Geriatric Pain Management

THE 46TH ANNUAL WINTER REFRESHER COURSE FOR FAMILY MEDICINE

FEBRUARY 3RD, 2016
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Objectives

- Address etiology and assessments of pain relevant to the geriatric patient
- Review pharmacological guidelines including new recommendations on combination opioid medications and opioid medication in persistent non-cancer pain
- Focus on assessment and management topics highlighted in Geriatrics Review Syllabus, 8th edition

Outline

- Pain demographics
- Types of pain
- Etiology
- Assessment
- Pharmacological categories
- Management
- Addiction and misuse
- What we don’t have time for: pain procedures and complementary and alternative medicine (CAM)

Major References

AMERICAN GERIATRIC SOCIETY (AGS) PERSISTENT PAIN 2002 (JAGS) THE MANAGEMENT OF PERSISTENT PAIN IN OLDER PERSONS (AGS PANEL ON PERSISTENT PAIN IN OLDER PERSONS)

AGS PERSISTENT PAIN PHARMACOTHERAPY UPDATE 2009 (JAGS) PHARMACOLOGICAL MANAGEMENT OF PERSISTENT PAIN IN OLDER PERSONS, AUG 2009

AMERICAN GERIATRICS SOCIETY UPDATED BEERS CRITERIA FOR POTENTIALLY INAPPROPRIATE MEDICATION USE IN OLDER ADULTS, THE AMERICAN GERIATRICS SOCIETY 2012 BEERS CRITERIA UPDATE EXPERT PANEL

GERIATRIC REVIEW SYLLABUS (GRS), 8TH EDITION

Chronic Pain in Adults

- 50% in General Medicine clinic had chronic pain
- >50% with OA over 65
- 75% adults with chronic pain prescribed analgesic
- 44% of those with prescriptions had opioids

Representation of older adults in pain literature

- Meta analysis of low back pain prevalence in adults greater than 65
- Widely variable prevalence and definition
- Widely variable demographics with very few focused on older adults
- Conclusion: this is an under represented population in pain literature

The Prevalence of Low Back Pain in the Elderly: A Systematic Review of the Literature
Bressler, H; Keyes, W; et al. Spine September 1999, 24 (17) 1813

Pain in the Nursing Home

- Acute Pain: 58% VA, 45% community
- Chronic Pain: 82.9%
- Unable to use 0-10 scale: 42% VA, 20% community
- Associated with worse mood, nutrition and sleep


Pain at Home

- Community dwelling Medicare beneficiaries
- NHATS probable dementia criteria (self report, dementia screen and cognitive test)
- Those with dementia had a higher incidence of pain than a matched cohort without dementia (both “bothersome” and “activity limiting”)
- Proxies reported higher levels of pain than self respondents

Pain in Community-Dwelling Older Adults with Dementia: Results from the National Health and Aging Trends Study. August 2015.Hunt LJ, Covinsky KE. JAGS. 63 (8) 1503-11

Types of Pain

- Nociceptive vs Neuropathic
- Acute vs chronic/persistent
- Myofascial

Nociceptive vs Neuropathic

- Nociceptive
  - Peripheral
  - Somatic vs visceral
  - Thermal, mechanical, chemical
- Neuropathic
  - Neuropathy, radiculopathy
  - Central
  - Burning, tingling, electrical
- Others
  - Phantom
  - Social
  - Spiritual

Geriatric Review Syllabus, 8th Edition. Question #116

- A 76 y woman with Parkinson disease with persistent buttock pain x 1 week after fall
- Variously aching and burning, does not increase when bearing weight
- PE: Stooped posture. Palpable tender nodule adjacent to right SI joint. Hip exam including FABER (flexion, abduction, external rotation) with mild tenderness on the right. Otherwise benign and limited due to ROM.
- Bone density 2 months ago was normal
- Radiographs show mild OA but no hip or pelvic fracture
#116: Next step
A. Evaluate for sacral insufficiency fracture
B. Refer for CT-guided injection of the SI joint
C. Refer for fluoroscopy-guided injection of right hip
D. Refer to PT for treatment of myofascial pain
E. Prescribe rest, cold compresses, and a doughnut cushion

#116: Answer
- Refer to PT for treatment of myofascial pain
- Able to bear weight makes fracture unlikely
- FABER (aka Patrick’s Test) evaluates SI joint
- Imaging and exam not consistent with right hip disease (injection) or ischial bursitis (rest, doughnut pillow)

Myofascial Pain
- Chronic musculoskeletal pain associated with trigger points
- Variable: location, extent, intensity, timing, triggers
- Types
  - Chronic abdominal wall pain
  - Myofascial pelvic pain syndrome
  - Fibromyalgia
- Exacerbated by physical activity, pressure, temperature, psychological stress or acute
- Treatment: gentle exercise, massage

Acute Pain
- Stimulus
  - Action potentials
  - Dorsal horn
  - CNS
    - Somatosensory cortex
    - Limbic (emotional)
    - Autonomic
    - Processing
- Antinociceptive response from CNS to periphery

Chronic Pain
- Nociceptive or neuropathic
- Repeat sensitization
  - lowers thresholds & amplifies responses
  - allodynia (normal stimulus is painful) AND spontaneous pain
- Signaling is SEPARATE from stimulus making it
  - Autonomous
  - Self sustaining
  - Continuous
  - Progressive
A patient who lives in a nursing home is evaluated because his family is concerned that he has inadequately treated pain. The patient has moderate dementia.

