Multimodal Pain Management Strategies for Andrology Procedures

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Disclosures

• Consultant – Boston Scientific
• Consultant – Coloplast
Lack of Robust EBM

PHARMA "INNOVATION"

OPIOID CRISIS

DECREASED REGULATION, INCREASED ATTENTION TO TREAT PAIN

POLITICS
Disclaimer – My Practice:

- Urethral Reconstruction (35%)
- Surgical ED/Peyronie’s (35%)
- Male SUI (15%)
- Upper Tract Reconstruction (10%)
- Miscellaneous (5%)

I am not a Pain Medicine Doctor – but this is an area of interest for me. Hopefully, you become interested too!
Laparoscopic Assessment of High Submuscular Reservoirs – Technical Considerations

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Literature in reconstruction often focuses on surgical technique

In IPP recipients in particular, pain control is often an issue

Scarred Corpora in a Patient with a History of Fournier's Gangrene: Technical Considerations

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Pain Management in Penile Prosthetic Surgery: A Review of the Literature

Lael Reinstatler, MD, MPH, Kevin Shee, BS, and Martin S. Gross, MD
44% increase in risk of opioids at 1 year if received medications 7 days following short stay surgery

13.5% risk of opioids at 1 year if received medications 7 days following short stay surgery
The Comprehensive Addiction and Recovery Act (CARA)

Public Law 114-198

Opioid Prescribing Limits for Acute Pain — Striking the Right Balance

Margaret Lowenstein, M.D., M.Phil., David Grande, M.D., M.P.A., and M. Kit Delgado, M.D.
• Assessment of opioid keepage following discharge from hospital pre and post test
  • 72% vs 68% kept opioids ($p=0.66$)
  • Major barriers: concern for disease-related pain (44%), unrelated pain (25%)
  • Only ~9% appropriately disposed
• 205 patients

• Median 225 TME prescribed vs. 22.5 used! (Ex: 5 mg oxycodone = 7.5 TME)

• 84% used less than ½ the prescription

• 9% disposed appropriately
We Have Defined the Extent of the Problem in Urology…

But…

How Can We Treat Our Patients Effectively Following Surgery?
Pain Perception

Pain perception from local inflammation and nerve damage from surgery

Release of inflammatory mediators: Bradykinin, prostaglandin, substance P, histamine

Target peripheral nervous system that synapse in spinal cord and then supraspinal centers

PAIN
• Multimodal analgesia: premise that concurrent use of primary nonopioid meds have synergistic effect

• Nonopioid meds + techniques can be optimized to the surgery to minimize adverse events and patient outcomes

ASA Task Force on Acute Pain, Anesthesiology, 2012
Regional anesthesia

Local blocks / Neuraxial anesthesia

Acetaminophen

Gabapentinoids

NSAIDs

Wound infiltration

Tailored Multimodal Analgesia Pathway
Gabapentin

- Works centrally on GABA receptors
- Opioid sparing effect
- Can be titrated up gradually
- Meta-analyses demonstrate
  - Dramatic reduction of postoperative pain at 24 hrs
  - Increase in risk of postoperative sedation and dizziness

Mishriky BM, Br J Anesth, 2015
NSAIDs

- Opioid sparing effect
- Inhibition of COX and prostaglandin pathways
- Should be scheduled (not prn)
- 600 mg ibuprofen ~ 15 mg oxycodone
- Meta-analysis:
  - 23 trials: If nml renal fxn preop, rare to develop postop renal compromise
  - 27 trials: No difference in postoperative bleeding or GI issues

Lee A, Cochrane, 2007
Gobble RM, Plast Reconstr Surg, 2014
Acetaminophen

- **Decreases nausea, vomiting, and sedation**
- **Should be scheduled**
- **Synergistic with NSAIDs**
- **Avoid in patients with hepatic insufficiency**
- **Maximum dose is 4g / day!**

Wick EC, JAMA Surg, 2017
Penile Implants

Boston Scientific

Coloplast
Long-acting liposomal bupivacaine decreases inpatient narcotic requirements in men undergoing penile prosthesis implantation.
Limitations of ALL Prior Analyses

• Non validated questionnaires used to assess pain

• No follow up of pain > 1 week postop

• Non-generalizable (e.g. single institutional)
**Acetaminophen 975 mg**  
**Gabapentin 300 mg**  
**Meloxicam 15 mg**  

