Vulvodynia and vestibulectomy
treatment of an important problem for
a gynecologist

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Case 1

• A 64 year old woman tells you that she has had constant bilateral vulvar burning and irritation over the past two years. Despite having changed to loose-fitting clothes, it has not improved. She has used a topical antifungal cream with no benefit. She is uncomfortable and frustrated. On examination of the vulva, there are no abnormal lesions, no erythema, no vaginal discharge, and no labial thinning or agglutunation. You are able to touch her skin without exacerbating the pain. A potassium hydroxide and wet-prep tests are negative for bacterial vaginosis, candida and trichomonas. You tell her that her condition is likely due to:

A) Contact dermatitis
B) Herpetic neuralgia
C) Vulvar atrophy
D) Vulvodinia
E) Vestibulodynia (vulvar vestibulitis)
Case 2

• A 22 year old women with the vulvar findings pictured, presents with continued dyspareunia. After months of treatment with vulvar steroid ointment and local anesthetic preparations, as well as pelvic floor physical therapy. She is extremely frustrated and wants to know what she can do to resolve her vulvar pain and dyspareunia. Her vestibul is tender when touched with a cotton-tipped swap, after touching her vestibul, her erythema worsens. The next best step in the management of her condition would be:

A) Vestibulectomy
B) Labioplasty
C) Asyclovir therapy
D) Testosterone ointment
E) Antihistamin therapy
Vulvodynia

• causes significant physical and psychological distress and impacts quality of life in women and their families

• 60% of women consulted 3 or more physicians in seeking a diagnosis, and 40% remained undiagnosed

• spontaneous remission has occurred in some women, but most have had multiple attempts with medical management without 100% resolution of symptoms
HISTORY

• 1880: excessive sensibility of the nerves supplying the mucous membranes of the vulva
• 1975: burning vulvar syndrome (ISSVD)
• essential vulvodynia, dyesthetic vulvodynia, vulvar vestibulitis syndrome, vulvar dysesthesia, provoked vulvar dysesthesias, or spontaneous vulvar dysesthesia
• 2003: generalized or localized, and then each type subdivided into provoked, unprovoked, or mixed (ISSVD)
• 2015:
  - **Vulvar pain caused by a specific disorder**
  - **Vulvodynia (persistent vulvar pain without an identifiable etiology)**
Vulvar pain caused by a specific disorder

- Infectious (e.g., recurrent candidiasis, herpes)
- Inflammatory (e.g., lichen sclerosus, lichen planus, immunobullous disorders)
- Neoplastic (e.g., Paget disease, squamous cell carcinoma)
- Neurologic (e.g., post-herpetic neuralgia, nerve compression or injury, neuroma)
- Trauma (e.g., female genital cutting, obstetrical)
- Iatrogenic (e.g., postoperative, chemotherapy, radiation)
- Hormonal deficiencies (e.g., genitourinary syndrome of menopause [vulvovaginal atrophy], lactational amenorrhea)

Vulvodynia-Vulvar pain of at least three months duration, without clear, identifiable cause, which may have potential associated factors

- Localized (e.g., vestibulodynia, clitorodynia) or generalized or mixed (localized and generalized)
- Provoked (e.g., insertional, contact) or spontaneous or mixed (provoked and spontaneous)
- Onset (primary or secondary)
- Temporal pattern (intermittent, persistent, constant, immediate, delayed)
Symptoms and Prevalence

• affects women of all age groups, from adolescence through menopause
• burning, stinging, rawness, itching, aching, soreness, or throbbing
  • constant, intermittent,
  • localized, or diffuse.
  • symptoms may occur during intercourse and exercise, or even while sitting or resting
Symptoms and Prevalence

- dyspareunia (71%)
- *history of recurrent yeast infection* (64%)
- vulvar burning (57%), vulvar itching (46%)
- problems with sexual response (33%)
Symptoms and Prevalence