How does pain assessment in a patient with dementia differ from assessment in cognitively intact patients?

Patients with dementia are less likely to report pain after activity.
Patients with dementia report pain less often and at a lower intensity despite the same pain behaviors.
No evidence that patients with dementia experience less pain.


Assessment Tools: City of Hope Pain Resource Center

http://prc.coh.org/PAIN-NOA.htm
Pharmacology

- Non opioid analgesics
  - Nonsteroidal anti inflammatory drugs
  - Cox-2-specific vs non-specific
- Opioids
- Adjuvants
- Other enteral medications
- Topicals

Non opioid analgesics: Acetaminophen

- Acetaminophen (Tylenol)
- Max 2 grams/24 hours
- Maximum adult dose 4g/24 hours
- Liver toxicity at higher doses
- Renal toxicity at high doses over long periods of time

Cyclooxygenase (COX)

- Prostaglandins cause pain but also protect the GI tract
- Cyclooxygenase is an enzyme in prostaglandin synthesis
- COX-1: protects stomach
- COX-2: causes pain
- Non-specific COX inhibitor: reduces pain but can cause GI toxicity
- COX-2-specific: reduces pain and protects GI AND higher risk of vascular events

COX-2 selective NSAIDs

- Celecoxib (Celebrex) only one on the market
- Meloxicam (Mobic) and diclofenac (Voltaren) have partial COX-2 specificity
- Rofecoxib (Vioxx) removed from market 9/04 for increased vascular events
- Now black box warnings on celecoxib and other NSAIDs

Non COX-2-specific NSAIDs

- More effective than acetaminophen in chronic inflammatory pain (OA and back pain)
- Aspirin: Associated with high GI side effects
- Salsalates: Can cause salicylate overdose in renal or liver impairment
- Ibuprofen: Can reduce aspirin’s antiplatelet activity
- Naproxen: Least CV risk
- Not recommended!
  - Ketorolac and Indomethacin
  - High GI and renal toxicity

NSAIDs Adverse Events

- Implicated in 23.5% hospitalizations for adverse drug events in patients 65 and older
- July 2015 FDA strengthened CV and stroke risk warnings on all NSAIDs
- Contraindications
  - GI disease: Absolute contraindication in active gastric or peptic ulcer disease
  - Renal disease
  - Cardiovascular disease, especially CHF
**NSAIDs and GI risk**
- Upper GI ulcers, Upper GI bleed or perforation
  - 1% in 3-6 months
  - 2-4% in one year
- Mitigated by
  - COX-2-specific
  - Topical formulation: Efficacy of diclofenac gel similar to oral in OA, but topical salicylates with poor to moderate efficacy and increased toxicity
  - Coadministered with GI prophylaxis
  - Treat H. pylori

**Geriatric Review Syllabus, 8th Edition #333**
- A 71 y woman comes to the office because she has pain from an osteoporotic vertebral fracture. She is now receiving recommended therapy for osteoporosis. The pain from the fracture prevents her from gardening. Conservative measures—such as acetaminophen, PT, and NSAIDs—have not provided adequate relief
- Which of the following is the most appropriate recommendation for her pain?

**GRS #333**
A. Vertebroplasty
B. Oxycodone 2.5 mg PO q6h PRN
C. Acetaminophen/hydrocodone 500/5mg, 1 tab PO q4h PRN
D. Methadone 10mg PO q8h
E. Reiki

**#333: Answer**
- **Oxycodone 2.5 mg PO q6h PRN**
  - Conflicting data on whether or not vertebroplasty is useful for controlling pain
  - Long acting opioids, including methadone, are not first line
  - Acetaminophen should be prescribed separately

**What is Reiki, anyway?**
- From The International Center for Reiki Training, “Reiki is a Japanese technique for stress reduction and relaxation that also promotes healing. It is administered by "laying on hands" and is based on the idea that an unseen "life force energy" flows through us and is what causes us to be alive.”

