Diagnosis and management of genital pruritus in women

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DISCLOSURE OF RELATIONSHIPS WITH INDUSTRY

Rachel Kornik, MD
Women’s Health Therapeutic Hotline

DISCLOSURE
Discuss off label treatment
DISCLOSURE OF RELATIONSHIPS WITH INDUSTRY

[Name]

[Session Number and Presentation Title]

DISCLOSURES

[List companies, relevant relationships, compensation]
Genital pruritus is complex

• Anatomy is challenging
  • Stratified squamous and modified mucosal epithelium in close proximity
  • Friction/maceration changes morphology
• Broad differential
• Often multifactorial
• Emotionally distressing
  • Impact on personal relationships
  • Taboo subject
Objectives

• **Diagnosis**
  - Generate a differential diagnosis for vulvar itching
  - Describe morphology of most common conditions (contact dermatitis, lichen sclerosus and lichen simplex chronicus)

• **Management**
  - Counsel patients on appropriate vulvar care
  - Describe treatment strategies and iatrogenic effects
  - Recognize neuropathic pruritus
## Causes of vulvar pruritus

<table>
<thead>
<tr>
<th>Inflammatory</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lichen sclerosus</td>
<td>• Irritant contact dermatitis</td>
</tr>
<tr>
<td>• Lichen planus</td>
<td>• Allergic contact dermatitis</td>
</tr>
<tr>
<td>• Psoriasis</td>
<td></td>
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<tr>
<td>• Atopic dermatitis</td>
<td></td>
</tr>
<tr>
<td>• Graft-versus-host disease</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Neoplastic</th>
<th>Neuropathic</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Vulvar epithelial neoplasia and squamous cell carcinoma</td>
<td>• Post herpetic</td>
</tr>
<tr>
<td>• Verrucous carcinoma</td>
<td>• Diabetic neuropathy</td>
</tr>
<tr>
<td>• Extramammary Paget’s disease</td>
<td>• Lumbosacral arthritis</td>
</tr>
<tr>
<td>• Syringomas</td>
<td>• Spine injuries/surgeries</td>
</tr>
<tr>
<td>• Condylomas</td>
<td>• Pudendal neuralgia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Infections</th>
<th>Hormonal</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Candidiasis</td>
<td>• Atrophic vaginitis</td>
</tr>
<tr>
<td>• Bacterial vaginosis</td>
<td></td>
</tr>
<tr>
<td>• Dermatophytosis</td>
<td></td>
</tr>
</tbody>
</table>

| Infestations | |
|--------------| |
| • Pediculosis pubis and corporis | |
| • Scabies | |
| • Pinworms | |

Adapted from Chibnall, R. Vulvar pruritus and lichen simplex chronicus. Obstet gynecol clin 2017
Vulvar Epithelium

Keratinized surface → Ectoderm

- Mons, labia majora: Sebaceous glands, hair follicles, sweat glands
- Associated diseases: psoriasis, atopic dermatitis, contact dermatitis, lichen simplex chronicus

- Outer third of labia minora: lacking hair follicles and sweat glands
- Associated disease: lichen sclerosus

Non-keratinized → Endoderm

- Inner third of labia minora
- Lack of stratum corneum which acts as barrier
- Less lipid barrier
- Associated disease: erosive diseases: lichen planus, GVHD

- Vaginal vestibule = Mucosa
- Associated disease: erosive diseases, GVHD

Farage A. & Maibach H. The vulvar epithelium differs from the skin: implications for cutaneous testing to address topical vulvar exposure. Contact Dermatitis 2004

http://humansanatomy.com/2013/11/28/vagina-anatomy/
Contact dermatitis

Acute: erythema, edema, itching, burning, vesicles and erosions

Photo courtesy of Lynnette Margesson MD.

Chronic: erythema, hyper or hypo pigmentation, lichenification, excoriations, variable scale

Schlosser B. Contact dermatitis of the vulva. Dermatol clin 2010
Factors that Contribute to Contact Dermatitis

- Occlusion/maceration – facilitates penetration of external agents
- Friction
- Unique exposures (body fluids and personal care products, menstrual products)
- Hygiene practices
- Estrogen deficiency?
### Common Irritants

<table>
<thead>
<tr>
<th>Type</th>
<th>Products/Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygiene</td>
<td>Frequent washing, soaps, wash cloths, loofahs, wipes, bath oil, bubbles, water</td>
</tr>
<tr>
<td>Laundry</td>
<td>Fabric softeners, dryer sheets</td>
</tr>
<tr>
<td>Menstrual care products</td>
<td>Panty liners, pads, scents or additives to retain moisture (Always brand)</td>
</tr>
<tr>
<td>OTC itch products</td>
<td>Products containing benzocaine (e.g. Vagisil)</td>
</tr>
<tr>
<td>Medications</td>
<td>Alcohols based creams/gels, TCA, efudex, imiquimod, topical antifungals</td>
</tr>
<tr>
<td>Heat</td>
<td>Hair dryers, heating pads</td>
</tr>
<tr>
<td>Body fluids</td>
<td>Urine, feces, menstrual blood, sweat, semen, excessive discharge</td>
</tr>
</tbody>
</table>

