Dyspareunia

Howard T. Sharp, MD
Professor and Vice Chair for Clinical Activities
Department of Obstetrics and Gynecology
University of Utah Health Sciences Center

Helping Patients with Dyspareunia

Disclosure:
I have no financial associations to disclose.

Helping Patients with Dyspareunia
Objectives:

1. To discuss the methods for diagnosing superficial and deep dyspareunia
2. To review selected medical and surgical treatments for dyspareunia
3. To review the management of post surgical dyspareunia
CLC
• Dyspareunia is a heterogeneous group of entities which is understudied, with no particularly predisposition in different ethnic groups.

ARS 1
• I believe that pelvic varicosities may be a cause of pelvic pain.
  • 1 – Yes
  • 2 - No

ARS 2
• I perform vestibulectomy for provoked vulvodynia
  • 1- Yes
  • 2 - No
ARS 3

- If we exclude the use of mesh in the case of ASC, Which of the following best describes you?

- 1 - I use pelvic mesh kits for prolapse currently.
- 2 - I used pelvic mesh kits for prolapse previously but have now stopped.
- 3 - I have never used pelvic mesh for prolapse.
- 4 - I do not treat prolapse

Selected Putative Causes / Sources

- Endometriosis
- Infection
- Cuff neuroma / inclusion cysts / scarring
- Dermatologic (allergy / irritant / dermatoses)
- Levator ani tension myalgia / vaginismus
- Pelvic varicosity pain syndrome
- Phallo-vaginal disproportion
- Retained ovary syndrome
- Scarring – Mesh syndrome
- Uterine retroversion
- Vaginitis
- Vulvar Vestibulitis (PV) / Vulvodynia

Dyspareunia Divided

Superficial
- Dermatitis
- Levator ani myalgia
- Infection
- Phallo-vaginal size
- Scarring
- Vulvar vestibulitis (PV)
- Vulvodynia / PN
- Inadequate lubrication
- Estrogen deficiency

Deep
- Cuff neuroma / scar
- Endometriosis
- Infection
- Retained ovaries
- Varicosities
- Uterine retroversion
- Scarring / Mesh
History

• Character
• Onset
• Location
• Duration
• Exacerbation
• Radiation

Character

• Aching
  – (varicosities)
• Burning
  – (dermatitis, infection, neuropathy)
• Sharp
  – (vestibulitis, cuff scarring)

Onset

• After menopause
• With first intercourse
  – (primary vestibulitis (PV), size issues)
• After pregnancy
  – (secondary vestibulitis (PV), varicosities)
• After infection
  – (salpingitis)
• After hysterectomy
  – (retained ovaries, cuff scarring / neuroma)
Location

- Superficial - upon initial entry
- Deep - with thrust

Duration

- Acute onset
  - (infection, dermatitis)
- Chronic
  - (vestibulitis, endometriosis, varicosities, levator ani syndrome, chronic inflammation)

Exacerbation

- Position (uterine retroversion)
Radiation

- Does it move from side to side?
  - (varicosities?)

- To rectum
  - (pudendal neuralgia)

Physical Exam

Unimanual / Rectovaginal Exam
Stage IV Endometrioses

Work Up

• Wet prep
  – Yeast, WBCs, maturation index

• Vulvar biopsy
  – Dermatopathology
    • 61% of refractory vulvodynia patients had a clinically relevant dermatopath diagnosis (Bowen, AJOG 2008)

• Cultures
  – Exclude upper tract infection

Vulvar Vestibulitis AKA: Provoked Vulvodynia: A Definition

Friedrich's triad

1. Severe pain upon attempted vaginal entry
2. Tenderness to pressure
3. Evidence of erythema
VVS/PV: Reliability of Diagnosis
Bergeron et al. – Obstet Gynecol 2001

• 146 women
• 86.6% with VVS chose adjectives with a thermal quality
• Erythema was not a useful diagnostic criterion

Histopathology

• Increased density of resident tissue lymphocytes
• Elevated tissue concentrations of major cytokines (interleukin-1, tumor necrosis factor α)
• Circulating natural killer cells are decreased
• Marked proliferation of nerve fibers

Immunoregulatory Features
Gerber et al, AJOG - 2002

• Heat shock incubation studies
• Patients with VVS have a relative inability to down-regulate pro-inflammatory activity
• An inability to produce interferon-alpha receptor antagonist may contribute to VVS.
Topical Medical Therapy

