OBJECTIVES

1. Identify clinical features of a spectrum of vulvovaginal diseases

2. Establish therapeutic strategies for a variety of vulvovaginal diseases
Written Information Available:

University of Michigan Center for Vulvar Diseases

http://www.uofmhealth.org/medical-services/Vulvar-Diseases
University of Michigan Center for Vulvar Diseases

There are many reasons for seeing a vulvar disease specialist. At the University of Michigan Center for Vulvar Diseases, treating the pain is only part of the solution. Our multidisciplinary approach at ensures that women receive total care, from cutting-edge treatment options to education and counseling to meet every individual's needs.

The Center for Vulvar Diseases was created in 1993 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 resistant 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 irritation. 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 a virus, the human papilloma virus (HPV)
- Hidradenitis suppurativa— a disease of the armpits and vulva, with pus filled pockets of fluid
- Bartholin cysts— fluid filled cysts at the base of the entranceway
Published papers:

- The Vulvodynia Guideline (PDF)

Related Web Sites:

- National Vulvodynia Association
- International Society for the Study of Vulvovaginal Disease
- American Society for Colposcopy and Cervical Pathology
- Libby Edwards, M.D.
- American College of Obstetrics and Gynecology
- Centers for Disease Control and Prevention Treatment Guidelines
- UMH Center for Sexual Health

Lectures:

- Conquering Resistant Vulvovaginitis 2011 (PDF)
- Vulvodynia 2011
- Learn to Like the Lichens Lecture in San Francisco October (PDF)
- Vulvovaginal Diseases Summary 2011 (PDF)
- Vulvar Ulcers Diagnostic Algorithm 2011 (PDF)
- Your Diagnosis Is, January 2012 (pdf)
Lecture Outline
Benign Diseases of the Vulva

- Anatomy
- Infections
- Non-Neoplastic Epithelial Disorders
- Cysts and Tumors
Infections
Micropapillomatosis
Colposcopic Techniques

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

- Cryosurgery
- Laser ablation
- Topical acids
- Imiquimod
- Podophyllotoxin
- 5-Flurouracil
- Podophyllin
- Interferon
- Surgery
Symptoms

- Most - completely asymptomatic
- Itching or burning
- Irritation
- Dyspareunia
Brown
Note Perianal Involvement
VIN Histology

R Lieberman, MD collection
VIN Differentiated

Courtesy of M Preti, MD

Courtesy of T Wright, MD
Treatment of VIN

Wide local excision
Laser
Imiquimod (off label use)
Non-squamous Types (NOT INFECTIOUS)

- Paget's disease
- Melanoma in situ
Paget’s Disease

- Occurs most commonly on the nipple and areola, where its presence signifies an underlying adenocarcinoma of the breast
- Apocrine gland origin
- Red velvety area with white islands of hyperkeratosis and at times may be pinkish and eczematosid
Paget’s Disease
Workup

- History and PE
  - Symptoms include itching, burning
  - Signs include velvety appearance and bleeding
- Papanicolaou smear
- Mammogram
- Cystoscopy
- Colonoscopy
Differentiating Paget’s From Other Conditions

- Positive mucin as well as immunoperoxidase CEA staining can be used to differentiate Paget's disease from melanoma
  - Paget’s (mucin and CEA positive)
  - Melanoma (mucin and CEA negative)
Paget’s Disease