• The prevalence of vulvodynia is approximately 8.3% to 16.0%

• economic burden and quality of life for women with

• 6 months over $8,800.00

• the annual national cost = $31 to $72 billion in the United States
Etiology

• The cause of vulvodynia is unknown.
  • embryonic derivation
  • chronic inflammation
  • genetic immune factors
  • nerve pathways
  • abnormal response to environmental factors (eg, infection, irritants, trauma)
  • hormonal changes
  • human papilloma virus
  • oxalates
Pathophysiology

- chronic disorder of the nerves that supply the vulva
- nerve fiber proliferation or neural hyperplasia
- chronic inflammation after a trigger factor
  
  - *normal sensations are perceived as abnormal*
Comorbidities with Psychological Diagnosis and Chronic Pain Conditions

- interstitial cystitis
- Irritable bowel syndrome
- chronic fatigue syndrome
- fibromyalgia, and vulvodynia
  - 27% positive for multiple conditions

- The chronic nature of vulvodynia can negatively affect a woman’s self-image and lead to psychological disorders, such as depression and anxiety
  - Vulvodynia is not considered a psychopathological condition
  - >50% of women report depression and/or anxiety as a presenting symptom
  - sexual, psychological, and relationship problems
Evaluation and Physical Examination

• comprehensive medical history
• any association of life changes, stressors
• new medical conditions
• childbirth and lactation
• menopausal status
• surgeries
• previous failed therapies
• Identification of possible contact irritants
  • scented detergents, soaps, and over-the-counter feminine hygiene products
Evaluation and Physical Examination

• the vulva should be inspected for any abnormalities
  • dermatoses
  • recurrent vaginitis, herpes simplex virus, desquamative inflammatory vaginitis
  • Premalignant or malignant conditions (biopsy or colposcopy)

• erythema on the vestibule is a typical finding
Evaluation and Physical Examination

• speculum examination
• wet mount analysis
• vaginal pH
• yeast culture
• gram stain, PCR
• vulvoscopy
• biopsy
• test for vaginismus
  • pressure with a gloved finger should be applied to the levator ani and obturator internus muscles.
Figure 1. Cotton swab testing. Cotton swab testing starts on the thighs, followed by the labia majora and interlabial sulci.
Evaluation and Physical Examination
Figure 3. Palpation of the pubovaginalis portion of the levator ani. This assessment technique also can be applied as treatment, with the test position held for 30 seconds. (Reprinted from Prendergast SA, Weiss JM. Screening for musculoskeletal causes of pelvic pain. Clin Obstet Gynecol 2003;46:773–82.)

TREATMENT
Management Goals

• presents management challenges for clinicians and patients
• symptom resolution is not often a realistic outcome
• primary goals
  • symptom reduction
  • improvement in quality of life and sexual function
  • return to activities of daily living
• no single cause no single treatment
TREATMENT

• most available evidence for the treatment of vulvodynia is based on clinical experience, descriptive studies, or reports of expert committees.

• Few randomized controlled trials have been conducted of vulvodynia treatments.

• Vulvodynia is a complex disorder that is difficult to treat, and rapid resolution is unusual, even with proper treatment.

• A decrease in pain may take weeks to months and may not be complete.

• No single treatment is successful in all women.
TREATMENT
Steps

• Self-management strategies
• Pharmacologic agents, as tolerated in increasing dosages
• Nonpharmacologic approaches are equally important
• Surgery

• INDIVIDUALIZATION
Self-Management Strategies

• wear 100% cotton underwear (none at night)
• avoid vulvar irritants (perfumed, dyes, shampoos, detergents, douches, and wipes)
• use of mild soaps, with none applied to the vulva
• Clean the vulva gently only with water and pat the area dry (avoid hair dryers)
• after cleansing, an emollient without preservatives (vegetable oil or plain petrolatum)
• if menstrual pads are irritating, switch cotton pads
• use adequate lubrication for intercourse is recommended
• apply cool gel packs (preferred over ice packs)
• Rinse and pat the vulva after urination
Pharmacologic Strategies

