Chronic Non-Terminal Pain

Non-Opioid Based Treatment

Learning Objectives

- Provide basic assessment and monitoring of pain and pain interventions
- Describe the role of non-opioid analgesics in the management of chronic pain syndromes
  - Osteoarthritis
  - Low back pain
Outline

- Definitions and pathogenesis
- The basics
  - Assessment
  - Goals
- Non-opioid analgesics
  - Treatment
  - Monitoring

Pain

- Unpleasant sensory and emotional response associated with actual or potential tissue damage

- Acute – occurs suddenly, short-lived, resolves as acute illness resolves

- Chronic – lasts longer than expected healing process (or > 3mths), affects ADLs

www.iasp-pain.org/terms-p.html
Pain Processing

- Inflammation and transduction
- Conduction
- Transmission
- Modulation
- Perception

Pathogenesis

Nociceptive
- Visceral
- Somatic

Neuropathic
- Central
- Peripheral
Assessment of Pain

- **P** – what Provokes the pain?
- **Q** – Quality of the pain?
- **R** – does the pain Radiate?
- **S** – Severity of the pain?
- **T** – Time of the pain?

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

Pharmacologic Options

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

Today’s discussion
Neuropathic agents
Next month
Advanced pain management

Next month
**Acetaminophen**

- Centrally acting analgesic and anti-pyretic
  - Inhibits COX-2 enzymes in CNS
  - Other possible mechanisms: cannabinoid receptor activation, nitric oxide production inhibition, substance P inhibition, serotonergic/opioid pathway modulation

- Generally very well tolerated
  - Hepatotoxicity seen with acute and/or chronic use

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**NSAIDs**

- Analgesic, anti-inflammatory, anti-pyretic
  - Inhibits COX enzymes
    - COX-1 (normal tissue) vs. COX-2 (inflammation)

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NSAID Adverse Effects

• Gastrointestinal
  – GI upset, GI bleeding
• Cardiovascular
  – HF, MI, HTN
• Hepatic
• Renal

Acetaminophen vs NSAIDs

• Low back pain
  – Acute – likely prefer NSAIDs
  – Chronic – patient preference
• Osteoarthritis
  – Hands – topicals, oral NSAIDs
  – Hips – acetaminophen, NSAIDs
  – Knees – the above plus intraarticular injections

Acetaminophen vs NSAIDs

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Effect size (95% CI)</th>
<th>p-value</th>
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Muscle Relaxants

- Reduce pain by about 30% for acute low back pain
- No data exists regarding chronic back pain

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<th>Dose (mg)</th>
<th>Avoid</th>
<th>Notes</th>
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<tr>
<td>Cyclobenzaprine</td>
<td>5-10 TID</td>
<td>Heart</td>
<td></td>
</tr>
<tr>
<td>Methocarbamol</td>
<td>750 QID</td>
<td>MG</td>
<td></td>
</tr>
<tr>
<td>Carisoprodol</td>
<td>350 QID</td>
<td>AIP</td>
<td>CIV</td>
</tr>
<tr>
<td>Chlorzoxazone</td>
<td>250-750 TID-QID</td>
<td>Liver</td>
<td></td>
</tr>
<tr>
<td>Metaxalone</td>
<td>800 TID-QID</td>
<td>Liver</td>
<td></td>
</tr>
<tr>
<td>Orphenadrine</td>
<td>100 BID</td>
<td>MG; Elderly</td>
<td></td>
</tr>
<tr>
<td>Tizanidine</td>
<td>4 TID-QID</td>
<td>Heart</td>
<td></td>
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<tr>
<td>Baclofen</td>
<td>5-20 TID</td>
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<td>Renal dose</td>
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Monitoring

- Onset of analgesic effect
- Duration of analgesic effect
- PRN medication use
- ADEs of medications
- Concomitant medication use

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