Acute Pain Management in the Opioid Dependent Patient

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Relieving Pain in America (IOM)

- More than 116 million Americans have pain that persists for weeks to years.
- $560-635 billion per year financial costs.
- 30 million cases of acute and post-operative pain.
- 4 billion work days lost per year due to pain.
- 22 million adults use prescription pain medication.
- Increased numbers of misuse of opioids/addiction.
- 2006 estimated 53.3 million surgical/non-surgical procedures performed in US.
- 1 in 200 patients who had an out-patient surgical procedure end up being hospitalized due to inadequate pain control.
- All numbers are expected to grow as Baby-Boomers age.
What’s the easiest pain to Bear?
Preemptive Pain Management: Neurobiology

- Noxious stimuli initiate cascade of events peripherally and centrally to produce PAIN
- Sensitization (Dynamic)
- Nociceptive stimuli amplified (Primary and Secondary Hyperalgesia)
- Non painful stimuli produce PAIN (Allodynia)
Why is Pain Undertreated?

- Clinicians—nurses and prescribers reluctant to use high dosages of opioids
- Conflicting need to balance the rights of the patient vs. the concerns for safety, diversion and abuse
- Lack of knowledge in assessment of patients
- Fear drugs will trigger addiction
- Fear of dangerous physical problems such as respiratory depression
Post operative pain control in patients related to substance dependency or addiction should center on 3 main goals

- Using a Multimodal Approach
- Preventing Withdrawal Symptoms
- Treat concurrent psychological disorders such as anxiety, depression
What is Tolerance?

- It is a state of adaptation in which exposure to a drug induces changes that result in the drug's adverse AND beneficial effects to lessen over time.

- Tolerance may develop to the analgesic effects of opioids.

- Considered a normal physiological adaptation, but development of tolerance is variable in individuals.

- When tolerance develops from daily use of an opioid, a higher dose is required to obtain the same amount of pain relief of previous lower doses.
Opioid Tolerance: Features

- Tolerance to pain management, respiratory depression, and sedation
- Experience increased Non Nociceptive Suffering (Anxiety)
- May exhibit pain “Behaviors” Pseudo-addiction
- All which make preoperative pain management challenging
Multimodal Perioperative Analgesia

- “Buzz-Phrase”

- Relies on different classes of analgesics acting at different sites
  - Opioids
  - Non-opioids
  - Adjuvant analgesics
  - Interventional/Neuraxial Analgesia
Treatment Approaches: Preop

- Ask the patient about use of prescription or illicit drugs/alcohol
- Previous pain management strategies
- Know the patient's chronic baseline opioid requirements and understand that they will need higher dosage postop
- If patient is utilizing extended released opioid allow to continue taking up until surgery (allow for Duragesic patch to remain on)
- Continuation of home opioid regimen on the day of surgery
- Consideration of Acetaminophen 1000MG 1-2 hours prior to surgery
- Consideration of COX-2 1-2 hours prior to surgery
- Consideration of single preop dose of gabapentin or pregabalin
Intraoperative

- Maintain baseline opioids to avoid withdrawal issues
- Anticipated postoperative pain requirements
- Administer of Adjuvant medications such as:
  - Ketamine 0.5mg/kg
  - Ketorolac 30mg IV
  - Acetaminophen 1000mg if not started preoperatively
- Institution of appropriate regional technique such as nerve block. epidural
Postoperative Care

- No predictions of opioid requirements can be made for an individual.
- Patients who use even low doses (<50 mg/day oral morphine equivalent) often require baseline opioid dosage PLUS 2 or more times the amount of opioids typically used for adequate pain control.
- Maintain baseline opioids.
- PCA; use as primary therapy or as supplementation for epidural or regional techniques.
- Continue adjunct “multimodal” analgesia.
  - Ketamine if started in OR, or consider instituting Ketamine infusion.
  - Gababentin.
  - Acetaminophen 1000Mg every 6 hours.
  - Consider alpha-2 agonists.
DO NOT rely solely on pain scores when assessing