• Topical
• Systemic
• İnjections
Pharmacologic Strategies
Topical Medications

• Choosing the proper vehicle for topical medications is important

  • Ointments provide a better mode of delivery, minimizing the risk of causing a flare of symptoms

  • Creams contain more preservatives and stabilizers
## Topical Medications

<table>
<thead>
<tr>
<th>Name</th>
<th>Dose</th>
<th>Side Effects</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topical medications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lidocaine 5% ointment</strong></td>
<td>Apply as needed in small amount. Systemic absorption possible with frequent or excessive use</td>
<td>Erythema</td>
<td>Temporary relief before coitus; short-term use only</td>
</tr>
<tr>
<td>Doxepin 5% cream in water-soluble base</td>
<td>Apply to skin once daily, with gradual increase, not to exceed 4 times daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gabapentin 2%–6% in water-soluble base</td>
<td>Apply 1–3 times daily</td>
<td>Irritation, erythema, rash</td>
<td>Topical formulation has fewer side effects than systemic</td>
</tr>
<tr>
<td>Amitriptyline 2% with baclofen 2% in water-soluble base</td>
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</table>

![Images of topical medications](image-url)
# Pain Modulators

<table>
<thead>
<tr>
<th>Oral neuropathic pain modulators</th>
<th>Amitriptyline</th>
<th>Desipramine</th>
<th>Duloxetine</th>
<th>Venlafaxine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antidepressants</td>
<td>10 mg nightly &amp; increase by 10 mg q3–4 wk Maximum dose 150 mg qd</td>
<td>Same dosing as amitriptyline</td>
<td>Start with 30 mg qd bid Start with 37.5 mg Maximum 150 mg qd</td>
<td></td>
</tr>
<tr>
<td>Drowsiness, dizziness, dry mouth, constipation, weight gain, urinary retention, tachycardia, blurred vision, confusion</td>
<td>Drowsiness, dizziness, blurred vision, dry mouth, constipation, tachycardia, urinary retention, diaphoresis, weakness, nervousness, rash, seizures, tinnitus, anxiety, confusion</td>
<td></td>
<td>Headache, nausea, somnolence, weight loss, anorexia, constipation, anxiety, vision changes, diarrhea, dizziness, dry mouth, insomnia, weakness, sweating, hypertension</td>
<td></td>
</tr>
<tr>
<td>Have patients avoid more than one drink of alcohol each day Advise contraception Consider lower doses in elderly (over age 65) patients</td>
<td></td>
<td></td>
<td>No data to support its use Few data to support use</td>
<td></td>
</tr>
</tbody>
</table>
# Pain Modulators

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<thead>
<tr>
<th>Anticonvulsants</th>
<th>Gabapentin</th>
<th>Start with 100–300 mg at nightly &amp; advance as tolerated in divided dose bid to tid</th>
<th>Dizziness, somnolence, ataxia, fatigue, nystagmus, tremor, diplopia, rhinitis, blurred vision, nausea, vomiting, nervousness, dysarthria, weight gain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pregabalin</td>
<td>Start with 50–75 mg Common doses range from 75–150 mg Maximum dose, 600 mg bid</td>
<td>Dizziness, peripheral edema, weight gain, somnolence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Faster onset; however, may be less tolerated than gabapentin</td>
<td></td>
</tr>
<tr>
<td>Other agents</td>
<td>Topiramate</td>
<td>Use only after previously mentioned therapies unsuccessful Start at 25 mg qd bid Maximum dose, 200 mg bid</td>
<td>Dose-related Fatigue, paresthesia, tremor, asthenia, confusion, dizziness, diplopia, difficult concentration, memory problems, nervousness</td>
</tr>
<tr>
<td></td>
<td>Lamotrigine</td>
<td>Use after previously mentioned therapies unsuccessful</td>
<td>Few data to support use Interferes with hormonal contraception</td>
</tr>
<tr>
<td></td>
<td>Hydroxyzine</td>
<td>25 mg to reduce pruritus</td>
<td>One clinical trial to support its use Interferes with hormonal contraception</td>
</tr>
<tr>
<td></td>
<td>Cetirizine</td>
<td>10 mg to reduce pruritus</td>
<td></td>
</tr>
</tbody>
</table>
Injections