- Wide local excision (how far?)
30 y.o. G0 with vulvar lesions for several months
<table>
<thead>
<tr>
<th>Type</th>
<th>Synonym</th>
<th>Subfamily</th>
<th>Primary Target Cell</th>
<th>Pathophysiology</th>
<th>Site of Latency</th>
<th>Means of Spread</th>
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<tbody>
<tr>
<td>HHV-1</td>
<td>Herpes simplex virus-1 (HSV-1)</td>
<td>α (Alpha)</td>
<td>Mucoepithelial</td>
<td>Oral and/or genital herpes (predominantly orofacial), as well as other herpes</td>
<td>Neuron</td>
<td>Close Contact</td>
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<td></td>
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<td>simplex infections</td>
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<tr>
<td>HHV-2</td>
<td>Herpes simplex virus-2 (HSV-2)</td>
<td>α</td>
<td>Mucoepithelial</td>
<td>Oral and/or genital herpes (predominantly genital), as well as other herpes</td>
<td>Neuron</td>
<td>Close contact (sexually transmitted disease)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>simplex infections</td>
<td></td>
<td></td>
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<tr>
<td>HHV-3</td>
<td>Varicella Zoster virus (VZV)</td>
<td>α</td>
<td>Mucoepithelial</td>
<td>Chickenpox and shingles</td>
<td>Neuron</td>
<td>Respiratory and close contact</td>
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<td>HHV-4</td>
<td>Epstein-Barr virus (EBV), lymphocryptovirus</td>
<td>γ (Gamma)</td>
<td>B cells and epithelial</td>
<td>Infectious mononucleosis, Burkitt's lymphoma, CNS</td>
<td>B cell</td>
<td>Close contact, transfusions, tissue transplant, and</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>cells</td>
<td>lymphoma in AIDS patients, post-transplant lymphoproliferative syndrome (PTLD)</td>
<td></td>
<td>congenital</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>nasopharyngeal carcinoma, HIV-associated hairy leukoplakia</td>
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<tr>
<td>HHV-5</td>
<td>Cytomegalovirus (CMV)</td>
<td>β (Beta)</td>
<td>Monocyte, lymphocyte,</td>
<td>Infectious mononucleosis-like syndrome, retinitis, etc.</td>
<td>Monocyte,</td>
<td>Saliva</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>and epithelial cells</td>
<td></td>
<td>lymphocyte, and</td>
<td></td>
</tr>
<tr>
<td>HHV-6</td>
<td>Roseolovirus, Herpes lymphotropic virus</td>
<td>β</td>
<td>T cells and ?</td>
<td>Sixth disease (roseola infantum or exanthem subitum)</td>
<td>T cells and ?</td>
<td>Respiratory and close contact?</td>
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<tr>
<td>HHV-7</td>
<td>Roseolovirus</td>
<td>β</td>
<td>T cells and ?</td>
<td>Sixth disease (roseola infantum or exanthem subitum)</td>
<td>T cells and ?</td>
<td>?</td>
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<tr>
<td>HHV-8</td>
<td>Kaposi’s sarcoma-associated herpesvirus (KSHV),</td>
<td>γ</td>
<td>Lymphocyte and other</td>
<td>Kaposi’s sarcoma, primary effusion lymphoma, some Castleman’s disease</td>
<td>B cell</td>
<td>Close contact and saliva?</td>
</tr>
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</table>
Herpes: Diagnosis

- Clinical
- Virilologic tests
  - Culture
  - PCR
    - Sensitive, lab dependant
  - Antigen test
- Biopsy
- Cytology
  - Tzanck smears, Pap (multi-nucleated giant cells)
  - Neither sensitive nor specific
- Serology
Treatment of Herpes

- CDC STD Treatment Guidelines
  http://www.cdc.gov/std/treatment/
- Primary, Recurrent, etc.
- Acyclovir, Famciclovir, Valacyclovir
A 78 y.o. G5P5 is added on after her gynecologist calls you to say there is concern for a second patient in 3 months with intravascular histiocytosis.
Blackened tissue concerning for necrosis. Problems x 1.5 weeks. Vulva irritated and painful. Medications-Vicodin and Tramadol
Shingles (Varicella-Zoster)
Microbiology of Vulvovaginal Candidiasis  429 pts

- C. albicans  70.8 %
- C. glabrata   18.9 %
- C. parapsilosis  5.0 %
- C. krusei     2.0 %
- S. cerevisiae  1.5 %
- C. tropicalis  1.4 %
- C. lusitaniae  0.2 %
- Trichosporon sp.  0.2 %

Recurrent C. glabrata before treatment
Boric Acid

• Fill 0-gel capsule halfway (600 mg)
  – For treatment of acute infection; insert *per vagina* qhs x 14 days
  – For prevention of recurrence; insert *per vagina* twice weekly

KEEP AWAY FROM CHILDREN
Butoconazole Nitrate 2%

Bioadhesive and sustained release properties

Single dose

Efficacy rate equivalent to lengthier treatments
Nystatin

Can also be used for recurrent disease prevention
100,000 U per day per vagina for 3-6 months
Nystatin

Rachel Fuller Brown and Elizabeth Lee Hazen developed the drug in the 1950s
Gentian Violet

