Plenary 7 – Pain Issues

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Plenary 7 – Pain Issues

Moderators: Maurice K. Chung and Tamer A. Seckin
Faculty: Maryam Hadiashar, Kumari A. Hobbs, Sangeeta Senapati, Justin K. To, Frank F. Tu

This session is designed to provide all surgeons with a better understanding of pain management and various surgical interventions for patients with chronic pelvic pain. The session will also provide an evidence-based approach to pre-operative evaluation and management of post-operative complications associated with pain. This session will discuss conditions that cause pelvic pain and chronic pelvic pain physiology.

**Learning Objectives:** At the conclusion of this course, the clinician will be able to: 1) review pain physiology in patients with acute or chronic pain; 2) discuss evidence-based management and evaluation of chronic pelvic pain; 3) discuss surgical interventions routinely performed for pain management in an office or hospital setting and discuss resources for management of post-operative pain complications.

**Course Outline**

2:15 Anxiety, Sleep, Pain Sensitivity and the Response to Laparoscopic Management of Pelvic Pain  
S. Senapati

2:25 Predictors of Pain and Recovery Time after Benign Laparoscopic Gynecologic Surgery  
K.A. Hobbs

2:35 Comparative Study of Clinical vs. Experimental Measures of Pelvic Sensitivity  
F.F. Tu

2:45 Image-Guided Drainage Versus Antibiotics-Only Treatment of Pelvic Abscesses: Long-Term Outcomes  
J.K. To

2:55 Outcomes in Patients with Pudendal Neuralgia Using a Multidisciplinary Approach: A Retrospective Analysis  
M. Hadiashar

3:15 Closing Remarks/Adjourn
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The following members of AAGL have been involved in the educational planning of this workshop and have no conflict of interest to disclose (in alphabetical order by last name).
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Consultant: Conceptus Incorporated
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Frank D. Loffer, Executive Vice President/Medical Director, AAGL*
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Maurice K. Chung*
Maryam Hadiashar*
Kumari A. Hobbs*
Tamer A. Seckin*
Sangeeta Senapati
Consultant: Emmi
Justin K. To*
Frank F. Tu*

Asterisk (*) denotes no financial relationships to disclose.
Anxiety, Sleep, Pain Sensitivity and the Response to Laparoscopic Management of Pelvic Pain

Sangeeta Senapati, MD MS
NorthShore University HealthSystem
Pritzker School of Medicine, University of Chicago

Background
• Chronic pelvic pain (CPP) is a common and significant problem
  – Prevalence 14-16%
  – Primary indication for
    • 12% of hysterectomies
    • 15-40% of laparoscopies
• Somatic pain sensitivity (pelvic floor pain) is co-morbid in many CPP states
  – Pain sensitivity can be quantified by pressure-pain testing
  – Post operative pain may be predicted by experimental pain testing (thoracotomy, shoulder surgery)


Background
• Pressure-pain testing with a palpometer on
  • pelvic floor (right and left iliooccygeus, anterior and posterior vaginal surfaces,
  • external sites (forehead and right trochanter, hip, and medial knee fat pad, respectively)

Objective
• To determine differences in pain sensitivity and psychological risk factors between women reporting improvement in pelvic pain from prior surgery vs. no improvement in a pilot study.

Disclosures
• Consultant: Emmi
Methods

- 28 subjects
  - Comprehensive surgical history evaluated
    - Data included for surgery addressing pelvic pain
  - Success of surgery was assessed via a 5 point scale
    - (0 = not at all, 4 = very great deal)
  - Anxiety, depression and sleep status was assessed via
    standardized questionnaires (STAI-T, CESD, and NIH PROMIS)
  - Participants underwent pressure-pain testing with a palpometer at both external and vaginal sites.

