Pain Management in a Geriatric Population

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Objectives

• Review definitions and types of pain
• Discuss purpose and value of pain management
• Discuss assessment through verbal and nonverbal methods
• Understand and recognize the barriers to appropriate pain control in the long-term care setting and develop methods for overcoming barriers
• Review treatment options and potential ADR’s as they related to a geriatric population
• Discuss outcomes of poor pain management
Definition of Pain

- An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.*

* As defined by the International Association for the Study of Pain
What Pain Really Is

“What ever the patient says it is.”
Types of Pain

• **Acute**
  • Lasts hours to weeks
  • Outcome is predictable
  • Usually the result of trauma, surgery, or other procedure
  • Primary treatment is usually analgesics

• **Chronic**
  • Can last months to years
  • May or may not be associated with a well defined disease process
  • In the elderly, is often associated with musculoskeletal disorders, neuropathy, claudication, or malignant pain.
Types of Pain

• **Nociceptive**
  • Somatic – located in the skin, bone, joint, muscle, or connective tissue
    • Well localized, sharp, throbbing, aching.
    • Patient can easily identify source of pain.
    • Examples include arthritis or back pain.
  • Visceral – located in the deep tissue or internal organs.
    • Difficult to localize, deep, aching
    • More difficult to identify source of pain.

• **Neuropathic – caused by nerve damage**
  • Can be peripheral or central
  • Burning, stabbing, shooting, electrical in nature.
  • Stimuli that do not normally cause pain can exacerbate it (light, touch, etc.)
Why is Pain Management Important

- Pain is twice as likely to occur in individuals aged 60 and older.
- The prevalence of pain is 40–80% among elderly in nursing homes.
- More than 50% of the US nursing home residents have substantial cognitive impairment or dementia, making pain assessment and treatment more difficult.
- Systemic barriers that make it difficult to assess pain: drug costs, formulary restrictions, staffing challenges, lack of coordination among health professionals.
Why is Pain Management Important

- Adverse outcomes associated with persistent pain in the geriatric population:
  - Functional impairment
  - Falls
  - Slow rehabilitation
  - Mood changes (depression and anxiety)
  - Sleep and appetite disturbances
  - Decreased socialization
  - Greater health care use and costs
Identifying Pain

Vertical Streaming

By Mike Seddon

"It's my knee, Doctor. It's still giving me problems."
Assessment of Pain

• **Why Assess?**
  • Pain is very subjective
  • Pain can be very complex
  • Help to determine the impact on function ability and quality of life.
  • Assessing and reassessing can help to determine if a medication regimen is working

• **Verbal**
  • Pain scales
  • Physical description
  • PQRST method

• **Nonverbal**
  • Non-verbal pain scales
  • Observation
  • Vital signs (BP, HR)
Verbal Pain Scales

Wong-Baker FACES Pain Rating Scale

Non Verbal Pain Scales

Pain Assessment IN Advanced Dementia

**PAINAD**

<table>
<thead>
<tr>
<th>Breath</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breathing Independent of Vocalization</td>
<td>Normal</td>
<td>Occasional labored breathing</td>
<td>Noisy labored breathing</td>
<td>Long period of hyperventilation</td>
</tr>
<tr>
<td>Negative Vocalization</td>
<td>None</td>
<td>Occasional moan or groan</td>
<td>Repeated troubled talking</td>
<td>Loud moaning or groaning</td>
</tr>
<tr>
<td>Facial Expression</td>
<td>Smiling, or Inexpressive</td>
<td>Sad</td>
<td>Facial grimacing</td>
<td></td>
</tr>
<tr>
<td>Body Language</td>
<td>Relaxed</td>
<td>Tense</td>
<td>Rigid</td>
<td></td>
</tr>
<tr>
<td>Distressed pacing</td>
<td>Fidgeting</td>
<td>Fists clenched, knees pulled up</td>
<td>Striking out</td>
<td></td>
</tr>
<tr>
<td>Consolability</td>
<td>No need to console</td>
<td>Distracted or reassured by voice or touch</td>
<td>Unable to console, distract or reassure</td>
<td></td>
</tr>
</tbody>
</table>