Andrews, Obstet Gyn Surv 2011

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Reported Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corticosteroids</td>
<td>none</td>
</tr>
<tr>
<td>Estrogens</td>
<td>none</td>
</tr>
<tr>
<td>Capsaicin (chili pepper)</td>
<td>3/6 (50%) improvement</td>
</tr>
<tr>
<td>Lidocaine</td>
<td>none</td>
</tr>
<tr>
<td>Burow’s solution</td>
<td>none</td>
</tr>
<tr>
<td>Warm sitz baths</td>
<td>none</td>
</tr>
<tr>
<td>Sorbitrate/glycerine cream</td>
<td>none</td>
</tr>
<tr>
<td>Cromolyn cream</td>
<td>= to placebo</td>
</tr>
<tr>
<td>Fibroblast lysate</td>
<td>1 pt decrease in VAPS</td>
</tr>
<tr>
<td>Amitriptyline cream</td>
<td>56% response</td>
</tr>
<tr>
<td>Nifedipine</td>
<td>= to placebo</td>
</tr>
</tbody>
</table>

Subcutaneous Therapy

- Enoxaparin
  - 40 mg SQ vs saline
  - 29% vs 11% had greater pain reduction
    - Farajun, Obstet Gynecol 2012, level 1
- Steroids (methylprednisolone)
  - 68% improved (Murina JRM 2001, level 3)
- Botox
  - 80% improvement with 50U Pelletier, Br J Dermatol 2011
  - No improvement with 20U Peterson, J Sex Med 2009

Should we continue to use topical corticosteroids?
The expression of COX-2 and inducible nitric oxide synthetase in vulvar vestibulitis patients
(Bohm-Starke, Acta Obstet Scand – 2001)

• No difference in expression of COX-2 and nitric oxide synthetase in PV patients compared to controls
• Study implies no active inflammation
• Authors suggest topical corticosteroid therapy should be abandoned.

• Eva et al, JRM 2007 – Similar findings
  – No difference in inflammatory cytokinines compared to controls.

### Oral Medical Therapy

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Reported Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dapsone (antibiotic)</td>
<td>3/14 (21%) improvement</td>
</tr>
<tr>
<td>Acyclovir (antiviral)</td>
<td>7/13 (54%) improvement</td>
</tr>
<tr>
<td>Tricyclic antidepressants</td>
<td>none</td>
</tr>
<tr>
<td>Fluconazole</td>
<td>none</td>
</tr>
<tr>
<td>Corticosteroids</td>
<td>none</td>
</tr>
<tr>
<td>Calcium citrate</td>
<td>6/59 (10%)</td>
</tr>
</tbody>
</table>

### Surgery

<table>
<thead>
<tr>
<th>Surgery</th>
<th>II</th>
<th>1/14</th>
<th>(79%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friedich</td>
<td>III</td>
<td>23/38</td>
<td>(60%)</td>
</tr>
<tr>
<td>Reid</td>
<td>III</td>
<td>13/22</td>
<td>(59%)</td>
</tr>
<tr>
<td>Schover</td>
<td>III</td>
<td>18/38</td>
<td>(47%)</td>
</tr>
<tr>
<td>Woodruff</td>
<td>III</td>
<td>11/14</td>
<td>(79%)</td>
</tr>
<tr>
<td>Peckham</td>
<td>III</td>
<td>7/8</td>
<td>(88%)</td>
</tr>
<tr>
<td>Kehoe</td>
<td>III</td>
<td>33/57</td>
<td>(61%)</td>
</tr>
<tr>
<td>Kehoe and Luesley</td>
<td>III</td>
<td>22/37</td>
<td>(59%)</td>
</tr>
<tr>
<td>Goetsch</td>
<td>III</td>
<td>10/12</td>
<td>(83%)</td>
</tr>
<tr>
<td>Bornstein</td>
<td>III</td>
<td>60/79</td>
<td>(76%)</td>
</tr>
<tr>
<td>Marihoff</td>
<td>III</td>
<td>60/73</td>
<td>(83%)</td>
</tr>
<tr>
<td>Mann</td>
<td>III</td>
<td>37/56</td>
<td>(66%)</td>
</tr>
<tr>
<td>Weijmar Schultz</td>
<td>III</td>
<td>7/13</td>
<td>(54%)</td>
</tr>
<tr>
<td>Bergeron</td>
<td>III</td>
<td>18/38</td>
<td>(47%)</td>
</tr>
<tr>
<td>De Jong</td>
<td>III</td>
<td>3/14</td>
<td>(21%)</td>
</tr>
<tr>
<td>McCormack</td>
<td>III</td>
<td>28/33</td>
<td>(86%)</td>
</tr>
</tbody>
</table>
Surgical Therapy

- 620 reported cases of vestibulectomy
- 15 series
- 1 RCT
- Success rates in these case series range from 21 to 100%
- Numbers of patients (N = 8 to 79).

Modified Vestibulectomy

Vestibulectomy
Behavioral Therapy

Graduated dilators with creams 3/7 (43%) cure
Cognitive-behavioral therapy 13/35 (37%) cure
Cognitive-behavioral therapy 1/1 (100%) cure
Electromyographic biofeedback 17/33 (51%) cure
Electromyographic biofeedback 15/29 (51%) imp

Summary: Provoked Vulvodynia

• 1. There is insufficient evidence that topical treatments for provoked vulvodynia are superior to placebo.
• 2. There is fair evidence that vestibulectomy provides benefit to patients with provoked vulvodynia.

