Dermatologic Vulvovaginal Conditions
Diagnosis and Treatment

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The University of Michigan Health System
Troy, Michigan    February 6, 2014

OBJECTIVES

1. Identify clinical features of a spectrum of vulvovaginal conditions

2. Establish therapeutic strategies for a variety of vulvovaginal conditions
Disclosures/Conflicts of Interest

Hope K. Haefner, MD is on an advisory board for Merck Co., Inc.

Website with Written Information

http://obgyn.med.umich.edu/patient-care/womens-health-library/vulvar-diseases

Google University of Michigan
Center for 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 vulvar disease is only the first step. Our multidisciplinary approach at Mott Children's Hospital, providing comprehensive care from cutting-edge treatment options to education and counseling to meet every patient's needs.

The Center for Vulvar Diseases was created in 1995 to better serve and treat women with diseases of the external genitalia. Our goal is to provide the best care possible, making the Center the referral center for patients across the state.

The team approach allows us to provide a higher intensity of care and expertise to women who have already demonstrated a resistant and chronic lesion 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 (VIN)—a precancerous condition, often associated with a virus, the human papillomavirus (HPV)
- Intraepithelial neoplasia—disease of the squamous and vault, which may be caused by HPV
- Bartholin cysts—fluid-filled cysts at the base of the hymen

Published papers:
- The Vulvodynia Guideline (PDF)

Related Web Sites:
- National Vulvodynia Association
- International Society for the Study of Vulvovaginal Disease
- American Society for Cervical and Vaginal Pathology
- Liter Edwards, M.D.
- American College of Obstetrics and Gynecology
- Centers for Disease Control and Prevention Treatment Guidelines
- MSU Center for Sexual Health

Lectures:
- Conquering Resistant Vulvovaginitis (PDF)
- Vulvodynia 2011
- Learn to Like the Lupras Lecture, Hawaii, April 2012 (PDF)
- Learn to Like the Lupras Lecture, Hawaii, April 2012 (written text) (DOC)
- Vulvovaginal Diaries Summary 2011 (PDF)
- Vulvar Ulcers Diagnostic Algorithm 2011 (PPT)
- Vulvar Ulcers Diagnoic Algorithm 2011 (DOC)
- Your Diagnosis is June 2012
Illustrator Dawn Danby

Colposcopy
Magnification

Bausch and Lomb
2 x magnification
Part 81-33-05
www.opticsplanet.net

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
Clinical Pitfalls of Vulvar Colposcopy

- Acetowhiteness 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

Anesthesia

• 1% lidocaine
• 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/Silver nitrate

Vulvar biopsy 4 mm punch biopsy
Cervical biopsy instruments that can also be used for vulvar biopsy
Vulvar Excisional Biopsy

Infections
30 y.o. G0 with vulvar lesions for several months
Rank the following STD’s from lowest to highest prevalence in women in the US?

a. Syphilis, Trich, HPV, HSV
b. Syphilis, Trich, HSV 2, HPV
c. Trich, HSV2, HPV, Syphilis
d. HSV 2, Syphilis, HPV, Trich

Herpes
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

How many different types of herpes viruses can affect humans?

a. 2  
b. 4  
c. 8  
d. 80
HSV-1 vs. HSV-2

**HSV-1**
- Cold sores
- Trigeminal ganglia
- Typically 1/3 of new genital cases
- Causes ocular herpes, encephalitis, whitlow
- Does not protect against HSV-2

**HSV-2**
- Genital ulcers
- Lumbo-sacral ganglia
- Typically 2/3 of new genital cases
- Causes encephalitis
- Protects against HSV-1

Adapted from Zane Brown, MD, University of Washington

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**Genital Herpes—Initial Visits to Physicians’ Offices, United States, 1966–2011**

NOTE: The relative standard errors for genital herpes estimates of more than 100,000 range from 18% to 30%.
Patient Presentations
Genital Herpes

