it Out