Pain Management in the Elderly

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Objectives

- Discuss major updates in guidelines for pain management in the elderly
- Describe how to design and assess a therapeutic regimen for the management of neuropathic pain
- Review a pain management regimen with regard to efficacy, tolerability, and other potential drug-related problems in an elderly patient

Prevalence

- Community-dwelling elders[1]
  - 25% have pain with functional limitations
- Long-term care
  - Up to 80% experience pain by direct reports[2]
  - 44% use analgesics[3]
- Similar direct reports & analgesic use in patients with dementia[4]

Pain Classification

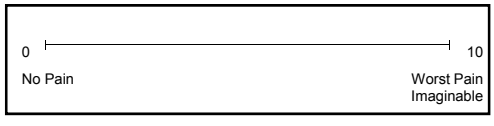
- Nociceptive
  - Tissue injury
  - Cancer
  - Osteoarthritis
- Neuropathic
  - Neuron damage or alteration
  - Complication of disease
  - Outlasts cause

Physiologic Changes in Elderly[5]

- Nociceptors
  - Ascending pain signals less effective
- Pain modulation
  - Descending endogenous analgesia less effective
- Questionable clinical significance

Pain Assessment

- Gold Standard: Self-report
- Establish pain severity & quality of life
- Follow-up interventions with same tool
- Tools
  - 11-point verbal
  - Word descriptor
  - Visual analog
  - Faces



Cognitively Impaired Elderly

- Self-report[6]
  - MMSE of 18
  - Current pain only
  - Reinforce & simplify questions
- Pain behaviors[7]
  - Guarding
  - Stopping
  - Grimacing
- Caretaker report

Pain Behaviors & Cognitive Impairment[7]

- Self-reported (SR) pain at rest
  - Intact: 95.3%; Impaired: 77.4%; p=0.003*
- Observed pain behaviors during activity
  - Intact: 21.8; Impaired: 21.3; p=0.77
- SR pain intensity & pain behaviors
  - Pre-activity SR pain predicts behaviors (p=0.002)
  - Post-activity SR pain predicts behaviors better in intact, less in impaired (p=0.01)

Which of the following questions is least appropriate to ask a patient who is cognitively impaired?

A. How is your pain today compared to last week?
B. Are you having pain today?
C. How would you describe your pain? Does it feel like electric shocks?
D. Are you in any discomfort right now?

Recent Guidelines

- American Geriatrics Society. *Pharmacological Management of Persistent Pain in Older Persons*. Updated 2009.[8]
- World Institute of Pain. Consensus Statement on *Opioids and the Management of Chronic Severe Pain in the Elderly*. Published 2008.[9]
- International Association for the Study of Pain. *Recommendations for the Pharmacological Management of Neuropathic Pain*. Published 2010.[10]

AGS Guidelines: Principles of Pain Management[8]

- Pharmacotherapy when pain affects function or quality of life
- Knowledge of drugs & proper follow-up
- Mutual establishment of goals
- Use least invasive route of administration
- Proper use and timing of scheduled & as needed analgesics
- Non-pharmacological modalities
- "Rational polypharmacy"

Non-Opioid Analgesics[8]

- Acetaminophen
  - 1st line
  - Improved analgesia at 1000mg
  - Long-term use
  - 4g max daily dose
- NSAIDs
  - Considered *rarely* & short-term in patients where safer therapy has failed
  - Effects on blood pressure, heart failure, kidneys, & stomach
  - Gastroprotection
- Topical NSAIDs

Which of the following age-related changes will affect dosing of opioids?

A. Decreased renal function
B. Decreased hepatic function
C. Sensitivity to anticholinergic effects
D. All of the above
E. A & B

Opioids: Review of Studies[11]

- Safety, efficacy, misuse in chronic, non-cancer pain in patients >65 yo
- 40 treatment studies
  - Ages: 64 years (60-73)
  - Duration: 4 weeks (1.5-156)
  - Comparator: 5 as add-on, 3 to active (non-opioid), 4 to active (opioid), 19 to placebo
  - Average dose: 63 mg/day (mor-eq)(24-165)

Opioid Analgesics[8]

- When quality of life is affected, in moderate-severe pain, impaired function
- Regimen for ***episodic pain*** includes short-acting agents as needed
- Regimen for ***ongoing, daily pain***
  - Scheduled, around-the-clock, long-acting
  - Add short-acting agent for breakthrough pain at ~10% of total daily dose

Opioids: Considerations in Elderly Patients[8,9]

- Pharmacokinetics
  - Lower dose or decrease frequency
  - Metabolite accumulation in ↓GFR (morphine)
- Adverse effects
  - Rapid tolerance
  - Constipation: proactive prescribing of stimulants & softeners
- Opioid rotation

Neuropathic Pain Management[8,10]

- Treat underlying cause
- Establish goals
- Identify comorbid diseases
- Initiate 1 of 3 classes of adjuvant agents, & add another class as appropriate
- Use opioids during titration of adjuvants

Neuropathic Pain: After Initiation[10]