Thorstensen K., Birenbaum D. Recognition and management of vulvar dermatologic conditions: Lichen sclerosus, lichen planus and lichen simplex chronicus. JMWH. 2012
Schlosser B. Contact dermatitis of the vulva. Dermatol clin 2010
- Retrospective review of 90 patients that underwent patch testing for vulvar itch (2003-2010)
- 39% had relevant positive result
- Most common symptom reported was itch followed by burning and pain
- Pts with prior diagnosis of vulvar disease were more likely to have a positive (75% vs 66%, not statistically sig)
Most Common Allergens

- These may change over time with industry use of preservatives
- Top 5 allergens deemed relevant:
  1. Fragrance Mix 2%
  2. Balsam of Peru
  3. Benzocaine
  4. Fragrance Mix 8%
  5. Quaternium 15/ Terconazole

“Benzocaine will give you pain, Vagisil will make you ill!”

Photo courtesy of Lynette Margesson MD.

O’Gorman SM. and Torgerson RR. Allergic contact dermatitis of the vulva 2013;24(2):64-72.
Patch Testing in Vulvar Allergic Contact Dermatitis.
Trivedi, Megha; BS, BA; Woodruff, Carina; Kornik, Rachel; Botto, Nina


25 patients with vulvar itching referred to patch test clinic
16 patients had ACD (64%)

<table>
<thead>
<tr>
<th>Category (Number of Positives)</th>
<th>Allergen</th>
<th>Positives*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fragrances (17)</td>
<td>Hydroperoxide of linalool</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Fragrance mix I</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Fragrance mix II</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Hydroperoxide of limonene</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Hydroxycitronellal</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Cinnamic aldehyde</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Farnesol</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Jasmine</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Lyral (hydroxymethylpentylcyclohexene carboxaldehyde)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Oak moss</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Perfume mix</td>
<td>1</td>
</tr>
<tr>
<td>Metals (9)</td>
<td>Nickel/nickel sulfate hexahydrate</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Cobalt/cobalt chloride hexahydrate</td>
<td>3</td>
</tr>
<tr>
<td>Preservatives (8)</td>
<td>Methylisothiazolinone</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Sodium metabisulphite</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Formaldehyde</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Propylene glycol</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Iodopropynylbutyl carbamate</td>
<td>1</td>
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<tr>
<td>Surfactants (3)</td>
<td>Decyl glucoside</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Dimethylaminopropylamine</td>
<td>1</td>
</tr>
<tr>
<td>Medicaments (2)</td>
<td>Budesonide</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Bacitracin</td>
<td>1</td>
</tr>
<tr>
<td>Resin (1)</td>
<td>Colophony</td>
<td>1</td>
</tr>
<tr>
<td>Plants (1)</td>
<td>Sesquiterpene lactone</td>
<td>1</td>
</tr>
</tbody>
</table>

*Definite, probable, or possible relevance.
Associated conditions

• 56% of patients with vulvar ACD had a concomitant vulvar diagnosis
• lichen sclerosus -> the most common
• Followed by lichen simplex chronicus, atopic dermatitis, condyloma acuminatum, psoriasis, and Paget’s disease
• Don’t stop at one diagnosis if the patient is not responding

ACD Pearls

• Patients may not tell you everything they are applying or may be reluctant to stop favorite products

• Changing products may not eliminate the allergen (ex. formaldehyde releasers in many products)

• Intermittent exposure can lead to chronic dermatitis
  • 1 exposure every 3-6 weeks

• Allergen may be ectopic (shampoo, nail polish etc)

• Rarely oral consumption can lead to systematized contact reactions

• Stop all wipes, fragrances, botanicals

• Low threshold for patch testing

Lichen Sclerosus

- Scarring disorder commonly affecting the vulva
- Pathogenesis unknown but likely multifactorial
  - Autoimmune, genetics, environment
- Affects women of all ages, peak incidence in post – menopause
  - 1/3 of cases in women <50
- Prevalence is also not known but as high as 3% in 1 study
- 1.7% of gynecology all patients in general gynecology practice

Lichen Sclerosus: Clinical Clues

• Look for what’s missing
  • Loss of normal anatomical structures
  • Know your anatomy!
• Involves modified mucous membranes and perianal area and may spread to crural folds and upper thighs
• Spares mucosa
• Periclitoral edema
• White patches or pale skin
• Textural change (wrinkling, waxiness, hyperkeratosis)
• Fissures
• Melanosis
• Ulcerations/erosions may occur secondary to scratching of infection
Lichen Sclerosus: Early Findings

Vulvar Melanosis in LS

Ecchymosis

Treatment: lichen sclerosus

A double-blind, randomized prospective study evaluating topical clobetasol propionate 0.05% versus topical tacrolimus 0.1% in patients with vulvar lichen sclerosus

Deana Funaro, MD,a,b,d Audrey Lovett, MD,d Nathalie Leroux, MD,c and Julie Powell, MDd
Montreal, Quebec, Canada