• Common Presentation
  – Fissures or erosions of vulva, scrotum, foreskin or perianal area
  – Cervicitis/proctitis
  – Dysuria
  – Discharge from urethra, vagina or rectum
  – Irritation of vulva, penis, scrotum or perianal area
  – Ulcers (painful or painless)
But...they can be ulcers
Herpes: Diagnosis

- Clinical
- Virologic tests
  - Culture
  - PCR
    - Sensitive
- Serology
- Biopsy
- Cytology
  - Tzanck smears, Pap
  - Multi-nucleated giant cells
  - Not sensitive nor specific
Situations to Consider Serology Testing

- Recurrent genital symptoms or atypical symptoms with negative HSV cultures
- Clinical diagnosis of genital herpes without laboratory confirmation
- Partner with genital herpes
- Persons presenting for an STD evaluation (especially for those persons with multiple sex partners)
- Persons with HIV infection
- MSM at increased risk for HIV acquisition

CDC STD Treatment Guidelines, 2010

Type-Specific HSV Antibody Testing: Interpreting Serology Results

<table>
<thead>
<tr>
<th>HSV-1</th>
<th>HSV-2</th>
<th>No Infection</th>
<th>Genital Herpes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>Negative</td>
<td>HSV-1 Negative</td>
<td>HSV-2 Positive</td>
</tr>
<tr>
<td>Positive</td>
<td>Positive</td>
<td>HSV-1 Positive</td>
<td>HSV-2 Positive</td>
</tr>
</tbody>
</table>

Uncertain Result

- Possible genital
- Possible oral

Genital Herpes +/-

- Oral Herpes

*Age-adjusted by using the 2000 U.S. Census civilian, non-institutionalized population aged 14-49 years as the standard.

NOTE: Error bars indicate 95% confidence intervals.

Treatments

2010 CDC STD Treatment Guidelines

Acyclovir
OR
Famciclovir
OR
Valacyclovir
HSV Suppressive Therapy

- Generally considered when > 6 outbreaks ????/year, but there are exceptions
- Quality of life is improved in many patients with frequent recurrences who receive suppressive therapy rather than episodic treatment

HSV Suppressive Therapy

- Discordant couples
- Multiple partners
- Pregnant at 36 weeks
- Patients bothered by outbreaks

Asymptomatic shedding - but still present!
HSV and HIV

- HSV 2 infection increases the potential for HIV infection and transmission

What’s New?
Reversal of genital HSV-1/HSV-2 ratio

- HSV-1 is increasing in all age groups
- New primary genital infections in young women are more likely HSV1 than HSV2
- HSV-1 does not protect from HSV-2
• Virus with a bad reputation
• Suppression doesn’t eliminate HSV transmission
• No vaccine for humans…yet

Herpes
Additional Resources

• United State Herpes Support Groups
  – http://www.whathealth.com/genitalherpes/supportgroups-us.html
• i4h DatingWithH - Herpes (HSV), Genital Warts (HPV)
  – http://ca.datingwithh.com/Links/index.htm
• American Social Health Association
  – www.ashastd.org
• CDC www.cdc.gov
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
Microbiology of Vulvovaginal Candidiasis  429 pts

<table>
<thead>
<tr>
<th>Yeast Species</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. albicans</td>
<td>70.8 %</td>
</tr>
<tr>
<td>C. glabrata</td>
<td>18.9 %</td>
</tr>
<tr>
<td>C. parapsilosis</td>
<td>5.0 %</td>
</tr>
<tr>
<td>C. krusei</td>
<td>2.0 %</td>
</tr>
<tr>
<td>S. cerevisiae</td>
<td>1.5 %</td>
</tr>
<tr>
<td>C. tropicalis</td>
<td>1.4 %</td>
</tr>
<tr>
<td>C. lusitaniae</td>
<td>0.2 %</td>
</tr>
<tr>
<td>Trichosporon sp.</td>
<td>0.2 %</td>
</tr>
</tbody>
</table>

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

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
?
Infectious-UNKNOWN CAUSE(S)