Vulvar Vestibulectomy Video
Pelvic Varicosity-Pain Syndrome

IPPS Definition / Consensus

- Chronic pelvic pain
- Tender uterus and/or ovaries
- Dilated uterine and/or ovarian veins
- Delayed clearance of contrast

Clinical Presentation

- Typically presents in the reproductive years
- Deep dyspareunia
- Post coital pain
- Pain exacerbation after prolonged standing
- Often pain is better after sleep
- Frequently noted after pregnancy

Treatment

- Medroxyprogesterone acetate
- GnRH agonists
- Ovarian vein ligation
- Ovarian vein embolization
- Hysterectomy with BSO
- Acupuncture
Treatment

- Medroxyprogesterone acetate (level 1)
  - (Farquhar) – 73% of women had 50% improvement
- GnRH agonists (level 1)
  - (Soysal) – goserelin acetate > MPA sustained at 1 yr
- Ovarian vein ligation (level III)
  - Case reports
- Hysterectomy with BSO (level III)

Beard et al – 1991 BJOG

- N=36
- Treatment – Hysterectomy with BSO
- 12/36 (33%) had some residual pain at 12 mo.
- 1 had pain affecting her daily life.
- 66% cure / 97% success (level III)

Transcatheter Embolization

<table>
<thead>
<tr>
<th>Author</th>
<th>Yr</th>
<th>N</th>
<th>F/U</th>
<th>Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sichlau</td>
<td>94</td>
<td>3</td>
<td>1.2 yrs</td>
<td>66%</td>
</tr>
<tr>
<td>Tarazov</td>
<td>97</td>
<td>6</td>
<td>1-4 yrs</td>
<td>66%</td>
</tr>
<tr>
<td>Capasso</td>
<td>97</td>
<td>19</td>
<td>?</td>
<td>58%</td>
</tr>
<tr>
<td>Cordts</td>
<td>98</td>
<td>11</td>
<td>13 mo</td>
<td>40%</td>
</tr>
<tr>
<td>Maleux</td>
<td>00</td>
<td>41</td>
<td>20 mo</td>
<td>58%</td>
</tr>
<tr>
<td>Venbrux</td>
<td>02</td>
<td>56</td>
<td>22 mo</td>
<td>65% VAS</td>
</tr>
<tr>
<td>Bachar</td>
<td>03</td>
<td>6</td>
<td>7.3 mo</td>
<td>50%</td>
</tr>
<tr>
<td>Pieri</td>
<td>03</td>
<td>33</td>
<td>12 mo</td>
<td>61%</td>
</tr>
</tbody>
</table>
Incompetent and dilated ovarian veins: A common CT finding in asymptomatic parous women
Rozenblit et al, Am J Roentenol 2001

- 34 asymptomatic renal donors
- Retrospective Helical CT study
- Definition: 7 mm contrast filled ovarian vein
- Present in 47% (N=16)
- Left ovarian vein (N=16)
- Bilateral ovarian veins (N=6)

Conclusion: PVPS

- The topic of pelvic / ovarian vein varicosities is by default becoming the domain of radiologists.
  - Diagnosis and treatment
- Confusion exists regarding non-venographic imaging studies (MRI, CT, U/S).
- The role of the uterine veins is not addressed in the radiological literature.

Transcervical Pelvic Venography
Dye Persistence 40 seconds

Vaginal Cuff Pain
Sharp et al, AJOG 2000

- 13 patients - post hysterectomy cuff pain
- 4 responded to local therapy
- 9 underwent laparoscopic cuff excision
  - 5 of 9 were cured
  - 8 of 9 were improved

Vaginal Cuff Pain

- Local lidocaine gel
- Bupivicaine injections
- Biofeedback / dilator therapy
- Cuff excision
**Vaginal Cuff Pain**

---

**Retained Ovary Syndrome**

- Incidence - 2.8% after hysterectomy
- 75% of patients will undergo surgery within 10 years.

---

**Ovarian Adhesions**

---
Ovarian Adhesions

• May resolve spontaneously after vestibulectomy (if secondary to VV)
• Physical Therapy (VAPS 8.1 vs 1.5)
  — Montenegro, J Eval Clin Pract 2010
• Botox 80 U (VAPS for dyspareunia 80 vs 28)
  — Jarvis Aust NZOG 2004

Levator Ani Tension Myalgia
Reverse Perineorraphy

- Vulvar scarring (post delivery)
  - Tying the knot too distal to the hymen
  - Taking too large of a bite at the hymen

- Phallo-vaginal disproportion

Midline Superficial Episiotomy

Opened Planes
Summary

- Dyspareunia can be caused by many sources
- Distinguish between superficial and deep dyspareunia
- There is insufficient evidence that topical treatments for provoked vulvodynia are superior to placebo.
- There is fair evidence that vestibulectomy provides benefit to patients with provoked vulvodynia.