• Intralional Injections
  • trigger point steroid injections
  • bupivacaine injection

• Pudendal nerve block

• Botulinum toxin
Transcutaneous Electrical Nerve Stimulation as an Additional Treatment for Women Suffering from Therapy-Resistant Provoked Vestibulodynia: A Feasibility Study

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Vaginismus

• Vaginismus may develop subsequent to any chronic pelvic pain condition and is common with vulvodynia.
• It may be the cause of continued pain and/or sexual dysfunction after successful treatment of vulvodynia.
Nonpharmacologic Strategies
**Correct action**
The pelvic floor lifts, the deep abdominals draw in and there is no change in breathing.

**Incorrect action**
Pulling the belly button in towards the backbone and holding your breath can cause bearing down on pelvic floor.
Multidisciplinary approach

• Sexual counselors
• Clinical psychologist
• Physical therapist
• Pain specialist
Surgical treatment

• For women with localized vulvodynia
• Cautiously after failure of other attempted therapies
• lack of randomized studies
• insufficient data on complication rates
• success rate 60% and 90% vs. 40% to 80% for nonsurgical interventions
Surgical treatment

- the surgical procedures for the treatment of vulvar vestibulitis include
  - Vestibulectomy
  - modified vestibulectomy,
  - vestibuloplasty
  - perineoplasty.
Figure 2. Vulva anatomy. The vulva consists of the organs immediately external to the vagina: mons pubis; clitoris; labia majora and minora; urethra; vestibule; vulva vestibular glands; hymen; perineum; anus.
Surgical treatment

Fig. 1. Perineoplasty—excision of the vestibular and perineal area, pulling out the vaginal epithelium to cover the defect.

Fig. 2. Vestibuloplasty—incision of the vestibule, undercutting and closure of the mucosa without excision of the painful tissue.
Surgical treatment

Fig. 3. Vestibulectomy—excision of the vestibular mucosa, pulling out the vaginal epithelium to cover the defect.

Fig. 4. Modified vestibulectomy—excision of a U-shape, limited, vestibular mucosa, pulling out the vaginal epithelium to cover the defect.
Physical examination  
Cutaneous or mucosal surface disease present

No

Cotton swab test

Not tender. No area of vulva touched described as area of burning

Alternative diagnosis (incorrect belief that persistent vulvar pain is present)

Yes

Tender or patient describes area touched as area of burning

Yeast culture

Positive

Antifungal therapy

Adequate relief

Good relief

No additional treatment. Stop treatment when indicated

Negative

Inadequate relief

Inadequate pain relief and pain localized to vestibule

Surgery (vestibulectomy)

Inadequate relief and pain generalized

Consider increasing dose of medications,

Treat abnormal visible condition present (infections, dermatoses, premalignant, or malignant conditions)

Treatment options
- Vulvar care measures
- Topical medications
- Oral medications
- Injections
- Biofeedback/physical therapy
- Dietary modifications
- Cognitive behavioral therapy
- Sexual counseling
KEY POINTS

• Vulvodynia is a chronic pain disorder.
• Cause is considered to be multifactorial.
• Evaluation and diagnosis is key to appropriate management.
• Therapies include self-management and nonpharmacologic, pharmacologic, and surgical treatment.
• Emotional and psychological support is invaluable.
• Vaginismus occurs commonly with vulvodynia
Case 1

- A 64 year old woman tells you that she has had constant bilateral vulvar burning and irritation over the past two years. Despite having changed to loose-fitting clothes, it has not improved. She has used a topical antifungal cream with no benefit. She is uncomfortable and frustrated. On examination of the vulva, there are no abnormal lesions, no erythema, no vaginal discharge, and no labial thinning or agglutination. You are able to touch her skin without exacerbating the pain. A potassium hydroxide and wet-prep tests are negative for bacterial vaginosis, candida and trichomonas. You tell her that her condition is likely due to:

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