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)
Micropapillomatosis
NOT INFECTIOUS

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

<table>
<thead>
<tr>
<th>Cryosurgery</th>
<th>5-Flurouracil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser ablation</td>
<td>Podophyllin</td>
</tr>
<tr>
<td>Topical acids</td>
<td>Interferon</td>
</tr>
<tr>
<td>Imiquimod</td>
<td>Surgery</td>
</tr>
<tr>
<td>Podophyllotoxin</td>
<td></td>
</tr>
<tr>
<td>ISSVD 1986</td>
<td>ISSVD 2004</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>VIN 1</td>
<td>Flat condyloma or HPV effect</td>
</tr>
<tr>
<td>VIN 2</td>
<td>VIN, usual type a.VIN, warty type</td>
</tr>
<tr>
<td>VIN 3</td>
<td>b.VIN, basaloid type c.VIN, mixed (warty/basaloid) type</td>
</tr>
<tr>
<td>Differentiated VIN</td>
<td>VIN, differentiated type</td>
</tr>
</tbody>
</table>

**Increasing Incidence of HSIL (VIN)**

- Heightened awareness of neoplasia
- Increased tendency to perform biopsies
- Commonly associated with other lower genital tract neoplasias (anus, vagina, cervix) and/or carcinomas
- More women are being diagnosed at a younger age
Symptoms

Most - completely asymptomatic
Itching or burning
Irritation
Dyspareunia

Signs

No typical gross appearance
Gray-white
HSIL (VIN) warty

T Wright, MD

Brown
Red Can be Confused with Lichen Planus or Nonsquamous VIN (Paget)

• HSIL (VIN) has a variety of patterns and over a variety of specific areas on the vulva

Present on entire vulva
VIN Differentiated

T Wright, MD

AIN
**Anal Cytology: Technique**

Use moistened Dacron swab or Cytobrush
Insert into canal until resistance is not met (above ano-squamocolumnar junction)
   - Above anal verge to distal rectum (3-4 cm)
Rotate/apply pressure to walls of canal while removing sampling device (bends)
   - Slowly (count to 10)
Notify Pathology (Cytology) Department
Anal Intraepithelial Neoplasia (AIN 2,3)
HSIL (Vulvar Intraepithelial Neoplasia)

Natural history if untreated:

HSIL can regress, persist, progress

One long-term follow-up study

7 of 8 untreated VIN 3 developed CA (took 7-18 years to progress)

HPV-associated HSIL: Risk of Progressive Disease

- Untreated HSIL (VIN 2,3) → significant invasive potential
  - Particularly in women over 30\(^{(1)}\)

- Untreated VIN progression to invasive cancer ≥10% per year
  - Only about 2% for CIN 3\(^{(2)}\)

- Lifetime risk of invasive vulvar cancer after treatment for HSIL (VIN 2,3) = 3% to 4%
  - Only 0.3% to 0.4% for CIN 3\(^{(1)}\)


HGSIL Progression to SCC\(^{(1)}\)
(from PALGA, the Nationwide Netherlands Database of Histo- and Cytopathology)

- Progression to SCC over 14 years, treated patients
  - 5.7% of 1826 patients with HPV-associated VIN
  - 32.8% of 67 patients with VIN differentiated

- Median time from VIN dx to SCC dx
  - 41.4 mos for HPV-associated VIN
  - 22.8 mos for VIN differentiated

HSIL

Acceptable treatment modalities:

- Surgical excision
- Laser ablation
- Electrosurgical excision
- Possibly - treatment with imiquimod

Margins and Depth

Vulvar Intraepithelial Neoplasia

- Margins
- Depth
  - Hair bearing areas to 2.7 mm
  - Non-hair bearing = 0.1 to 1.9 mm
    (average = 0.5 +/- 0.2 mm)
VIN III Recurs After Treatment
(mean follow-up 39 months)

![Graph showing recurrence rate for different treatments](image)

No statistically significant differences between groups

Recurrence Rate

Vulvectomy Partial Vulvectomy Local Excision Laser Vaporization

Treatments

Recent double blind, randomized studies with topical imiquimod (use same dosing as for condyloma)

Topical imiquimod can reverse vulvar intraepithelial neoplasia:

A randomised, double-blinded study
Ole Mathiesen, Sanne K. Buus, Marie Cramers
Gynecologic Oncology 107 (2007) 219–222
Other Treatments

Green Tea Extract and VIN?

