CLINICAL VIGNETTE

Overprescribing Pain and Psychotropic Medication in Older Adults

Gabriela Sauder, MD, and Albert Bui, MD

Case One

A 100-year-old male with a history of lumbar stenosis, multiple spine surgeries, recurrent lumbar pain, coronary artery disease and atrial flutter s/p ablation in 2017, hypertension, urge incontinence, and hypothyroidism presents to the geriatric clinic for transfer of care. Since he moved in with the current caregiver about one year ago, the patient has had chronic headaches that were consistent with left occipital neuralgia, fluctuations in mental status and attention present about every month for about two or three days. These episodes were sometimes associated with headaches, generalized weakness, alteration of sleep pattern, visual and auditory hallucinations, and agitation, but with no focal signs. On review of geriatric syndromes, there are no falls, unintentional weight loss nor cognitive impairment. He had bilateral hearing loss, depression and anxiety, urge incontinence and chronic pain. His activities of daily living (ADL) were 4 out of 6 (as he needs help with dressing, bathing and showering) and was dependent in all instrumental activities of daily living (IADL). For chronic pain he was prescribed oxycodone/acetaminophen 10/325 – one tablet every four hours, and gabapentin 100 mg AM and 300 mg QHS. For anxiety and recurrent altered mental status, he was prescribed haloperidol 0.5 mg AM and 1 mg QHS, and alprazolam 0.5 mg daily. On physical exam, he is a non-frail appearing Caucasian male. His cardiac, pulmonary and abdominal exams were normal. His neurologic exam was grossly normal, with no parkinsonian features, but with pain to palpation on the left side occipital nerve course. His psychiatric exam was normal, and his MiniCOG was negative. Laboratory results, included normal complete blood count and comprehensive metabolic panel (CMP) was only notable for impaired kidney function, with a baseline creatinine at 1.8, and a GFR by Cockroft Gault of 32 ml/min (stage G3b).

His caregiver reports the patient is recurrent ER assessments for altered mental status, had negative evaluations, including laboratory tests, ECG, chest x-ray and brain imaging. Within a few months we were able to de-escalate the pain medication regimen, decreasing the opioid dose 25% every two weeks. Concomitantly, he underwent home physical therapy for the occipital neuralgia, was recommended non-opioid pain medication, and East West Medicine treatment. He was also weaned from psychoactive medication 25% every two weeks. After weaning off the medication, the patient's intermittent episodes of altered mental status have stopped and not recurred.

Case Two

A 72-year-old female with type one diabetes mellitus on an insulin pump was admitted to the hospital multiple times for uncontrolled diabetes. She was referred to geriatrics for confusion and inability to manage her medications at home. Her history included chronic pain syndrome, s/p bilateral shoulder replacement, laminectomy and fusion in 2003. Pain remained uncontrolled, intensity rated 8/10 despite being on multiple pain medication, including fentanyl patch 25 mcg/hr every 72 hours, oxycodone 10 mg every 4h, duloxetine 90 mg daily, gabapentin 300 mg TID, and carisoprodol 350 mg BID. The patient failed prior pain management procedures including radiofrequency ablations, bilateral occipital nerve blocks, epidurals, trigger point injections, and the spinal cord stimulator, which was removed due to ineffectiveness.

Patient also reports depressed mood, anhedonia, lassitude, insomnia, diminished ability to think or concentrate, anxiety, and fatigue. She states that the "pain controls her life". For her psychiatric conditions she is taking bupropion 150 mg BID, clonazepam 0.5 mg BID, lamotrigine 100 mg BID, and trazodone 200 mg QHS for sleep.

Review of geriatric syndromes, included no falls or unintentional weight loss. She had bilateral hearing loss, depression and anxiety, cognitive impairment with short term memory decline, intermittent confusion, urge incontinence, polypharmacy, and chronic pain. Her ADL's were 5/6 – needing help with urge urinary incontinence, IADL 2/8 – able to use phone, and drive. She reported minimal daily activity, being in bed almost all the time. On physical exam, she is a frail appearing Caucasian female. Her cardiac exam is notable for irregularly irregular heart rhythm. Her neurologic exam demonstrates mild muscular atrophy throughout. Her tone and strength were 4/5 in the upper and lower extremities bilaterally. Her Romberg is positive. Her gait and stance includes using a cane, taking small steps with normal base, and not being able to do semi-tandem walk. Her sensory system revealed distal loss of sensation to pin prick, light touch and vibration. Her psychiatric exam is notable for lability and irritability, with a circumferential and tangential thought process. Her recent memory identified gaps in remembering symptoms and precipitating events. The patient demonstrated difficulty in concentration and attention, confusion, poor insight and impaired judgment. MiniCOG was positive. On review of her laboratory

results, CBC and CMP were normal, and most recent A1c was 6.5.