**Holding Area**

**Pudendal nerve block**  
(10 cc 0.5% Bupivacaine + 10 cc 1% Lidocaine)

**Dorsal penile nerve block**  
(10 cc 0.5% Bupivacaine + 10 cc 1% Lidocaine)

**Intraoperative**

**Acetaminophen 975 mg q6h**  
**Gabapentin 300 mg TID**  
**Meloxicam 15 mg daily**  
**Oxycodone 5 mg q4h prn moderate pain**  
**Morphine 2 mg q2h or Hydromorphone 1mg q3h prn severe pain**

**Postoperative (While Inpt)**

**Acetaminophen 975 mg q6h**  
**Gabapentin 300 mg TID**  
**Meloxicam 15 mg daily**

**Discharge**
Novel Multi-Modal Analgesia Protocol Significantly Decreases Opioid Requirements in Inflatable Penile Prosthesis Patients

Ching Man Carmen Tong, DO,1,2 Jacob Lucas, DO,1,2 Ankur Shah, MD,1,2 Christopher Foote, DO,1,2 and Jay Simhan, MD,1,2

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4 High Volume Implanters From Multiple Institutions

MMA Cohort
N=103

OB Cohort
N=100
• Mandatory drug registry
• Offers robust mechanism to track postoperative narcotics
Figures: Tools Commonly Used to Rate Pain

Visual Analogue Scale

Choose a Number from 0 to 10 That Best Describes Your Pain

- No Pain
- Distressing Pain
- Unbearable Pain

ASK PATIENTS ABOUT THEIR PAIN
INTENSITY—LOCATION—ONSET—DURATION—VARIATION—QUALITY

“Faces” Pain Rating Scale

- 0 NO HURT
- 1 HURTS LITTLE BIT
- 2 HURTS LITTLE MORE
- 3 HURTS EVEN MORE
- 4 HURTS WHOLE LOT
- 5 HURTS WORST
### In-Hospital Narcotics Reduction

<table>
<thead>
<tr>
<th></th>
<th>Multimodal Analgesia (n = 103)</th>
<th>Opioid-based (n = 100)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PACU</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>VAS</td>
<td>0.0 (0.0-2.8)</td>
<td>2.0 (0.0-4.0)</td>
<td>0.01</td>
</tr>
<tr>
<td>TME (mg)</td>
<td>0.0 (0.0-7.5)</td>
<td>4.0 (0.0-8.8)</td>
<td>0.001</td>
</tr>
<tr>
<td><strong>POD0</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAS</td>
<td>3.0 (0.0-4.1)</td>
<td>4.0 (2.7-5.6)</td>
<td>0.001</td>
</tr>
<tr>
<td>TME (mg)</td>
<td>7.5 (0.0-14.3)</td>
<td>12.5 (2.0-22.5)</td>
<td>&lt;0.001</td>
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<tr>
<td><strong>POD1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAS</td>
<td>3.0 (1.0-4.8)</td>
<td>4.3 (2.0-5.7)</td>
<td>0.04</td>
</tr>
<tr>
<td>TME (mg)</td>
<td>7.5 (0.0-16.0)</td>
<td>13.5 (4.0-30.0)</td>
<td>0.01</td>
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Post Discharge Narcotics Reduction

<table>
<thead>
<tr>
<th></th>
<th>Multimodal Analgesia (n = 103)</th>
<th>Opioid-based (n = 100)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td># narcotics prescribed at discharge, Tabs</td>
<td>20 (12-20)</td>
<td>30 (20-45)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td># pts requiring prescription refills, n (%)</td>
<td>11 (10.7)</td>
<td>28 (28.0)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
Pain Management

• First multi-institutional ERAS pathway for IPPs ever reported (*also first for Urology)

• Patients have less perceived pain and require fewer inpatient narcotics

• Patients get discharged with less narcotics and require less narcotic prescription refills after discharge
Pain Management in Urology (Not Just for IPPs!)

• Utilize acetaminophen, NSAIDs and gabapentin for most patients (unless contraindications)
• I am not afraid to titrate up gabapentin
• Local anesthetics for scrotal and penile cases liberally
• Recognize dose dependent risk of future narcotics dependence
Questions?

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