Veregen and Polyphenon E
Stop Smoking!
Differentiated VIN is diagnosed infrequently compared to HSIL (Usual VIN)

- Differentiated VIN: 4%
- Usual VIN: 96%

(of solitary lesions)

European Journal of Cancer. 2009;45: 851-856
**Vin Differentiated**

Acceptable treatment modality:

Surgical excision

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**Follow-up**

- Recommended that patients receive close follow-up
Non-Squamous Types (Not Infectious!)

- Paget disease
- Melanoma in situ

A 79 y.o. G2P2 complains of a vulvar sore and itching that started 1 year ago. A biopsy is performed.
Which treatment do you recommend as her initial therapy?

- Triamcinolone acetonide ointment
- Laser therapy
- Wide local excision
- Radical vulvectomy
What is the rate of Paget disease of the vulva being associated with an underlying adenocarcinoma?

a. 1% - 25%
b. 26% - 50%
c. 51% - 75%
d. 76% - 100%

Differentiating Paget From Other Conditions

Positive mucin as well as immunoperoxidase CEA staining can be used to differentiate Paget disease from melanoma

Paget (mucin and CEA positive)
Melanoma (mucin and CEA negative)
Paget’s Disease

+immunoperoxidase CEA

+mucin

Photo courtesy of R. Lieberman, MD

Melanoma

Photo is courtesy of R. Lieberman, MD
### Paget 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 eczematoid

### Paget Disease

**Workup**

<table>
<thead>
<tr>
<th>History and PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms include itching, burning (soreness)</td>
</tr>
<tr>
<td>Signs include velvety appearance and bleeding</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Papanicolaou smear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammogram</td>
</tr>
<tr>
<td>Cystoscopy</td>
</tr>
<tr>
<td>Colonoscopy</td>
</tr>
</tbody>
</table>
Paget Disease Treatment

Wide local excision (how far?)

Recurrence

Laser
Excision
Topical treatments
A 29 y.o. G4P4 is referred to you by a dermatologist for pigmentation on her vulva. A biopsy has revealed a compound nevus with slight atypia.
What treatment do you recommend?

a. Wide local excision(s)
b. Laser
c. Radical vulvectomy
d. No treatment. Observation only.

Is there a Need for Skin Grafts with Squamous and Nonsquamous VIN?
15-year-old girl who had sudden onset of dysuria and severe vulvar burning.

She was feeling tired.

She has a cough, a low-grade fever and malaise.

Her doctor diagnosed acute HSV and started her on acyclovir and sent her to be seen by you. This is day 3.
Aphthous Ulcers
Canker sores on the vulva
Acute painful ulcer(s) of sudden onset
Common as acute reactive ulcers
in younger patients - often missed

Synonyms:
- Ulcus vulvae acutum
- Lipschütz ulcers
- Reactive nonsexually related acute genital ulcers*


Aphthous Ulcers: Pathogenesis

-Cause is unknown - Idiopathic -90% Secondary 10%

-Genetic factors: positive family history in some cases

-Infections may trigger aphthae; but most likely do not directly cause the lesions

-Hypothesis: microbial antigens, by way of molecular mimicry, induce an autoreactive (autoimmune) process
- Average age is 14 (9-19) yrs
- Sudden onset
- Usually multiple, painful, well demarcated punched-out ulcers
- Size: most <1cm; can be 1-3 cm
- Prodrome - flu-like with mild fever, headache, malaise
- Duration 1-3 weeks, can last months
- One episode, less common recurrent
- Past history of oral aphthae – canker sores