- Kendall’s tau correlations were used to assess relationships between psychosocial variables and pain sensitivity
- F-test to determine the difference in variance of psychosocial variables between subjects with poor vs. positive surgical outcomes

Initially, no observed strong correlations to surgical outcome

<table>
<thead>
<tr>
<th>Parameter</th>
<th>tau-b</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.04</td>
<td>0.76</td>
</tr>
<tr>
<td>Duration of Pain</td>
<td>0.25</td>
<td>0.06</td>
</tr>
<tr>
<td>Pain during exam</td>
<td>-0.01</td>
<td>0.93</td>
</tr>
<tr>
<td>External Pain Threshold</td>
<td>0.01</td>
<td>0.95</td>
</tr>
<tr>
<td>Vaginal Pain Threshold</td>
<td>-0.04</td>
<td>0.78</td>
</tr>
<tr>
<td>McGill Sensory</td>
<td>0.20</td>
<td>0.12</td>
</tr>
<tr>
<td>McGill Affective</td>
<td>0.06</td>
<td>0.68</td>
</tr>
<tr>
<td>Depression (CESD)</td>
<td>0.02</td>
<td>0.90</td>
</tr>
<tr>
<td>Depression (Promis)</td>
<td>-0.02</td>
<td>0.88</td>
</tr>
<tr>
<td>Anxiety (Promis)</td>
<td>0.17</td>
<td>0.18</td>
</tr>
<tr>
<td>Anxiety (STAI)</td>
<td>-0.04</td>
<td>0.78</td>
</tr>
<tr>
<td>Fatigue (Promis)</td>
<td>0.00</td>
<td>0.98</td>
</tr>
<tr>
<td>Sleep (Promis)</td>
<td>0.02</td>
<td>0.91</td>
</tr>
</tbody>
</table>

Higher variance of anxiety and sleep was observed with poor surgical outcome

F-test p = 0.02

Abnormal sleep & anxiety predict poor surgical outcome with 82% accuracy

R = 0.52

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Coef</th>
<th>SEM</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal Anxiety</td>
<td>-0.059</td>
<td>0.034</td>
<td>0.02</td>
</tr>
<tr>
<td>Abnormal Sleep</td>
<td>-0.050</td>
<td>0.041</td>
<td>0.01</td>
</tr>
</tbody>
</table>

4 false positives
1 false negative
6 true negatives
17 true positives
Conclusion

- Experimentally measured pain sensitivity was unrelated to prior surgical outcomes
- A combination of anxiety and sleep impairment was associated with 27% of the variability in surgical outcomes

Future Directions

- Larger cross sectional or prospective study design required to better evaluate these associations
  - Pain testing post-operatively
  - Compare an unbiased population (both women with and without pain)

References


Predictors of Pain and Recovery Time after Benign Laparoscopic Gynecologic Surgery

Kumari A. Hobbs, MD

Objectives

• Discuss the importance of adequate postoperative pain control.
• Review the incidence and pathophysiology of chronic postsurgical pain.
• Examine potential risk factors for longer recovery times and worse pain scores in the postoperative period.
• Discuss prospective research opportunities and interventions for improving postoperative outcomes.

Postoperative pain

• Adverse physical effects:
  – Immune function, wound healing, cardiopulmonary and thromboembolic diseases
• Adverse psychosocial effects:
  – Decreased functional status, fatigue, depression/anxiety
• Chronic postsurgical pain (CPSP):
  – Up to 50% depending on type of surgery
  – 5-30% reported after hysterectomy

Literature Review

• Inconsistent data, limited laparoscopic data
• Prospective data:
  – Suboptimal pain control after discharge home
  – Postoperative recovery longer than expected
• Risk factors for worse outcomes:
  – Type of surgery, younger age, psychological distress (ie anxiety, catastrophization), preoperative pain, preoperative narcotic use, poor quality of life, length of surgery

Our Study

• Objective: To identify potential predictors of postoperative pain and recovery time after laparoscopic gynecologic surgery
• Design: Retrospective cohort study
• Setting: University tertiary referral center
• Patients: 217 women who underwent surgery with a single provider in the Division of Advanced Laparoscopic Surgery and Pelvic Pain between 2011-2013

Disclosures

I have no financial relationships to disclose.
Interventions

- Preoperative Visual Analog Scale (VAS) pain scores and demographic data were abstracted from medical records.
- Patients were queried at their 4-6 week postoperative visit with two questions:
  1) When did you feel 75% recovered?
  2) What is your current pain level, measured on a Visual Analog Scale?