• Study of 58 patients
• More patients achieved complete remission of clinical signs and sx on clobetasol
• More rapid improvement in sx with clobetasol
• Study time 3 months
Prospective longitudinal study of 507 women with biopsy proven LS

Topical therapy tailored to degree of hyperkeratosis but most pts used potent to ultrapotent topical steroids

Avg time to skin normalization – 4.9month (85%)
• No SCCs in compliant pts
• 7 pts who reported they were not compliant developed SCC or VIN
• Sx did not correlate with disease progression
  • Asymptomatic progression
• Superpotent topical steroid first-line therapy
  • If ineffective, limited data for further management
• Need regular follow up until stable then maintenance therapy
• Bi-annual follow-up
Managing recalcitrant disease

- Ensure compliance
- Consider an alternate diagnosis or concomitant condition (psoriasis, LP, infection)
  - Culture, scrape and re-culture
  - Candida, group B strep, staph, HSV
- Rule out contact dermatitis
  - Patch testing
- Re-biopsy to r/o VIN or SCC
- Add tacrolimus ointment
- Intralasonal Kenalog (2.5-10mg/ml)
- Consider a systemic agent
  - Acitretin
  - Methotrexate
  - Hydroxychloroquine?
- Laser therapy
- PDT

Kirtschig G. et al Evidence-based (S3) Guideline on (anogenital) Lichen Sclerosus. JEADV 2015
Lichen simplex chronicus

- LSC is a clinical description of the result of chronic rubbing and scratching
- May be triggered by an inciting event that has resolved
- Often associated with other pruritic conditions
- More common in atopics
- Careful consideration for neuropathic itch (sacral spinal compression, diabetic neuropathy, post herpetic)

Rimoin L. Female specific pruritis from childhood to menopause: clinical features, hormonal factors and treatment considerations. Dermatol ther 2013
Lichen Simplex Chronicus

• Clinical findings
  • Most commonly involves labia majora, may be unilateral or bilateral
  • Ill defined, erythematous plaques with lichenification
  • hyper or hypo pigmented
  • Angulated excoriations common
  • Hypertrophy of labia due to thickened skin
  • Signs may be subtle, look closely
LSC: Treatment

- Need to address both the skin barrier and behavioral component
- Rule out underlying cause of itch (yeast, irritant, other dermatosis, allergic contact dermatitis)
- Treat with mid to high potency topical steroids and consider antihistamine at night to break itch-scratch cycle
  - Hydroxyzine 10-30mg
  - ? Melatonin
- Refractory cases:
  - Intralesional kenalog (~5 mg/ml into thickest areas)
  - Tacrolimus ointment
  - Topical or oral doxepin
    - topical doxepin well absorbed and causes systemic sx
    - Use at night, to limited area
  - Mirtazapine
  - SSRIs

Side effects of topical steroids

• Atrophy – if used incorrectly
  • The modified mucous membranes are somewhat resistant to steroids
  • Rule of thumb: 30 g tube over 3 months (may last longer on maintenance)\(^1\)

• Stinging and burning
  • Switch to steroid without propylene glycol

• Infections
  • Candida, staph, group B strep, HPV, HSV

• Allergic contact dermatitis
  • Vehicle or steroid

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What if there are no skin changes?

• Neuropathic pruritus
  • Injury or dysfunction along the afferent itch pathway
    • Study by Rosen et al: 18 men, 2 women with anogenital pruritus
    • 16/20 patients with “idiopathic” anogenital pruritus had lumbosacral radiculopathy, representing nerve or nerve root compression at the level of L4 to S2
    • Often associated with back pain
  • Pudendal neuralgia
    • Pudendal nerve (S2-S4)
    • Provides sensation to the perineum, clitoris, ipsilateral labium majus and rectum

Rosen J. et. al. Diagnosis and Management of Neuropathic Itch. Dermatol Clin 2018
Neuropathic itch: Pudendal neuralgia

• Causes
  • childbirth, surgery, pelvic trauma, infection (HSV), chemoradiation

• Diagnosis
  • History: often burning, but can be itch, sx worse with sitting, unilateral, triggered by defecation, sensation of foreign body in rectum or vagina, pain worsens throughout the day
  • May have associated urinary complaints or dyspareunia
  • Imaging to exclude other causes (no imaging studies for diagnosis)

• Treatment
  • Pelvic floor physical therapy
  • Pudendal nerve block
  • Gabapentin

Khoder W. Pudendal neuralgia. Obstet Gynecol Cln N Am 2014
Pearls

- Vulvar itch is often multifactorial
  - Chip away at potential causes
  - Culture, scrape, re-culture, biopsy if necessary
- Look closely
- Educate your patients about appropriate vulvar skin care and how to use their treatments
- Eliminate contactants
  - Assess for incontinence
  - Only water or cetaphil/dove for sensitive skin
  - Vaseline or coconut oil as emollient
  - Use cotton pads/liners or silicone cups
  - No fragrance!
- Consider neuropathic itch
  - LSC without an underlying cause
  - No skin findings
Thank you

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