**Opioids**
- Wide variety of formulations
- Combination products no longer recommended
- Side effects:
  - Neuro: sedation, delirium, miosis
  - GI: nausea, constipation
- Need start concurrent bowel regimen
- Start low and go up slowly: Good starting dose: oxycodone 2.5 mg oral q 6 hr PRN
- Add long acting opioid with caution
- **Morphine contraindicated in renal failure**
  - Not because it will worsen the kidney function, because it can precipitate neurotoxicity
### Tramadol
- Often used prior to stronger opioids
- Mechanism of action: mixed opioid, NE, 5HT receptor
- Side effects similar to opioids: drowsiness, delirium, constipation, nausea
- Can lower seizure threshold
- Risk of serotonin syndrome if used in conjunction with SSRIs

### Opioids and Cancer Pain
- Non-opioid
- Pain persisting or increasing
- Opioid for mild to moderate pain
- Opioid for severe pain
- Adjuvant

### Titrating Opioids
- Moderate: increase 25-50%
- Severe: Increase 50-100%
- How often really depends on the formulation: I.e., oxycodone every few hours, fentanyl patch every 2 days, methadone every 5 days
- In uncontrolled pain, consider:
  - Pseudoaddiction/inadequate dosing
  - Opioid non-responsive pain
  - Opioid neurotoxicity: irritability, allodynia, myoclonus, seizures

### Opioids in Chronic Pain
- Data both for and against using opioids in chronic pain
- Consensus statement that opioids can be effective in carefully selected and monitored patients
- Potential of serious harm due to adverse effects and abuse potential
- Long term use can suppress hypothalamic, pituitary, gonadal and adrenal hormones

### Opioids and Chronic Pain: Clinical References

**From JAGS 2009 Pharmacological Management Update**

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**Geriatric Review Syllabus 8th Edition #107**

- A patient who uses a fentanyl patch because of spinal stenosis asks if there are less expensive alternatives. A switch to methadone 5mg q8h is considered
- Which of the following is an appropriate recommendation for monitoring his QT interval?
GRS #107: Answer

Methadone Key Points

- EKG prior to starting, 30 days after and annually
- QTc < 450 ideal
- QTc 450-500: discuss benefits and burdens. Consider goals. Consider Past Medical History: Do they have heart disease? Arrhythmia? Syncope?
- QTc > 500: reduce dosage or eliminate methadone
- Methadone interacts with EVERYTHING!

Geriatric Review Syllabus, 8th Edition

72 y woman with 6 month history of burning pain in her feet, worse at night
- Tried gabapentin, but discontinued it due to gait disturbance
- History: uncontrolled DM, constipation, mild cognitive impairment
- Medications: insulin glargine, lisinopril, metformin, acetaminophen
- Blood glucose 180-200 in AM, mid 200s at hs
- Which is most appropriate next step?

#291: Answer and Adjuvant Key Points

- Start pregabalin
  - Anticonvulsants
    - Gabapentin (Neurontin) & Pregabalin (Lyrica) both have good efficacy in neuropathic pain
    - Others: carbamazepine (Tegretol) and lamotrigine (Lamictal) used for neuropathic pain
  - Antidepressants
    - SNRIs duloxetine (Cymbalta) and venlafaxine (Effexor) used for neuropathic and chronic pain
    - Duloxetine recommended first line in chemo induced peripheral neuropathy
    - Tricyclic antidepressants associated with significant anticholinergic side effects. Not recommended

Other Enteral Medications

- Corticosteroids: Useful in acute inflammatory response. Significant side effects, but may be a good choice depending on goals
- Muscle relaxants: Baclofen used in in spasticity related pain. Other muscle relaxants associated with significant fall risk
- Benzodiazepine: Can be used for anxiety related to pain, but generally risks > benefits
- Bisphosphonates in bony metastases
Topicals

- Topical NSAIDs (diclofenac) can be as effective as oral formulations
- Topical lidocaine: Good evidence for localized neuropathic pain Weaker evidence for localized non-neuropathic pain
- Capsaicin and menthol can be considered but both have moderate to weak evidence

Others

- Levorphanol
  - Similar mechanism to methadone
  - Less QTc prolongation
  - Limited use in our country
- Buprenorphine
  - Buprenorphine + naloxone= Suboxone
  - Buprenorphine patch = Butrans
  - Binds tightly to mu receptors, so you get analgesic activity and other opioids don’t bind
  - May be helpful in acute pain in an a person with addiction history
  - Similar licensure restrictions to methadone

Abuse and Misuse

- Youth drug abuse higher in those born 1946-1964 than in previous generations
- Increased prevalence in illicit drug use persists as boomers age
- Main substance abuse in 50+ are alcohol and prescription drugs
- Using models, estimated marijuana in 50+ use to increase 355% from 2001 to 2020
- Unclear how age related changes in DA and 5HT processing affect abuse potential

Key Points

- Acetaminophen first
- NSAIDs in select individuals
  - GI prophylaxis with PPI
  - Never take 2 NSAIDs at once
- Opioids based on benefits vs burdens and overall goals
  - Remember concurrent bowel regimen
- Adjutants in neuropathic pain and fibromyalgia
- Avoid TCAs

Thank You!