Patient Characteristics (n=217)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean (±SD) / Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>39 years (8.5)</td>
</tr>
<tr>
<td>BMI</td>
<td>31 (9)</td>
</tr>
<tr>
<td>Preoperative VAS score</td>
<td>16mm (26)</td>
</tr>
<tr>
<td>Index surgery: laparoscopic hysterectomy</td>
<td>63%</td>
</tr>
<tr>
<td>Chronic pelvic pain</td>
<td>21%</td>
</tr>
<tr>
<td>Dysmenorrhea</td>
<td>40%</td>
</tr>
<tr>
<td>Preoperative narcotic use</td>
<td>11%</td>
</tr>
<tr>
<td>Centralized pain disorder</td>
<td>14%</td>
</tr>
<tr>
<td>Pelvic floor muscle spasm</td>
<td>18%</td>
</tr>
</tbody>
</table>

Mean Outcome Data

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Mean (±SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recovery time (days)</td>
<td>21 (9)</td>
</tr>
<tr>
<td>Postoperative VAS score (mm)</td>
<td>13 (21)</td>
</tr>
</tbody>
</table>

Preoperative Characteristic Mean recovery time (days) p-value Mean postoperative VAS score (mm) p-value

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Recovery time</th>
<th>p-value</th>
<th>Mean postoperative VAS score</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dysmenorrhea</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>24</td>
<td>.001</td>
<td>18</td>
<td>.003</td>
</tr>
<tr>
<td>No</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic pelvic pain</td>
<td></td>
<td>.01</td>
<td>22</td>
<td>.002</td>
</tr>
<tr>
<td>Yes</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narcotic use</td>
<td></td>
<td>.03</td>
<td>22</td>
<td>.03</td>
</tr>
<tr>
<td>Yes</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td></td>
<td></td>
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<tr>
<td>Centralized pain disorder</td>
<td></td>
<td>.003</td>
<td>22</td>
<td>.02</td>
</tr>
<tr>
<td>Yes</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelvic floor muscle spasm</td>
<td></td>
<td>&lt;.001</td>
<td>31</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Yes</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Study limitations

- Retrospective design
- No validated questionnaire
- Heterogeneous surgery population
- Short follow up for the assessment of CPSP

* Means and p-values calculated with one-way ANOVA
Future Directions

• Prospectively report (laparoscopic gynecologic procedures):
  – Postoperative pain scores (to one year)
  – Postoperative recovery time (to 100% recovered)
  – Incidence of chronic postsurgical pain
  – Effect of surgery on overall quality of life

• Prospectively report risk factors for worse outcomes:
  – Preoperative patient characteristics
  – Operative characteristics
  – Potential for predictive modeling

Potential interventions:

– Dependent on risk factors
– May include:
  • Improved counseling regarding postoperative expectations
  • Preoperative use of centrally-acting medications
  • Preoperative treatment of psychological disorders
  • Pre- and/or postoperative treatment of pelvic floor muscle spasm and other preexisting pain syndromes
  • Customized postoperative pain medication regimens

Thank you!

References

1. Ip et al. Predictors of Postoperative Pain and Analgesic Consumption: A Qualitative Systematic Review. Anesthesiology 2009; 111: 677-77
Comparative Study of Clinical vs. Quantitative Measures of Pelvic Sensitivity

Frank Tu, MPH, MD

Introduction

- Chronic pelvic pain (CPP) has poorly understood mechanisms.
- Enhanced pain sensitivity is a hallmark of idiopathic pain disorders (IBS, migraine, fibromyalgia).

Disclosure

I have no financial relationships to disclose.

