CAN WE ELIMINATE OPIOIDS AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION? A PROSPECTIVE RANDOMIZED CONTROLLED TRIAL

TOUFIC R. JILDEH MD, NOAH KUHLMANN BS,
CALEB GULLEDGE BS, KLEECHI R. OKOROHA MD, VASILIOS MOUTZOUROS MD

Department of Orthopaedic Surgery
Henry Ford Health System
Detroit, Michigan
DISCLOSURES

- Neither I, nor my coauthors, have anything to disclose
**WHAT WE KNOW**

- **Pain** as the 5th vital sign
- Opioid prescriptions:
  - 76 million prescriptions in 1990 → 219 million prescriptions in 2011
- Managing **pain** vs. **patient satisfaction**
- Is **multimodal analgesia** the answer?
PURPOSE

• To determine if postsurgical pain following anterior cruciate ligament reconstruction can be managed effectively with a novel non-narcotic multimodal analgesic protocol
HYPOTHESIS

• The **non-opioid multimodal pain protocol** would be able to **effectively manage pain** following anterior cruciate ligament reconstruction
METHODS

• Prospective, randomized control trial
• Single surgeon, January 2019 to April 2019
• 2 arms:
  • Traditional opioid analgesia (Norco 5-325)
  • Novel non-narcotic protocol
• Exclusionary factors:
  • Allergy or intolerance to any constituent medication, alcohol or drug abuse history, pregnancy, renal impairment, peptic ulcer disease, gastrointestinal bleeding, history of narcotic use within 6 months of surgery.
**METHODS**

- Chart review for **demographic factors**
- Patient **pain** and **PROMIS** data obtained **in-office** and by secure, approved **texting application**
THE PROTOCOL

- Preoperative analgesics
  - Celecoxib
  - Acetaminophen
  - Gabapentin
  - Dexamethasone
  - Tramadol
- Intraoperative local infiltration analgesia
  - Ropivacaine
  - Ketorolac
  - Epinephrine
THE PROTOCOL – POST-OPERATIVE

• **Postoperative Days 1-5**
  • Ketorolac
  • Gabapentin
  • Diazepam
  • Acetaminophen

• **Postoperative Days 6-10**
  • Ketorolac switched with Meloxicam
  • Gabapentin wean (BID on days 6-7, QD days 8-9, no gabapentin day 10)
  • Continue acetaminophen
RESULTS – DEMOGRAPHICS

- 18 nonopioid, 8 traditional
- Average **age**: 26.9 ± 11.7 years
- Average **BMI**: 27.5 ± 3.8
- 44.4% **male**
- **No** workers compensation claims
RESULTS – BLOCKS AND CONCOMITANT PROCEDURES

• Concomitant Procedures:
  • 7 meniscus repairs
  • 12 menisectomies

• Nerve blocks:

<table>
<thead>
<tr>
<th></th>
<th>Nonopioid</th>
<th>Traditional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adductor</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>None</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>
RESULTS – VAS PAIN

VAS Scores vs. Post-operative Day for Narcotic and Non-Narcotic Protocol
RESULTS – VAS PAIN

- Statistically significant improvements (p<0.05) in VAS pain scores pain with non-narcotic protocol on:
  - POD 1-2, POD 4-10.
RESULTS – PROMIS PAIN INTERFERENCE

• Narcotic:
  • Pre-Operative: 59.1 ± 7.2
  • Post-Operative: 65.6 ± 6.6
  • P= 0.051

• Non-Narcotic:
  • Pre-Operative: 58.7 ± 5.8
  • Post-Operative: 57.4 ± 10.5
  • P= 0.348
RESULTS – PATIENT REPORTED SIDE EFFECTS

• 54% reported **no side effects**
• Most common side effect in **traditional**:  
  • Constipation
• Most common side effect in **nonnarcotic**:  
  • Drowsiness
**DISCUSSION**

- Role of *nonopioid pain regimens* in *anterior cruciate ligament reconstruction*?
- What this **means** for Sports Surgeons?
- Pain Control: consistent improvement
- PROMIS PI: No difference
- Side effects: alternative side effect profile (*drowsiness*)
THANK YOU

Contact: Toufic R. Jildeh, MD
TouficJildeh@gmail.com