- Follow-up assessments
- Allow adequate trial at target doses
- If pain ↓ less than 30%, ***switch agents***
- If pain ↓ and daily pain is moderate, ***add another 1st line agent***
- If pain ↓ and daily pain is mild & adverse effects tolerable, ***continue***

Tricyclic Antidepressants[8,10]

- 1st line agents
- Initiate at low dose & at night
- Adequate trial: up to 8 weeks

Agents: nortriptyline & desipramine

- Advantages: comorbid depression, may be effective at lowest dose
- Disadvantages: anticholinergic, cardiac rhythm abnormalities

Serotonin-Norepinephrine Reuptake Inhibitor Antidepressants[8,10]

- 1st line agents
- Adequate trial: 4 to 6 weeks

Agents: venlafaxine & duloxetine

- Advantages: comorbid depression, no anticholinergic effects
- Disadvantages: BP effects, withdrawal syndrome, titration to effective dose

Calcium Channel α2-δ Ligands[8,10]

- 1st line agents
- Initial dosing at night & titrate to include daytime doses
- Adequate trial: 2 months

Agents: gabapentin & pregabalin

- Advantages: earlier pain reduction with pregabalin, few drug interactions
- Disadvantages: dizziness, edema, renal elimination, saturable kinetics (gabapentin)

Topical Agent[8,10]

- 1st line agent
- Apply up to 18 hours/day
- Adequate trial: 3 weeks

Agent: lidocaine

- Advantages: localized pain, no systemic absorption, quick onset
- Disadvantages: not for diffuse pain, application

Other Adjuvant Agents[10]

- 2nd Line Agents
  - Tramadol and other opioids
  - Methadone??
- 3rd Line Agents
  - SSRI antidepressants, other antiepileptic drugs, capsaicin, NMDA receptor antagonists

Self-Assessment Question

- J.P. started taking gabapentin for his diffuse diabetic peripheral neuropathic pain 1 day ago and reports today that he still rates his pain as 9/10. Which class of medications is most appropriate to add to J.P.'s regimen today?

A. Opioid analgesic
B. Non-opioid analgesic
C. Tricyclic antidepressant
D. Topical anesthetic patch

Self-Assessment Question

- J.P. now consistently rates daily pain as 5/10 but would like more pain reduction. Which of the following medications would be inappropriate to add to J.P.'s current regimen containing gabapentin?

A. Desipramine
B. Duloxetine
C. Pregabalin
D. Venlafaxine

Summary

- Most trials exclude patients with unstable comorbid disease states
- Consider comorbidities, efficacy & duration of treatment, age-related pharmacokinetic changes, and therapeutic class of drugs when revising regimens
- Match expectations with attainable goals

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Post Test Questions

1. A major change in the most recent update of the American Geriatrics Society *Pharmacological Management of Persistent Pain in Older Adults* is which of the following?

a. A total daily dose of 4 grams/day of acetaminophen should not be exceeded
b. Non-steroidal antiinflammatory drugs should rarely be considered to treat pain
c. Short-acting opioids should accompany long-acting or scheduled opioids for breakthrough pain
d. Follow-up assessments should always be performed to determine the efficacy of treatment

2. S.R. has had successful therapeutic effect from the duloxetine that she's been taking for a couple years for neuropathic pain. Recently, she's noticed some worsening shock-like pain on the tops of her feet that bother her mostly at night. Which of the following agents would be the most the most appropriate to add to S.R.'s current regimen?

a. Lidocaine patch
b. Capsaicin patch
c. Fentanyl, transdermal patch
d. Venlafaxine, extended release

3. J.P. started taking gabapentin for his diffuse diabetic peripheral neuropathic pain 1 day ago and reports today that he still rates his pain as 9/10. Which of the following medications is most appropriate to add to J.P.'s regimen today?

a. Nortriptyline
b. Fentanyl, transdermal patch
c. Acetaminophen, extra strength
d. Oxycodone, immediate release

4. Y.L. takes acetaminophen for her osteoarthritis at a dose of 500mg every 6 hours as needed. You perform an assessment and determine that her "pain score" drops from 6/10 to 5/10 after a dose, which allows her to do some housework. She's afraid to ask for anything stronger to help relieve her pain because it will "knock her out". What is the best way to advise her at this point?

a. Take ibuprofen or naproxen around-the-clock.
b. Increase acetaminophen dose to 1000mg around-the-clock.
c. Recommend an opioid and educate Y.L. that the sedation will resolve after a few days.
d. Recommend a serotonin-norepinephrine reuptake inhibitor because you think Y.L. might also be depressed.

5. F.P. started taking nortriptyline 2 weeks ago and has noticed no change in his severity of pain. He self-titrated the medication appropriately and states that he is not bothered by any adverse effects. F.P. would like relief from his pain and plans to ask his physician to switch him to another medication. You advise him that nortriptyline may still be an effective agent for his pain. Based on which of the following principles did you make that assessment?

a. The dose of nortriptyline is not yet at an "antidepressant" dose which is the target dose needed to achieve pain reduction
b. The fact that F.P. has had no bothersome adverse effects is an indicator that the nortriptyline is not yet at an effective dose
c. F.P. has not been taking nortriptyline long enough to determine if it will be an effect medication and should continue taking it for several more weeks
d. All of the above