Rarely Behcet’s in North America

Aphthous Ulcers

**Acute** (more common)
- usually a prodrome - fever, headache, malaise, GI upset
- EBV, Mycoplasma pneumoniae, viral upper respiratory infection
  - or gastroenteritis, influenza, Strep, CMV

**Recurrent /Complex** (recurrent oral and genital aphthae)
Inflammatory Bowel disease - Crohn’s, Ulcerative colitis, Celiac disease
Behcet’s disease
Medications – cytotoxic, NSAIDs
Myeloproliferative disease, cyclic neutropenia, lymphopenia
HIV

** Syndromes** – rare
PFAPA – periodic fever, aphthae, pharyngitis, adenitis
MAGIC – mouth and genital ulcers with inflamed cartilage
Evaluation Vulvar Aphthae

Thorough history and physical – eye, oral, genital

Lab tests –
- CBC, diff
- Serology for HSV, HIV, EBV, syphilis, CMV, *Mycoplasma pneumoniae*
- Influenza – swab PCR
- HSV - swab for PCR
- For Strep -throat swab and antistreptolysin O titre
- Tests as indicated for – RARE- paratyphoid and typhoid (stool, blood, culture), TB enterocolitis, Yersinia

GI investigations –
for inflammatory bowel disease and celiac disease

Diagnosis of exclusion – etiology often not found
Vulvar Aphthae – Therapy

Pain control – topical, systemic

Prednisone 40 – 60 mg each morning, until pain resolves (3-5 days, then ½ dose 3-5 days)

Educate -Most often a one-time event, can recur

If not controlled:
- Intralvesional triamcinolone (Kenalog 10) 5-10 mg/ml
- colchicine 0.6 mg bid-tid if tolerated
- dapsone 50-150 mg per day
- dapsone + colchicine
- pentoxyfylline 400 mg tid
- cyclosporine 100 mg 1-3/d
- thalidomide 100-150 mg per day
What is a lichen?

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)
Clinical Findings
Symptoms

• Often asymptomatic
• Most common symptom is pruritus
  – Can be severe, intolerable
  – Can interfere with sleep
  – Pruritus ani

Other Symptoms

• Burning
• Soreness
• Dysuria
• Dyspareunia
• Apareunia
• Pain with defecation
• Constipation (children)
Signs

- Hypopigmentation
- Ivory white papules or plaques
- Cigarette paper appearance
- Cellophane-like sheen to surface
- Hour glass-figure of eight appearance
- Patchy or generalized
  - Vulva, perineum, perianal
  - No vaginal involvement

Signs
Secondary Changes

- Fusion of labia minora
- Scratching yields open areas causing erosions
- Urinary retention
- Tearing
Figure of Eight – Hour Glass

Whitening Fusion
Loss of Labia Minora

Clitoral Changes
Histopathology

- Thinned epidermis +/- hyperkeratosis
- Band of homogenized collagen
- Lymphocytic infiltrate under the band

Extragenital Involvement

- Neck
- Shoulders
- Axillae
- Under breasts
- Flexor aspects of wrists
- Scalp
- Palms
- Soles
- Acrochordons
Extragenital Involvement

Lichen Sclerosus Treatments

General Care Measures
- Bland emollients
- 100% cotton underwear
- Avoid tight, occlusive clothing
- No soaps to the vulva
Treatment of Lichen Sclerosus

- 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 1VERSUS
  - 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
**Tacrolimus**

0.1% ointment
Apply to skin bid to qd

---

**Steroid Medications**

- Oral steroids
  - Prednisolone
  - Prednisone
  - Methyl prednisolone
- Rarely required
- Significant side effects
  - Occasionally intralesional or intramuscular steroids
Less Common Treatments
Systemic Therapy

- Retinoids
- Potassium para-aminobenzoate (Potoba®)
  - Inhibition of glycosaminoglycan secretion by skin fibroblasts
- Antimalarial agents (chloroquine)
  - Oral or intralesional