**PAIN SCALE FOR COGNITIVELY IMPAIRED, NON-VERBAL ADULTS**

**Checklist of Non-Verbal Pain Indicators (CNPI)**

**Indicators:**

<table>
<thead>
<tr>
<th>With Movement</th>
<th></th>
<th>At Rest</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vocal Complaints</strong></td>
<td>(non-verbal expression of pain demonstrated by moans, groans, grunts, cries, gasps, sighs)</td>
<td></td>
</tr>
<tr>
<td><strong>Facial Grimaces and Wincs</strong></td>
<td>(furrowed brow, narrowed eyes, tightened lips, dropped jaw, clenched teeth, distorted expression)</td>
<td></td>
</tr>
<tr>
<td><strong>Bracing</strong></td>
<td>(clutching or holding onto bed/chair, caregiver, or affected area during movement)</td>
<td></td>
</tr>
<tr>
<td><strong>Restlessness</strong></td>
<td>(constant or intermittent shifting of position, rocking, intermittent hand motions, inability to keep still)</td>
<td></td>
</tr>
<tr>
<td><strong>Rubbing</strong></td>
<td>(massaging affected area)</td>
<td></td>
</tr>
<tr>
<td><strong>Vocal Complaints</strong></td>
<td>(verbal expression of pain using words, e.g., “ouch” or “that hurts,” cursing during movement or exclamation of protest, e.g., “stop” or “that’s enough”)</td>
<td></td>
</tr>
</tbody>
</table>

**Total Score**
# Non Verbal Pain Scales

## Critical Care Pain Observation Tool

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facial expression</td>
<td>No muscular tension observed. Presence of frowning, brow lowering, orbit tightening, and levator contraction. All of the above facial movements plus eyelid tightly closed.</td>
<td>Relaxed, neutral (0), Tense (1), Grimacing (2)</td>
</tr>
<tr>
<td>Body movements</td>
<td>Does not move at all (does not necessarily mean absence of pain). Slow, cautious movements, touching or rubbing the pain site, seeking attention through movements. Pulling tube, attempting to sit up, moving limbs/thrashing, not following commands, striking at staff, trying to climb out of bed.</td>
<td>Absence of movements (0), Protection (1), Restlessness (2)</td>
</tr>
<tr>
<td>Muscle tension</td>
<td>No resistance to passive movements. Resistance to passive movements. Strong resistance to passive movements, inability to complete them.</td>
<td>Relaxed (0), Tense, rigid (1), Very tense or rigid (2)</td>
</tr>
<tr>
<td>Compliance with the ventilator (intubated patients)</td>
<td>Alarms not activated, easy ventilation. Alarms stop spontaneously. Asynchrony: blocking ventilation, alarms frequently activates. OR</td>
<td>Tolerating ventilator or movement (0), Coughing but tolerating (1), Fighting ventilator (2)</td>
</tr>
<tr>
<td>Vocalization (extubated patients)</td>
<td>Talking in normal tone or no sound. Sighing, moaning. Crying out, sobbing.</td>
<td>Talking in normal tone or no sound (0), Sighing, moaning (1), Crying out, sobbing (2)</td>
</tr>
<tr>
<td><strong>Total, range</strong></td>
<td></td>
<td>0-8</td>
</tr>
</tbody>
</table>
Assessing Pain

- Use the same pain scale for initial and repeat assessments whenever possible.
- Key elements include:
  - Location
  - Intensity
  - Duration
  - Aggravating/Remitting factors
  - Impact on QoL
  - Other symptoms
- Effective questioning is vital
  - PQRST approach
Assessing Pain

