Chronic Non-Terminal Pain

Opioid Based Treatment

Learning Objectives

• Describe the role of opioid analgesics in the management of chronic pain syndromes

• Provide safe and effective dosing of opioids for various chronic pain syndromes
Outline

• The basics
  – Assessment
  – Goals
• Opioid analgesics
  – Treatment
  – Monitoring
  – Conversions

Assessment of Pain

• Thorough patient history
  – CC, HPI, ROS, PMH
• Validated pain scales (visual analog scales)
• Physical exam
• Imaging and diagnostic studies
Goals of Chronic Pain Management

• Keep patient functional
• Improve mental health
• Decrease pain perception and dependence on drug therapy
• Decrease rate of physical deterioration
• Reduce pain as much as possible without undue adverse effects

Non-Pharmacologic Therapy

• Physical/Occupational therapy
• Transcutaneous electrical nerve stimulation
• Psychotherapy
• Cold/heat
• Massage
• Prayer/meditation/spiritual
• Distraction
• Exercise
• Music

Pharmacologic Therapy

- Acetaminophen
- NSAIDs
- Muscle relaxants
- TCAs
- SSRIs, SNRIs
- Gabapentinoids
- Anticonvulsants
- Anti-arrhythmics
- Lidocaine
- Capsaicin
- Opioids
- Ketamine
- Corticosteroids
- Bisphosphonates

Pharmacologic Options

- Last month, but do not forget to use them!
- Next talk
- Today’s discussion
- Advanced pain management
Opioids

• Opium – dried powdered alkaloid mixture from the unripe seed capsules of the poppy

• Opiates – naturally occurring alkaloids, referring to any agent derived from opium

• Opioid – broadly describes all compounds that work on opioid receptors

Definitions

• Agonist – produce maximal response from receptor

• Partial agonist – bind receptor but elicit only a partial functional response no matter the amount of drug administered

• Antagonist – produce no functional response and prevent agonist from binding
Receptors

• Three opioid receptors (μ, δ, κ)
  – All are G-protein coupled receptors
  – Distributed widely within the CNS and periphery

Mu Receptors

• Location: brainstem and medial thalamus
• Agonism: supraspinal analgesia, respiratory depression, euphoria, sedation, decreased gastrointestinal motility, physical dependence
• Subtypes:
  – Mu1 – analgesia, euphoria, serenity
  – Mu2 – respiratory depression, pruritus, prolactin release, dependence, anorexia, sedation
Kappa Receptors

- Location: limbic and diencephalic areas, brain stem, spinal cord
- Agonism: spinal analgesia, sedation, dyspnea, dependence, dysphoria, respiratory depression

Delta Receptors

- Location: brain
- Agonism: psychomimetic, dysphoria
Indications and Role in Therapy

- Treatment of moderate to severe pain
- Cough, diarrhea, dyspnea, opioid dependence
- Acute, chronic, breakthrough, cancer, non-cancer, visceral, somatic, neuropathic (lesser extent) pain
## Opioid Metabolism

<table>
<thead>
<tr>
<th>Drug</th>
<th>Equianalgesic</th>
<th>Onset (min)</th>
<th>Duration (hr)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codeine</td>
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<tr>
<td>Fentanyl</td>
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<tr>
<td>Hydrocodone</td>
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<tr>
<td>Methadone</td>
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<tr>
<td>Morphine</td>
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<tr>
<td>Oxycodone</td>
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<tr>
<td>Tramadol</td>
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</tbody>
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Onset and durations listed are for oral formulations except for fentanyl, which is for the transdermal formulation.
CDC Guidelines

• No studies > 1 year of opioid vs. placebo, etc.
  – Most studies ≤ 6 weeks in duration

• Long-term opioid use is associated with an increased risk of opioid abuse or dependence
  – 0.7-6.1% vs. 0.004% rate of opioid abuse or dependence
  – Other studies report as high as 26%

CDC Recommendations

• Non-pharmacologic therapy and non-opioid therapy are first line
  – Only use opioids if benefits outweigh risks and continue to use non-pharmacologic and non-opioid based therapies

• Establish treatment goals before opioid use

• Frequently re-evaluate and re-educate
• Use immediate release formulations

• Use the lowest dose necessary
  – Re-assess benefits if exceeding 50 OME
  – Avoid increases above 90 OME

• Long-term use often starts with treating an acute pain episode
  – Prescribe no more than is reasonably necessary for that condition

CDC Recommendations

• Evaluate patients 1 to 4 weeks after starting opioids and at least every 3 months thereafter

• Consider mitigating strategies like narcotic contracts, naloxone co-prescriptions, prescription drug monitoring program checks, urine drug screens, avoid benzodiazepine co-prescriptions, and consider referral for opioid use disorders as needed
Treatment

• Nociceptive pain
• Neuropathic pain
• Cancer pain

Monitoring

• Onset of analgesic effect
• Duration of analgesic effect
• PRN medication use
• ADEs of medications
• Concomitant medication use
# Opioid Side Effect Management

<table>
<thead>
<tr>
<th>Side Effect</th>
<th>Management</th>
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</thead>
<tbody>
<tr>
<td>Nausea</td>
<td>Prochlorperazine</td>
</tr>
<tr>
<td>Pruritus</td>
<td>Diphenhydramine</td>
</tr>
<tr>
<td>Constipation</td>
<td>Senna or polyethylene glycol</td>
</tr>
<tr>
<td>Urinary Retention</td>
<td>Foley</td>
</tr>
<tr>
<td>Respiratory Depression</td>
<td>Naloxone</td>
</tr>
<tr>
<td>Allodynia</td>
<td>Opioid rotation and IV fluids</td>
</tr>
<tr>
<td>Mental Status Changes</td>
<td>Full workup</td>
</tr>
<tr>
<td>Myoclonus</td>
<td>Lorazepam and IV fluids</td>
</tr>
<tr>
<td>Neurotoxicity</td>
<td>Opioid rotation and IV fluids</td>
</tr>
<tr>
<td>Allergy</td>
<td>Opioid rotation</td>
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## Opioid Pearls

- Opioid absorption takes place in the gastric and duodenal mucosa
- Kadian or Avinza may be opened and sprinkled on soft food
- Kadian may be given via 16 French gastrostomy tube
- Controlled release morphine, controlled release oxycodone, and methadone may be given rectally
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