Perioperative Considerations for Patients with Chronic Pain

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Disclosure of Conflict of Interest

- I have nothing to disclose
JD

- 18 yo with Epidermylosis Bullosa
  - Amitriptyline 25mg
  - Methadone 25 mg tid
  - Hydromorphone 12 mg for daily dressing changes
  - Fentanyl lozenge for breakthrough pain
  - Doloexetine
  - Clonazepam at night

- Multiple family issues

- History of depression

- Having extensive dental work
Key Questions?

- Is there evidence the patients with chronic pain have more postoperative pain?
- Is it harder to treat?
- What treatment modalities have been studied?
- Are there any pediatric studies?
Severity of Postop Pain in Chronic Pain Patients

- Chapman 2009
  - Patients with chronic pain that requires opioids have more postoperative pain and their pain also resolves more slowly

- Chapman 2011
  - Postoperative pain resolves more slowly in patients with chronic pain patients whether or not they are taking opioids
  - Chronic pain patients using opioids have higher postoperative pain
Preoperative Pain = More Postop Pain

Hu et al 2009, Anesthesiology
Kalkman et al 2003, Pain
Preoperative Pain as Risk Factor for Prolonged Postsurgical Pain

Gerbershagen et al, European Journal of Pain 2009
Postop Opioids in Chronic Pain Patients

- Rapp 1995
  - Higher PCA usage: mean 24h morphine usage 135.8mg vs 42.8 mg
  - Higher pain scores
  - Pruritic and emetic symptoms less common
Why would chronic pain patients have more pain?

- Central/peripheral hypersensitivity
- Behavioral conditioning
- Opioid induced hyperalgesia
- Undertreatment/underrecognized
Role of Opioid Induced Hyperalgesia

- May partially explain findings of increased opioid/analgesia requirement
- Possible reason to fully explore nonopioid options
- Special role of NMDA antagonists
Clinical Management

Carrol IR, Angst MS, Clark JD. Regional Anesthesia and Pain Medicine 2004
Rozen D, Grass GW. Pain Practice 2005
Unique perioperative considerations

- Baseline opioid usage
- High dose methadone and prolonged QT
- Gastric emptying and chronic opioid use
- Antidepressants (TCA) and prolonged QT
- Behavioral/Psychiatric issues - depression
What Are Our Options?
Treatment Options to Decrease Postop Pain

- Opioids
- Gabapentin
- Clonidine/dexmedetomidine
- Ketamine
- NSAIDS
- Regional analgesia
Opioids

- Longer acting opioids may be beneficial, especially for baseline requirements
- Overall requirement may be 2x or more than opioid naïve patients
- Postoperative dosing should take into consideration preoperative requirements
  - One option: PCA basal rate at hourly equivalent of preoperative requirement, PCA bolus dosing for additional analgesia
- Consider expected PACU stay
Gabapentin

- Ho et al. Pain 2006
  - 1200 mg preop dose
  - Lower pain scores
  - Lower opioid consumption

- Rusy et al. Anesth Analg 2010
  - 5mg/kg preop dose
  - Opioid consumption lower through POD 2
  - Pain scores lower through AM post surgery

- Common dosing: 1200 mg (adults), 5-15 mg/kg for Peds

- Pregabalin??
IV Ketamine

• Elia, Tramer. Pain 2005
  • Bolus only, or bolus + infusion, median dose 0.4 mg/kg
  • Lower pain scores (48 hr) and opioid consumption (24 hr)
  • Incidence of “hallucinations” low

• Dahmani S. et al. Pediatric Anesthesia 2011
  • Decreased pain and opioid consumption in PACU
  • No difference after PACU through 24 hr
  • Minimal side effects

• Wide range of dosing: Bolus up to 0.5 mg/kg, infusion 1-10 mcg/kg/min
Alpha-2 agonists

- Schmidt AP et al. Pediatric Anesthesia 2007
  - Oral clonidine 4mcg/kg, transmucosal dexmedetomidine 1 mg/kg, midazolam 0.5mg/kg
  - Lower postop pain scores in PACU
  - No difference in postop sedation, time to discharge

- Dahmani S et al. 2010
  - Review article comparing clonidine to benzodiazepines
  - Dose range 2-4 mcg clonidine
  - Lower postop pain scores
Intraoperative dexmedetomidine

- Ohtani N et al. J. Anesth 2011
  - 1 mcg/kg/hr infusion
  - PCEA usage significantly lower

- Zhuang PJ et al. Anaesthesia 2011
  - Compared to morphine for T&A
  - Higher postop morphine requirement

- Mason KP, Lerman J. Anesthesia-Analgesia 2011
  - Reports of use centrally (intrathecal, epidural)
NSAIDs

- Gilron et al. Anesthesiology 2003
  - Review of COX-2 inhibitors
  - Opioid sparing effect for postoperative pain
  - Unclear if better than other NSAIDs
  - Preemptive effect?

- Bean-Lijewski et al. Oto Head and Neck 2007
  - Rofecoxib after tonsillectomy
  - Active pain scores reduced compared to hydrocodone
Ketorolac

- Aldrink et al. J Ped Surg 2011
  - Studied use in patients less than 3 mo
  - Increased bleeding events

- Moffet et al. Pediatric Anesthesia 2006
  - Use in children less than 6 mo after cardiac surgery
  - Felt it was safe to use
IV APAP

- Recently FDA approved
- Some evidence more efficacious than PO
- Can be very useful adjuvant, especially if NPO and not a candidate for NSAIDs
Regional Analgesia

- Epidurals most widely studied
  - Lipid soluble drugs (sufentanil) may be more efficacious
  - Role of clonidine?
- Systemic opioids should be continued - 50% of baseline dosing?
- May still need adjuvant medications - NSAIDS etc
- Clear communication with surgical team, nursing is key
Perioperative Management of Chronic Pain Patients: Putting it all together

Carrol IR, Angst MS, Clark JD. Regional Anesthesia and Pain Medicine 2004

Rozen D, Grass GW. Pain Practice 2005
Preoperative Evaluation

- Pain severity and location
- Current opioid usage
- Accurate documentation of nonopioid medication
- Identify psychiatric/behavioral history; preemptive involvement of peds psychology
- Discuss importance of continuing medication regimen up to surgery
- Identify specific concerns of patients/parents
- Discuss treatment plan with patient and parents
- Preemptive communication between pain team, surgical team, anesthesia team, etc
Intraoperative

- Include baseline requirements in opioid dosing plan
- Consider ketamine, dexmedetomidine, regional techniques
- NSAIDs and/or IV APAP when not contraindicated
- Plan dosing with transition to PACU
- Communicate with PACU staff
Postoperative

- Continue opioid dosing as indicated, may require significantly higher doses than “normal”

- Communicate with pain team; pain team presence in PACU may be helpful

- Communicate with family, patient

- Ensure baseline opioids are continued or considered

- Consider pediatric psychology involvement for coping support

- 24/7 availability for questions, problems

- Pain team participation in discharge planning
Management Overview

- Preoperative identification, evaluation, planning
- Communication of plan between pain team, anesthesia team, nursing, and surgical team before surgery
- Include patient in the discussions preoperatively
- Introduce adjunctive/nonopioid treatment preoperatively/intraoperatively/postoperatively
- Postoperative followup and discharge planning including pain team input
References


References


- Mason KP, Lerman J. Dexmedetomidine in Children: Current knowledge and future applications. Anesthesia-analgesia 2011 113 (5); 1129