- **P= Provoke/Palliate**
  - What causes the pain?
  - What makes it better?
  - What makes it worse?
- **Q=Quality**
  - How would you describe the pain?
  - Is it sharp? Dull? Stabbing? Burning?
- **R=Region/Radiation**
  - Where is the pain
- **S=Severity**
  - How bad is the pain?
  - On a scale of 1-10?
- **T=Time**
  - When did it start?
  - How long does it last?
- **U=You**
  - How does the pain affect you?
Concerns in a Geriatric Population

- **Changes in gastrointestinal absorption or function**
  - Slowing of GI may prolong effects of continuous release drugs
  - Opioid-related constipation may be enhanced

- **Changes in transdermal absorption**
  - Changes in thickness may be present depending on co-morbid conditions or treatments.
  - Skin integrity may be compromised.

- **Changes in drug distribution**
  - Increased fat to lean body weight ratio may lead to increased volume of distribution for fat soluble drugs.

- **Changes in liver metabolism and renal excretion**
  - Increases/decreases in active metabolites, decreased clearance.

- **Anticholinergic side effects**
  - Increased confusion, constipation, incontinence, movement
    - These can be enhanced by neurological disease processes.
Concerns in a Geriatric Population

- Assessment of pain can become difficult in dementia/cognitively impaired patients.
- Atypical manifestations of pain can occur.
- Greater analgesic sensitivity.
- Dysphagia may be present.
- Many pain medication treatment options can increase the risk of falls.
- Increased risk of ADR’s due to age, co-morbid conditions, and multiple medication use.
- Majority of current data and dosing adjustments are extrapolated from clinical trials with younger populations.
# Treatment Options

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>325-500mg q4 hours</td>
<td>Max dose 3-4g daily.</td>
</tr>
<tr>
<td>Celecoxib</td>
<td>100mg daily</td>
<td>Higher doses associated with GI and cardiovascular complications.</td>
</tr>
<tr>
<td>Naproxen</td>
<td>220mg twice daily</td>
<td>Possibly less cardiovascular toxicity</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>200mg three time daily</td>
<td>FDA indicates concurrent use with ASA may inhibit ASA antiplatelet effect.</td>
</tr>
<tr>
<td>Diclofenac</td>
<td>50 mg twice daily</td>
<td>COX-2 inhibitor selectivity may increase cardiovascular risk</td>
</tr>
<tr>
<td>Nabumetone</td>
<td>1 g daily</td>
<td>Relatively long half life</td>
</tr>
<tr>
<td>Ketorolac</td>
<td>N/A</td>
<td>Not recommended. High potential for adverse GI side effects</td>
</tr>
</tbody>
</table>
# Treatment Options

## Opioid Analgesics

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocodone</td>
<td>2.5-5mg every 4-6 hours</td>
<td>Daily dose limited by APAP content</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>100mg daily-mg every</td>
<td>Higher doses associated with GI and cardiovascular complications</td>
</tr>
<tr>
<td>Oxycodone IR/SR</td>
<td>100mg daily-mg every</td>
<td>Higher doses associated with GI and cardiovascular complications</td>
</tr>
<tr>
<td>Morphine</td>
<td>220mg twice daily</td>
<td>Possibly less cardiovascular toxicity</td>
</tr>
<tr>
<td>Morphine IR/SR</td>
<td>220mg twice daily</td>
<td>Possibly less cardiovascular toxicity</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>200mg three time daily</td>
<td>FDA indicates concurrent use with ASA may inhibit ASA antiplatelet effect.</td>
</tr>
<tr>
<td>Methadone</td>
<td>50 mg twice daily</td>
<td>COX-2 inhibitor selectivity may increase cardiovascular risk</td>
</tr>
<tr>
<td>Oxymorphone IR/ER</td>
<td>1 g daily</td>
<td>Relatively long half life</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>N/A</td>
<td>Not recommended. High potential for adverse GI side effects</td>
</tr>
</tbody>
</table>
# Treatment Options