Study Description

- Objective: To profile the relative distribution of clinical palpation and quantitative sensory testing (QST) findings for vaginal pain sensitivity in chronic pelvic pain (CPP) conditions.
  - Determining their diagnostic test properties (sensitivity/specificity) may help determine if simpler tests can replace QST
- Design: Cross-sectional study
- Setting: Academic community hospital

Methods

- Study aim: determine if simple clinical palpation (transvaginal) parallels QST in discriminating CPP/IC patients from healthy age matched controls.
- 84 women enrolled in study examining standardized visceral and somatic pain stimulation.
- Interstitial cystitis (IC); n=23, chronic pelvic pain (CPP; n=22) and healthy controls (n=39).
- CPP/(IC): pelvic pain of at least 3 months duration (+ urgency or frequency)
Methods

- Participants underwent pressure-pain testing on:
  - pelvic floor (right and left iliococcygeus, anterior and posterior vaginal surfaces,
  - external sites (forehead and right trochanter, hip, and medial knee fat pad, respectively)
  - 1 cm² circular steel flat probe, 0.5 kg/cm²/s ramp rate
- Clinical examination consisted of gentle palpation of the vaginal tissues at the right and left iliococcygeous sites (< 0.2 kg/cm²)

Estimations of general population pain sensitivity were performed with Monte Carlo simulations (assuming 5% prevalence of CPP/IC) and optimal diagnostic test parameters calculated with receiver-operator characteristic curves.

Results for CPP and IC were combined due to similar results.

Analysis: STATA 11, Microsoft Excel, rank order tests, chi-squared test of proportions, t-tests, nonparametric equivalents

Table 1: Baseline Demographics

<table>
<thead>
<tr>
<th></th>
<th>Controls n=39</th>
<th>CPP/IC n=45</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>31 (23-40)</td>
<td>32 (28-40)</td>
<td>0.48</td>
</tr>
<tr>
<td>Weight (lb)</td>
<td>148 (128-192)</td>
<td>158 (132-195)</td>
<td>0.33</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td>0.19</td>
</tr>
<tr>
<td>Married or Committed</td>
<td>49%</td>
<td>42%</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>51%</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>Divorced or Widowed</td>
<td>0%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Parity Status</td>
<td></td>
<td></td>
<td>0.76</td>
</tr>
<tr>
<td>No prior births</td>
<td>72%</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>1 birth or more</td>
<td>28%</td>
<td>44%</td>
<td></td>
</tr>
<tr>
<td>Hx Depression</td>
<td>15%</td>
<td>47%</td>
<td>0.022</td>
</tr>
<tr>
<td>Hx Anxiety</td>
<td>51%</td>
<td>44%</td>
<td>0.041</td>
</tr>
<tr>
<td>Hx Abuse</td>
<td>15%</td>
<td>60%</td>
<td>0.001</td>
</tr>
<tr>
<td>Prior abdominal surgery</td>
<td>54%</td>
<td>84%</td>
<td>0.022</td>
</tr>
</tbody>
</table>

Palpation pain is exclusive to CPP/IC

- Whereas healthy subjects rarely reported pain with palpation (95%CI: 0-14%), 60% of CPP/IC subjects reported pain with palpation (95% CI: 45-73%).
- Subjects with CPP/IC reported more right (median 0 [0-5]) and left (median 2 [0-5]) iliococcygeus pain (p<0.001) than healthy subjects.

CPP/IC subjects had lower PPTs than Healthy subjects

Healthy subjects had higher average PPTs (1.37±0.1 kg/cm²) than CPP/IC subjects (1.01±0.06 kg/cm²; p=0.01).

PPT has considerable overlap in CPP/IC from healthy subjects vs. palpation-related pain
Conclusions

- Clinical pelvic exam with simple palpation (even not at the site of primary symptoms) provides better sensitivity and specificity for identifying pelvic pain than pressure pain thresholds.
- Alterations in mechanical thresholds still may contributing to the observed hyperalgesia with palpation in CPP/IC.
- QST’s role in characterizing risk for pain chronicity may be more relevant in preclinical risk assessment, but needs refinement.