- Gentian Violet
  - 0.25 – 1% aqueous solution of aniline dye
  - Paint on mucous membrane weekly
  - Use 1% in office only
  - May cause ulceration
  - Safe in pregnancy
Erythematous / Irritated Vulva

- Rx with combination topical antifungal and steroid (nystatin/triamcinolone acetonide ointment)
Other treatments

- Amphotericin B vaginal suppositories
- Flucytosine and amphotericin B
Desquamative Inflammatory Vaginitis
Desquamative Inflammatory Vaginitis

Debra Birenbaum, MD collection
DIV Treatment

• 2% clindamycin cream (i applicator) per vagina qhs x 14

versus

• 25 mg cortisone suppository per vagina qhs x 14
Recurrent DIV or Resistant DIV

- Combine 2% clindamycin (i applicator) with one Anusol HC suppository (25 mg) per vagina every other night (it is easier for patients to use these agents together rather than alternate days).

- For difficult DIV: Hydrocortisone 100 mg/gram in clindamycin 2% emollient cream base. Insert 5 gram (applicator full) q.o.d. (at night time) x 14 doses. This needs to be made at a compounding pharmacy.
Recurrence/Maintenance

• Repeat successful regimen after verifying diagnosis
• May require long term Anusol HC suppository (25 mg or greater)
Lichen Sclerosus
Introduction

- Common chronic vulvar disease
- Inflammation present
- Prevalence 1 in 300 to 1 in 1,000
- Age range from childhood to elderly (bimodal distribution)
Lichen Sclerosus
Figure of Eight – Hour Glass
Whitening Fusion
Loss of Labia Minora
Treatment of Lichen Sclerosis

- Superpotent steroid ointment (clobetasol propionate 0.05%)
  - Twice daily in a thin, invisible film for 1 month then daily for two months
  - Maintain twice weekly Class 1
  - Decrease to Class IV steroid
Steroid Medications

Clobetasol propionate ointment 0.05%
Sig: apply to vulva bid x 1 month, then qd x 2 months
Disp: 30 gms

Triamcinolone acetonide ointment 0.1%
Sig: apply to vulva qd to bid
Disp: 80 gms

Consider decreasing gradually to triamcinolone acetonide ointment 0.025% qd to bid
Steroid Medications

- Oral steroids
  Prednisolone
  Prednisone
  Methyl prednisolone
- Rarely required
- Significant side effects

Occasionally intralesional or intramuscular steroids
Surgical Treatment

- Limited role (high rate of recurrence)
- Surgical division of mucosal adhesions helpful in clitoral phimosis, introital narrowing
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.
For Severe Itch-Scratch Cycle

Oral steroids (short term)
Cefadroxil 500 mg po bid x 7 days
Amitriptyline for few weeks (25 mg, increase to 50 mg if needed) vs.
Atarax (25 to 50 mg po qid prn)
White cotton gloves
Lichen Planus
Lichen Planus

- Autoimmune
- Histology and morphology resemble other hyperimmune conditions (GVH, lichenoid drug eruption)
- More difficult to treat than LS; may respond to immunosuppressive therapy
Lichen Planus

- Symptoms
  - Pruritus
  - Irritation
  - Rawness
  - Burning
  - Dyspareunia
  - Apareunia
Erosive Lichen Planus
Lichen Planus

• Diagnosis
  – Biopsy when indicated; often nonspecific
  – Biopsy white epithelium; otherwise the edge of an erosion
  – Consider immunofluorescent study
Lichen Planus

- **Treatment**
  - Intravaginal dilator
  - Topical corticosteroids
    - Hydrocortisone acetate suppositories (Anusol HC) 25 to 50 mg per vagina
    - or
    - Temovate ointment inserted per vagina
  - Taper
Tacrolimus

0.1% ointment
Apply bid to skin to qd
Lichen Planus
Other treatments

- Anti-inflammatory antibiotics
- Misoprostol
- Hydroxychloroquine (Plaquinil)
- Retinoids
- Cyclosporine

- Cyclophosphamide
- Azathioprine
- Etanercept (Enbrel)
- Mycophenolate mofetil (CellCept)
- Methotrexate
Vulvar Cysts and Tumors
Benign Mucous Cysts
Bartholin's Duct Cyst and Abscess and Lichen Sclerosus
Epidermal Inclusion Cysts
Vulvar Excisional Biopsy

Courtesy Dr. E.J. Mayeaux, Jr.