Intralesional Triamcinolone

Mazdisnian F, Degregorio F, Mazdisnian F, Palmieri A.
Intralesional injection of triamcinolone in the treatment of lichen sclerosus.
Intramuscular Steroid Injections

- Triamcinolone acetonide intramuscular
- 1 mg/kg up to 80 mg IM
- This can be repeated monthly up to 3 total doses to get a severe condition under control
Injections

Bupivacaine (0.25% or 0.5%) and Triamcinolone acetonide

Draw up Triamcinolone acetonide first (10 mg/cc vs 40 mg/cc) (can use up to 40 mg steroid in single dose per month) HOWEVER NEED TO ASSESS AREA

Combine with Bupivacaine (large area use 0.25%; small area use 0.5%)

Can be repeated monthly
Consider intramuscular steroids (gluteus)
Surgical Treatment

- Limited role (high rate of recurrence)
- Surgical division of mucosal adhesions helpful in clitoral phimosis, introital narrowing
DO NOT DO THIS ON LICHEN PLANUS PATIENTS IN CLINIC!

Pediatric Lichen Sclerosus

- Treatment: superpotent to midpotency steroids, with maintenance
- Long term follow-up
- Biopsy not necessary
63 year old woman is referred for consultation for vulvar pain, irritation and a non healing lesion. She’s known to have lichen sclerosus, treated with both topical and IM steroids, tacrolimus, estrogen cream and various other medications.

She’s been also diagnosed with GI Crohn’s disease, treated with Imuran.
She had biopsies taken several times, the most recent is 5 months prior to her visit to see you. Biopsies from the vestibule, lower vaginal wall and right labium minus revealed spongiosis with hyperkeratosis and hypergranulosis with squamous atypia and underlying chronic inflammation. Several areas appeared reactive and were felt to represent a chronic eczematous process or cutaneous reaction to the underlying Crohn's disease.
Invasive squamous cell carcinoma; depth of invasion is at least 4mm. Carcinoma extends to multiple specimen edges on all three biopsies.
Take home messages:
   Don’t forget to listen to your patients and touch.
   Don’t hesitate to re-biopsy if the results are not consistent with the whole picture.
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

Intramuscular Steroid Injections

Triamcinolone acetonide intramuscular
- 1 mg/kg up to 80 mg IM
- This can be repeated monthly up to 3 total doses to get a severe condition under control
Lichen Planus

- Symptoms
  - Pruritus
  - Irritation
  - Rawness
  - Burning
  - Dyspareunia
  - Apareunia
Non-erosive LP
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
Lichen Planus
Other treatments

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

- Cyclophosphamide
- Azathioprine
- Etanercept (Enbrel)
- Mycophenolate mofetil (CellCept)
- Methotrexate
Lichen Sclerosus
Lichen Planus and
Vulvar Pain

Tricyclic antidepressants
Anticonvulsants
Physical Therapy
Sexual counseling
Lichen Sclerosus
Lichen Planus

Topical estrogen cream useful in menopausal women

LS LP
Patient Education Needs

Adequate lubrication
Vulvar self examination
Vaginal dilation for LP patients (and some LS patients)
Split Thickness Skin Grafts

One procedure
– Vulvar intraepithelial neoplasia
– Paget
– Cancers

Two procedures
– Hidradenitis suppurativa

Paget’s Disease
Split Thickness Skin Grafts
4 Months Post Op Grafts

2 Years After Surgery
Extensive Hidradenitis vs. Crohn’s

Recent Admission 2 Years Later
Full Thickness Skin Grafts
Full Thickness Skin Grafts
Vulvar Cysts and Tumors

Benign Mucous Cysts
Skene’s Duct Cyst

Bartholin's Duct Cyst and Abscess and Lichen Sclerosus
Epidermal Inclusion Cysts

Dermatologic Vulvovaginal Conditions
Diagnosis and Treatment