References

Learning Objectives

- Efficacy of antibiotic treatment of pelvic abscesses
- Efficacy of image-guided drainage for treatment of pelvic abscesses
- Long-term outcomes of patients with pelvic abscess

Background

- 66,000 cases of tuboovarian abscess are diagnosed in the United States annually¹
- Sequelae of pelvic inflammatory disease²
- This can be a life-threatening diagnosis, given the risk of rupture and sepsis³
- Other pelvic abscesses, such as postoperative and gastrointestinal abscesses, can also significantly affect patients and their reproductive health


Definitive treatment of tuboovarian abscess: total abdominal hysterectomy with bilateral salpingo-oophorectomy

- In 1964, Pedowitz et al found that 24 of 143 patients with ruptured TOA had prior conservative surgery
- 6 of 17 patient that had any remains of adnexa eventually needed hysterectomy⁴

Unilateral adnexectomy has also gained acceptance⁵


Surgery may be complicated
- Distorted anatomy
- Obliterated surgical planes
- Infected and friable tissue
- Complications may include
  - Hemorrhage
  - GI or GU injury

Patients are often premenopausal and may desire future fertility⁶


Disclosures

I have no financial relationships to disclose.
**Background**

- IV antibiotic treatment has been shown to be effective in approximately 70% of patients.\(^7\)
- Vaginal drainage is possible with a palpable abscess in the cul-de-sac.
- Laparoscopic drainage studies have shown greater effectiveness than antibiotics.\(^8\)
  - Surgical and anesthetic risk

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**Prior Studies**

- Image-guided drainage has the advantage of minimal anesthetic risk
- Acute benefits have been shown in multiple trials

---

**Prior Studies**

- Gjelland et al
  - Retrospective case series
  - 302 patients – US-guided drainage
  - 282 patients (93.4%) were successfully treated
- Goharkhay et al
  - Retrospective cohort analysis
  - 58 subjects total
  - 42% of the primary antibiotics group failed treatment versus 0% in the primary drainage group

---

**Prior Studies**

- Perez-Medina et al
  - Randomized prospective cohort analysis
  - 40 patients total
  - Favorable short term response in 90% of patients who received early transvaginal drainage
  - Favorable outcomes in 65% in the control group who received antibiotics alone

---

**Hypothesis**

- The rate of surgical intervention in women with pelvic abscesses treated with image-guided drainage will be lower than those who received antibiotic-only treatment

---

3. Gjelland et al. Retrospective case series
4. 302 patients – US-guided drainage
5. 282 patients (93.4%) were successfully treated
6. Goharkhay et al. Retrospective cohort analysis
7. 58 subjects total
8. 42% of the primary antibiotics group failed treatment versus 0% in the primary drainage group
9. Perez-Medina et al. Randomized prospective cohort analysis
10. 40 patients total
11. Favorable short term response in 90% of patients who received early transvaginal drainage
12. Favorable outcomes in 65% in the control group who received antibiotics alone
Primary Outcome

- To compare the rates of surgical intervention in women with pelvic abscesses initially treated with antibiotics versus those who underwent image-guided drainage

Secondary Short-Term Outcomes

- Type and length of antibiotic therapy
- Length of hospital stay
- Days from treatment to discharge
- Type of surgery if failed treatment
- Rate of readmission
- Mortality rate

Secondary Long-Term Outcomes

- Residual pain
- Attempts at spontaneous or un-assisted pregnancy after discharge
  - Pregnancy rate
  - Infertility rate

Inclusion Criteria

- Ages 11 to 49
- Patients admitted to Montefiore Medical Center hospitals with the diagnosis of ICD-9 code 614.x between 1998-2008
- ICD-9 code 614.x: inflammatory diseases of ovary, fallopian tube, pelvic cellular tissue, and peritoneum

Design

- Retrospective cohort analysis
- Approved by Einstein/Montefiore IRB
- Subjects were identified by performing a query in Clinical Looking Glass

- Control group: Patients who received antibiotics-only treatment
- Study group: Patients who received image-guided drainage
- Attempt made to contact all subjects
- Verbal consent
- Phone survey
Exclusion Criteria

- Diagnosed with malignancy
- Lack of radiologic evidence of abscess
- Lack of pus obtained during image-guided drainage
- No evidence of abscess during surgery
- Prior hysterectomy and/or bilateral salpingo-oophorectomy
- Pregnant patients

Study Variables

- Age
- Parity
- Past medical history
- Past surgical history
- History of PID
- IUD in-situ or history of IUD
- HIV status
- BMI
- Unilateral or bilateral abscess
- Abscess dimensions