## Adjuvant Drugs

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCA’s</td>
<td>10mg qhs</td>
<td>Significant Anticholinergic side effects</td>
</tr>
<tr>
<td>Duloxetine</td>
<td>20mg daily</td>
<td>Multiple interactions, affects CNS &amp; BP.</td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>37.5mg daily</td>
<td>Associated with dose related increase in BP and HR</td>
</tr>
<tr>
<td>Carbamazepine</td>
<td>100mg daily</td>
<td>Lab monitoring necessary, multiple interactions.</td>
</tr>
<tr>
<td>Gabapentin</td>
<td>100mg at bedtime</td>
<td>Monitor sedation, ataxia, edema</td>
</tr>
<tr>
<td>Pregabalin</td>
<td>50mg at bedtime</td>
<td>Monitor sedation, ataxia, edema</td>
</tr>
<tr>
<td>Lamotrigine</td>
<td>25mg at bedtime</td>
<td>Monitor sedation, ataxia, cognition</td>
</tr>
<tr>
<td>Corticosteroids</td>
<td>Eg. 5mg daily followed by a tapering schedule</td>
<td>Short term use: Fluid retention and glycemic effects. Long term use: cardiovascular and bone demineralization</td>
</tr>
<tr>
<td>Lidocaine 5% (topical)</td>
<td>1-3 patches 12 hours per day</td>
<td>Possible skin rash or irritation</td>
</tr>
</tbody>
</table>
Treatment Options

- Non-pharmacological:
  - Adjuvant therapies
    - Heat/Cold, massages, exercise, etc.
  - Patient and Caregiver Education
    - Nature of pain, assessment tools, medication use, expectations
  - Cognitive-Behavioral Therapy
    - Systemic approach to teach coping skills
  - Osteopathic Manipulative Treatment
    - Tailoring to patient is important
  - Spirituality
    - Opportunity for spiritual support for patients with chronic pain.
Side Effect Monitoring

SIDE EFFECTS

Dry mouth, dizziness, cramps, rashes, impotence, stroke, V.D., bad credit, fever, memory loss, anal leakage, joint pain, ill fitting shoes, heart attack...

Maybe I'll just live with my itchy eyes
Side Effect Monitoring

- Gastrointestinal
  - Nausea - antiemetic's
  - Constipation
    - Monitoring of Bowel Movements
    - Additional pharmacological therapy
- Urine Output
- Kidney function
- LFT’s

- Respiratory Depression
  - O2 saturation
    - Normal 95-100%
    - Under 90% is considered low
  - Respiration rate
    - Normal is 12-16 breaths per minute
- Heart Rate
  - Normal is 60-100bpm
Consequences of Inappropriate Pain Management

- Over sedation
- Opioid-Induced Respiratory Depression (<12bpm)
  - Risk factors include:
    - Age 55+
    - BMI>30
    - Sleep Apnea
    - Preexisting pulmonary/cardiac disease
    - Smoker
    - Concurrent administration of other sedating agents (benzodiazepines, barbiturates, etc.)
- Opioid-Induced Constipation
- Acute Kidney Injury
- Hepatic Injury
- Uncontrolled Pain
Treatment Goals

• While a “Cure” is possible, it is also infrequent
• Aim to decrease pain and suffering
• Improve physical and mental function
• Decrease adverse drug reactions and side effects.
• Increase overall “Quality of Life”
Pain Management in Long-Term Care Communities: A Quality Improvement Initiative

- QI initiatives involve conducting a formal analysis of care provided and based on those results, develop a systemic plan to improve care.
- Identification of communication difficulties between different levels of staff.
- To achieve sustained improvement, an educational approach with consistent implementation of multidisciplinary activities is required from all healthcare professionals.
- Additional areas of educational need can be identified with repeated assessments of performance measures over time.
References


• Patel, Ankit PharmD “ Pain management, Education for Pharmacist” HCA South Bay Hospital 2014.