- Opioid dependent patients and patients with chronic pain often report high pain scores regardless of overall condition

- When asked they may report a verbal pain rating of #8 (0-10) but then verbalize they are feeling/doing well

- LOOK at as many OBJECTIVE signs as possible when assessing overall progress

  Diet intake

  Ambulation

  Ability to cough and breath deeply

  Resumption of normal activities
Opioid Agonist Therapy (OAT)

- More patients with opioid addiction are receiving therapy with Methadone and Buprenorphine
- Providers more frequently encounter patients receiving OAT who develop acute painful conditions
- Often these patients are at risk for under treatment of acute pain
- It has been found that patients with addiction and pain have a “syndrome of pain facilitation”
- Pain experience is worsened by: subtle withdrawal, intoxication, withdrawal related sympathetic nervous system arousal, sleep disturbances and affective changes, all CONSEQUENCES of addiction

**ADDICTIVE DISEASE WORSENS THE EXPERIENCE OF PAIN**
4 Common Misconceptions that result in the under treatment of acute pain in patients receiving OAT
The Maintenance Opioid Agonist Provides Pain Control (Analgesia)

- Neither Methadone or Buprenorphine provide sustained pain relief
- Duration of pain relief 4-8 hours
- Most patients on OAT receive medication every 24-48 hours
- Opioid Tolerance
- Opioid-Induced Hyperalgesia
Use of Opioids for Analgesia May Result in Addiction Relapse

- No evidence that exposure to opioid analgesics in presence of ACUTE pain increases rates of relapse

- Stress related to unrelieved pain is more likely to be a trigger for relapse

- In study by Karasz and colleagues (J Pain Symptom Management 2004;28), patients receiving methadone therapy reported “pain played a substantial role in their initiating and continued use”.
The Additive effects of Opioid Analgesics and OAT May cause respiratory and CNS Depression

- Has never been clinically demonstrated
- Tolerance to the respiratory and CNS effects of opioids occurs rapidly and reliably
- Some studies suggest that acute pain serves as a natural antagonist to opioid associated respiratory and CNS depression
Reporting Pain may be a Manipulation to Obtain Opioid Medications, or Drug-seeking, because of Opioid Addiction

- Concerns about manipulation is substantial, difficult to quantify, and emotion-laden

- Pain is always subjective, making assessment difficult

- Careful clinical assessment for OBJECTIVE evidence of pain will decrease the chance of being manipulated

- Reports of acute pain with objective findings are less likely to be manipulative than are reports of chronic pain with vague presentations

- Patients receiving OAT typically receive treatment doses that BLOCK most euphoric effects of co administered opioids, which would decrease the likelihood of opioid analgesic abuse

- Often perceived by healthcare workers to be demanding
Treatment Recommendations

- Contact Methadone treatment program/MD for confirmation of dosage and if possible to discuss treatment POC
- Baseline Methadone dosage needs to continue for treatment of addiction but needs to be changed to a TID or QID dosing schedule
- For analgesia Methadone can be increased (based on short acting calculation/conversion)
- Add another opioid (short acting) for PRN use
- Utilize Adjuvants when able
- Discuss with patient discharge POC
Conclusion: Things to Remember

- Unmanaged pain leads to nervous system changes such as amplification of pain, development of chronic pain, permanent damage
- Opioid dependent patients have special needs in the perioperative period
- To prevent undermedication of the opioid dependent patient the provider may be required to titrate doses of opioid medication that would clearly result in overdose in an OPIOID-NAIVE patient, but under medication these patients must be avoided
- Often delivering a patient to PACU with acute uncontrolled pain often results in an extremely difficult and time consuming management issue
- Addiction creates neurophysiologic, behavioral, and social responses that worsen pain experience and complicate adequate acute pain control
- Complexities are worsened for patients with opioid dependency receiving OAT
- Higher doses at shortened intervals
- OAT provides little if any pain control
- Opioid effects differ among patients

- Change in mental status (LOC) occurs BEFORE respiratory depression