Statistical Analysis

- STATA 12.0
- Continuous data: Student t test or Mann Whitney depending upon the data distribution
- Categorical variables: $\chi^2$ or Fischer’s exact test
- Initial associations: Pearson’s correlation

RESULTS

Patient Flow Chart

6,151 patients identified in Clinical Look Glass with ICD-9 diagnosis 614.x, ages 11 to 49, between 1998 and 2008

1,412 patients excluded due to:
- Diagnosed with gynecologic malignancy
- Lack of radiologic evidence of abscess
- Lack of pus obtained during image-guided drainage
- No evidence of abscess during surgery
- Prior hysterectomy or BSO
- Pregnancy

1,739 patients remained

- 1,208 patients who received antibiotics
- 531 patients who underwent image-guided drainage
- 54 patients unable to be contacted by phone

198 patients who received antibiotics

120 patients contacted by phone

41 patients who underwent image-guided drainage

239 patients met criteria

78 patients unable to be contacted by phone

11 patients unable to be contacted by phone

41 patients who underwent image-guided drainage

120 patients contacted by phone

Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Antibiotics (n=198)</th>
<th>Drainage (n=41)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>32.7</td>
<td>32.2</td>
<td>0.78</td>
</tr>
<tr>
<td>BMI</td>
<td>28.9</td>
<td>30.4</td>
<td>0.27</td>
</tr>
<tr>
<td>Parity</td>
<td>1.2</td>
<td>1</td>
<td>0.25</td>
</tr>
<tr>
<td>PMH of:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Diabetes</td>
<td>7.1% (14)</td>
<td>2.4% (1)</td>
<td>0.24</td>
</tr>
<tr>
<td>- Obesity</td>
<td>65.7% (130)</td>
<td>73.2% (30)</td>
<td>0.47</td>
</tr>
<tr>
<td>- Endometriosis</td>
<td>3.0% (6)</td>
<td>2.4% (1)</td>
<td>1.0</td>
</tr>
<tr>
<td>- HIV</td>
<td>14.1% (28)</td>
<td>2.5% (1)</td>
<td>0.04</td>
</tr>
<tr>
<td>- PID</td>
<td>22.3% (44)</td>
<td>17.1% (7)</td>
<td>0.54</td>
</tr>
</tbody>
</table>
Results

- No associated mortality

- 2 patients in the antibiotic treatment cohort were noted to have a ruptured abscess

- Treatment selection was not affected by presence of bilateral abscesses

<table>
<thead>
<tr>
<th>Admission Analysis</th>
<th>Antibiotics</th>
<th>Drainage</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average follow up years</td>
<td>16 years</td>
<td>8.5 years</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Largest abscess dimension</td>
<td>5.9 cm</td>
<td>5.5 cm</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Unilateral abscess</td>
<td>80.3% (159)</td>
<td>78.0% (122)</td>
<td>0.83</td>
</tr>
<tr>
<td>Bilateral abscess</td>
<td>19.7% (39)</td>
<td>22% (9)</td>
<td>0.44</td>
</tr>
<tr>
<td>Average hospital stay - initial admission</td>
<td>3.8</td>
<td>13.5</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Days from treatment till discharge</td>
<td>7.4</td>
<td>6.7</td>
<td>0.32</td>
</tr>
<tr>
<td>Surgery required - initial admission</td>
<td>16.7% (31)</td>
<td>2.4% (1)</td>
<td>0.02</td>
</tr>
<tr>
<td>Type of surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Adnexectomy</td>
<td>54.8% (17)</td>
<td>0%</td>
<td>0.47</td>
</tr>
<tr>
<td>- Adnexectomy with hysterectomy</td>
<td>22.2% (10)</td>
<td>100% (1)</td>
<td>0.47</td>
</tr>
<tr>
<td>- Gyn and bowel surgery</td>
<td>12.9% (4)</td>
<td>0%</td>
<td>0.47</td>
</tr>
<tr>
<td>Readmission for similar disease</td>
<td>22.7% (45)</td>
<td>29.3% (12)</td>
<td>0.54</td>
</tr>
<tr>
<td>Surgery required - readmission</td>
<td>40% (18)</td>
<td>33.3% (4)</td>
<td>0.75</td>
</tr>
</tbody>
</table>

