OPTIMIZING NON-OPIOIOD PAIN MANAGEMENT IN THE PERI-OPERATIVE PERIOD

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Disclosures

- I have no conflicts of interest to report.
Case Presentation

• 42 y/o male with ESLD due to Hep C undergoing autologous liver transplantation

• Previous history of IVDA.
  • Has been clean for years
  • Maintained on buprenorphine/naloxone (suboxone)

• Was on suboxone up until day prior to transplant
POD #1

• Transplantation completed successfully...

• Pain service consulted to help with pain management.
  • Doing well on his hydromorphone PCA
  • Plan was to transition to oral medications – opioids and non-opioids.
  • Depending on length of stay, can transition him to suboxone before discharge
Hospital Course

• Patient started refusing to stop using rescue IV medication

• Refused to transition to suboxone therapy only

• Threatened to leave AMA

• Found with needle in his arm – girlfriend had brought heroin to his room
• Why discuss this patient?

• This is a real problem – not far fetched
Inadequate Postop Pain Control

- Delayed Recovery
- ↑ Postop Complications (• Pneumonia • Cardiac events)
- ↓ Patient Satisfaction
THE EFFECTS OF OPIATES ON YOUR BODY

BLOOD
- Heroin or crushed pill injections can cause veins to collapse.

HEART
- Heart lining can become infected due to contamination from heroin or crushed pills.

BRAIN
- Heavy opiate use can cause sedation.

LUNGS
- Ensuing respiratory depression can lead to slowed breathing, which is potentially fatal.

DIGESTIVE SYSTEM
- Slowing of the digestive system can result in constipation.

LIVER
- Shared infected needles can cause hepatitis.

NERVOUS SYSTEM
- Chronic opiate abuse can create a greater sensitivity to pain.

IMMUNE SYSTEM
- Vulnerability and infection can occur due to reduced immune response.

www.DrugAbuse.com
Multimodal Analgesia

• When multiple modalities are used to provide pain relief - Various parts of the pain pathway targeted.
  • Decreased dependence on single modality agents → decreases the risk of side effects.

• May include
  • Pharmacological (opioids, NSAIDS, gabapentanoids)
  • Regional analgesia (nerve blocks, indwelling catheters)

• Enhanced recovery protocols
Pre-op

- Pre-op medications – taken 1 hr prior to induction
  - Gabapentin (calcium channel blocker) – 300-800mg
  - Acetaminophen – 975mg
  - Celecoxib (COX2 inhibitor) – 100-200mg

- Regional Techniques, if appropriate
Regional

- Epidural & paravertebral catheters
  - open abdominal & thoracic procedures

- Peripheral nerve catheters or single shots
  - Transverse Abdominal Plain blocks
  - Extremities blocks
Anterior cutaneous branches

Lateral cutaneous branches

Rectus abdominis muscle

Iliohypogastric nerve (L1)

Ilioinguinal nerve (L1)

Inguinal ligament

Ventral rami of T6-T12
Thoracic epidurals

- Epidural placed between T9-11 levels
- Mix of local anesthetic and a very low concentration of fentanyl

**BENEFITS**

<table>
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<tr>
<th>Superior pain control</th>
<th>Hypotension</th>
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<tr>
<td>Minimal lower extremity weakness – patient able to walk/participate in PT</td>
<td>Risks associated with procedure (headache, hematoma, abcess)</td>
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Thoracic Paravertebrals

- Targets the DRG and intercostal nerve
- Useful in thoracic procedures, rib fractures

<table>
<thead>
<tr>
<th>BENEFITS</th>
<th>RISKS</th>
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<tr>
<td>less hypotension</td>
<td>Risk of pneumothorax (although less of an issue with lung procedures)</td>
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Intrathecal Morphine

- Used for laparoscopic procedures
- 1 Intrathecal dose of morphine = 100 IV dose
- Post-op monitoring required
Intra-op pain management

- Ketamine infusion - 0.25mg/kg/hr
- Lidocaine Infusion – 2mg/kg/hr

- Avoid hydromorphone
- Limit fentanyl to 2-4 mcg/kg entire surgery

- Local anesthetic infiltration at surgical site
Post op

- Continuation of multimodal analgesia is important
  - Continue scheduled gabapentin
  - Continue scheduled acetaminophen (3000 mg daily) & NSAIDs

- Transition quickly to oral opioids

- Limit IV opioids
Suboxone therapy for addiction

• Recent editorial published challenging conventional practice for patient receiving Suboxone (Buprenorphine/naloxone)

• Data suggesting we should not stop suboxone therapy in the peri-operative period

• Treat more like a long acting opioid – methadone, etc.
Continued Challenges with Pain Management

• Patient expectations regarding post-op pain
  • We need to set up realistic expectations in the clinic regarding pain control

• Inconsistent practices
  • Personal preferences and departmental variations
Take Home Points

• Multimodal approach to pain management important throughout peri-operative period
  • Pre-op, intra-op, post-op

• Teamwork between surgical team, anesthesia team and acute pain team will give our patients the best outcomes
Take Home Points

• Set up appropriate expectation with our patients regarding pain.

• Patients on suboxone for addiction – **CAUTION!**
References


- Consensus Guidelines on the Use of Intravenous Ketamine Infusions for Acute Pain Management From the American Society of Regional Anesthesia and Pain Medicine, the American Academy of Pain Medicine, and the American Society of Anesthesiologists. Regional Anesthesia and Pain Medicine • Volume 43, Number 5, July 2018

- Perioperative Use of Intravenous Lidocaine. Anesthesiology 2017; 126:729-37
OH, TEXTING ON YOUR PHONE AND IN 10/10 PAIN

NO DILAUDID FOR YOU!