After initial evaluation, the recommendation was to de-escalate the pain medication regimen. Her fentanyl 25, and carisoprodol 350 have been weaned weekly by 25% dose decrease and her trazodone 200 mg QHS has been reduced to 100 mg QHS as needed for sleep. Within two months after medication changes she underwent comprehensive neuropsychological testing, where she scored 29/30 on MMSE, with normal scores for visuospatial skills, verbal and visual learning and memory, recognition memory, attention span, language-based skills, vocabulary and factual knowledge.

Discussion

Pain in older adults

Pain is estimated to affect 79% of adults ≥ 85 years old. Studies indicate up to 50% of community-dwelling older adults and 50%–80% of nursing-home residents have pain due to degenerative bone diseases, postsurgical pain, pain related to cancer, shingles and post-herpetic neuralgia and other chronic illnesses that are associated with pain.

The risks of uncontrolled pain in older adults

Uncontrolled pain in older adults can lead to increased falls, anxiety, agitation, delirium, decline in functional status, and in quality of life.

For cognitively impaired older adults, pain may be under-recognized and under-treated.

Metabolism changes are important to consider pain when managing in the elderly

Management of pain in older adults requires addressing the source and intensity of pain, identifying previous regimens, and recognizing physiologic changes. Decreased renal or hepatic function and increased body fat may affect drug metabolism and distribution resulting in higher serum drug levels in older patients.[1]

As such, older adults are more susceptible to opioid-induced adverse effects, including hypotension, respiratory depression, delirium, constipation, excessive sedation, and drug accumulation. When the decision to taper down medications has been made, it is recommended to reduce the initial dose by 50 percent, and gradual further titration to decrease the risk of accumulation and overdose.

While hydromorphone or fentanyl may be better choices for older adults with renal impairment, accumulation of a neurotoxic/excitatory metabolite of hydromorphone is a concern with severe renal insufficiency.

When tricyclic antidepressants (TCAs) are selected, nortriptyline and desipramine are better choices than amitriptyline because of less toxicity. The muscle relaxant carisoprodol should be avoided in older adults as it is metabolized to meprobamate, a strong anxiolytic and sedative. TCAs and carisoprodol are included on the Beers Criteria as potentially inappropriate, and should be avoided in older adults.[2]

Preferred pain medications

For the nociceptive somatic pain, such as musculoskeletal disorders, arthritis, fractures, bone metastases, and post-operative pain, it is recommended to start with acetaminophen. It is most effective if scheduled regularly rather than as needed dosage. NSAIDS (if GFR by Cockroft Gault is permissive) (SOE-A) and opioids (SOE-B) may also be considered. NSAIDS, due to increased side effects in older adults, should be used only for a brief course and at the lowest effective dose.

In the case of nociceptive visceral pain, guidelines recommend treating the underlying condition, using acetaminophen (SOE-C) and opioids (SOE-B).

For neuropathic pain, the recommendations are tricyclic antidepressants (TCAs) (SOE-A), serotonin-norepinephrine reuptake inhibitor antidepressants (SOE-A), anticonvulsants (SOE-A), opioids (SOE-B), and topical anesthetics (SOE-C). In the case of myofascial pain syndrome, somatic symptom pain disorders, and fibromyalgia, we use antidepressants (SOE-B), and antianxiety agents (SOE-C).

Cognitive behavioral therapy is also recommended for all types of pain (SOE-B).

Conclusion

According to CDC WONDER, opioids (including prescription opioids, heroin, and fentanyl) resulted in more than 64,000 fatalities in 2016. Of all opioid overdose deaths, 40% involved a prescription opioid**.** From 2002 to 2011 there was a 1.9-fold increase in the total number of deaths due to opioids, and 4.3-fold increase in the total number of deaths due to benzodiazepines. When prescribing opioids and benzodiazepines, practitioners must be aware of the harms of over-prescribing, polypharmacy and drug-drug, and drug-disease interactions.

As with our first case, weaning off the opioids, neuroleptic and benzodiazepine resolved the intermittent subacute delirium. In the second case, by weaning off the opioids, and the muscle relaxant, cognition, memory and attention span improved.

Overprescribing and drug- drug and drug-disease interactions in older adults with multiple co-morbidities, frailty, and impaired kidney function could be more harmful than beneficial. Therefore, a thorough evaluation of a patient's drug regimen, with discontinuation of unnecessary therapy, dose reduction, and simplification of the dosing schedule are critical steps in medication management in older adults.

REFERENCES

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Submitted May 13, 2018