- Statistically significant difference in hospital stay (7.4 days vs. 13.3 days, p<0.01)
  - Average time to drainage = 6.6 days
  - The time from treatment to discharge in both groups was similar (7.4 days vs. 6.7 days, p=0.52)

- Patients who received antibiotics alone were more likely to require further surgical intervention when compared to patients who received image-guided drainage

- Hospital stay may be shortened with earlier consideration of image-guided drainage

- There were no other observable long-term differences between the groups

Conclusions
Limitations

- Retrospective analysis and associated biases
  - Recall bias
  - Incomplete records
  - No standardization/randomization of who received different treatments
  - Unable to contact and obtain long-term follow up on all patients

Future Directions

- Prospective cohort analysis
- Randomization to treatment arm

References


ACKNOWLEDGEMENTS
Outcomes in Patients with Pudendal Neuralgia Using a Multidisciplinary Approach: A Retrospective Analysis

Maryam Hadiashar MD

*University of Tennessee College of Medicine, Chattanooga

Disclosures

- I HAVE NO FINANCIAL RELATIONSHIPS TO DISCLOSE

Learning Objectives

At the conclusion of this talk, the participants should be able to clinically define Pudendal Neuralgia (PN), define Nante’s criteria, and describe what constitutes conservative multidisciplinary management of PN.

Background

- Difficult to determine incidence
- Common in pelvic pain referral centers
- Other underlying pain diagnoses
- Nante’s Diagnostic criteria

Background: Management options

- Pudendal nerve release
  - Amarenco et al and Popeney et al: 27-60% of pts responded to surgical decompression of pudendal nerve
- Pudendal nerve blockade under fluoroscopy
  - Choi et al in 2006 saw 62% of patients pain respond to nerve blocks
- Multidisciplinary approach utilizing serial pudendal nerve blockade under fluoroscopy, pelvic floor PT, and medical management?

Study Design

- Retrospective chart review from 2007-2012 of patients with ICD-9 code for Pudendal Neuralgia (729.1)
- Private practice pelvic pain referral center in a community setting
- Primary outcome: improvement in visual analog pain scores by 50% at 12 weeks
Study design

- Inclusion and exclusion criteria
- Serial pudendal nerve blockade in the office or under fluoroscopy
- Medical management
- Pelvic floor physiotherapy
- Treatment of other underlying pain conditions

Methods

- SPSS v21 (IBM, 2013)
- Categorical variables expressed as proportions
- Continuous variables as mean +/- SD and standard error
- Visual analog score compared at initial visit and 12 weeks with the paired T-test

Table 1: Demographics

<table>
<thead>
<tr>
<th></th>
<th>% (n)</th>
<th>% (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=37</td>
<td>n=37</td>
</tr>
<tr>
<td>Age (mean +/-SD)</td>
<td>43 +/-14.7</td>
<td>43 +/-14.7</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>89.2 (33)</td>
<td>89.2 (33)</td>
</tr>
<tr>
<td>Male</td>
<td>10.8 (4)</td>
<td>10.8 (4)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 12 years</td>
<td>13.5 (5)</td>
<td>13.5 (5)</td>
</tr>
<tr>
<td>High school</td>
<td>54 (20)</td>
<td>54 (20)</td>
</tr>
<tr>
<td>College</td>
<td>21 (10)</td>
<td>21 (10)</td>
</tr>
<tr>
<td>Post graduate</td>
<td>5.4 (2)</td>
<td>5.4 (2)</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>5.4 (2)</td>
<td>5.4 (2)</td>
</tr>
<tr>
<td>Employed</td>
<td>54 (20)</td>
<td>54 (20)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>21 (8)</td>
<td>21 (8)</td>
</tr>
<tr>
<td>Retired</td>
<td>10 (4)</td>
<td>10 (4)</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>8.1 (3)</td>
<td>8.1 (3)</td>
</tr>
<tr>
<td>Married/Committed</td>
<td>73 (27)</td>
<td>73 (27)</td>
</tr>
<tr>
<td>Divorced/Separated</td>
<td>13.5 (5)</td>
<td>13.5 (5)</td>
</tr>
</tbody>
</table>

Results: Patient Characteristics

Main Result

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>SD</th>
<th>Std Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Pain Score</td>
<td>9.0278*</td>
<td>36</td>
<td>1.46358</td>
<td>.24393</td>
</tr>
<tr>
<td>3 month pain score</td>
<td>5.2778*</td>
<td>36</td>
<td>2.84466</td>
<td>.47411</td>
</tr>
</tbody>
</table>

*p<0.0001

Results

<table>
<thead>
<tr>
<th>Prevalence of other coexisting pain triggers (+PN)</th>
<th>Number of patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelvic Floor Myalgia (n=37)</td>
<td>33</td>
<td>89</td>
</tr>
<tr>
<td>Vulvodynia (n=33)</td>
<td>27</td>
<td>81</td>
</tr>
<tr>
<td>Vulvodynia + PFM (n=33)</td>
<td>25</td>
<td>75</td>
</tr>
<tr>
<td>PBS/IC (n=37)</td>
<td>20</td>
<td>54</td>
</tr>
<tr>
<td>Endometriosis (n=33)</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Obturator Neuralgia (n=37)</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>
Discussion

• **Strengths**
  - Less invasive management
  - Scarce studied

• **Weakness**
  - One facility and One provider
  - Lack of pain score documentation/lost to follow up
  - Multiple diagnoses
  - Retrospective
  - Small sample size

Conclusion

• Consider Pudendal Neuralgia as diagnosis in patient that presents with Chronic Pelvic Pain
• Multidisciplinary conservative management of Pudendal Neuralgia is effective in decreasing pain scores
• Often multiple diagnoses

REFERENCES

CULTURAL AND LINGUISTIC COMPETENCY

Governor Arnold Schwarzenegger signed into law **AB 1195** (eff. 7/1/06) requiring local CME providers, such as the AAGL, to assist in enhancing the cultural and linguistic competency of California's physicians (researchers and doctors without patient contact are exempt). This mandate follows the federal Civil Rights Act of 1964, Executive Order 13166 (2000) and the Dymally-Alatorre Bilingual Services Act (1973), all of which recognize, as confirmed by the US Census Bureau, that substantial numbers of patients possess limited English proficiency (LEP).

**California Business & Professions Code §2190.1(c)(3)** requires a review and explanation of the laws identified above so as to fulfill AAGL's obligations pursuant to California law. Additional guidance is provided by the Institute for Medical Quality at [http://www.imq.org](http://www.imq.org).

**Title VI of the Civil Rights Act of 1964** prohibits recipients of federal financial assistance from discriminating against or otherwise excluding individuals on the basis of race, color, or national origin in any of their activities. In 1974, the US Supreme Court recognized LEP individuals as potential victims of national origin discrimination. In all situations, federal agencies are required to assess the number or proportion of LEP individuals in the eligible service population, the frequency with which they come into contact with the program, the importance of the services, and the resources available to the recipient, including the mix of oral and written language services. Additional details may be found in the Department of Justice Policy Guidance Document: Enforcement of Title VI of the Civil Rights Act of 1964 [http://www.usdoj.gov/crt/cor/pubs.htm](http://www.usdoj.gov/crt/cor/pubs.htm).

**Executive Order 13166, “Improving Access to Services for Persons with Limited English Proficiency”,** signed by the President on August 11, 2000 [http://www.usdoj.gov/crt/cor/13166.htm](http://www.usdoj.gov/crt/cor/13166.htm) was the genesis of the Guidance Document mentioned above. The Executive Order requires all federal agencies, including those which provide federal financial assistance, to examine the services they provide, identify any need for services to LEP individuals, and develop and implement a system to provide those services so LEP persons can have meaningful access.

**Dymally-Alatorre Bilingual Services Act** (California Government Code §7290 et seq.) requires every California state agency which either provides information to, or has contact with, the public to provide bilingual interpreters as well as translated materials explaining those services whenever the local agency serves LEP members of a group whose numbers exceed 5% of the general population.

~