The Role of Opioid Analgesics in Geriatric Pain Management

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KEYWORDS

• Opioid • Aged • Pharmacokinetics • Adverse drug event

KEY POINTS

- Opioids remain a treatment option for moderate to severe chronic noncancer pain when nonopioid analgesics and nonpharmacologic therapies do not provide adequate relief.
- Age-related changes in pharmacokinetics (decreases in hepatic and renal function) and pharmacodynamics make older adults more susceptible to adverse consequences associated with opioids, including falls, fractures, and delirium.
- To optimize the use of opioids, avoid those that have not been studied in older adults.
- Start with the lowest available dose of an immediate-release product, and consult pharmacists or pain experts for challenging cases, including those requiring high doses.

INTRODUCTION

When possible, chronic noncancer pain (CNCP) in older adults should be managed by nonpharmacologic modalities in conjunction with nonopioid analgesics. If moderate-to-severe pain persists despite these approaches, however, nonparenteral opioids

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(Box 1) may be considered as adjunctive therapy.[1,2] This article reviews the epidemiology of opioid use and their effectiveness for CNCP in older adults, and summarizes important age-related changes in opioid pharmacokinetics and pharmacodynamics that increase the risks of adverse effects in the elderly. Finally, to assist clinicians with selecting appropriate therapy, the article concludes with an evidence-based approach to optimize opioid prescribing in older adults with CNCP.

EPIDEMIOLOGY OF OPIOID USE AND TREATMENT BENEFITS FOR CHRONIC NONCANCER PAIN IN OLDER PERSONS

Approximately 6% to 9% of community-dwelling older adults use opioids chronically for CNCP.[6–8] A recent study using data from the National Ambulatory Medical Care Survey showed that from 1999 to 2000 to 2009 to 2010, the percentage of clinic visits for older patients where an opioid was prescribed rose from 4.1% to 9.0%.[9] Most commonly, hydrocodone was used in combination with acetaminophen or ibuprofen.[9] Additionally, women and individuals diagnosed with arthritis and depression were more likely to use opioids.[9] Compared with the community setting, opioid use may be even higher in nursing homes. For example, 1 study found that 70% of nursing home residents with CNCP received regularly scheduled opioids.[10] Interestingly, there may be a difference between practice settings regarding the potency of opioids most often prescribed. One study found that higher potency opioids (eg, oxycodone) were

Box 1
Nonparenteral, single-ingredient opioids available in the United States

Full μ agonist opioids

Codeine[d]

Fentanyl[b]

Hydrocodone[c]

Hydromorphone[c]

Levorphanol[b]

Meperidine[d]

Methadone[b]

Morphine[c]

Oxycodone[c]

Oxymorphone[c]

Partial μ agonist opioid

Buprenorphine[c]

Mixed action opioids[a]

Tapentadol[d]

Tramadol[d]

[a] Mixed action = μ receptor agonist and norepinephrine reuptake inhibitor.
[b] High potency.
[c] Moderate potency.
[d] Low potency.
Data from Refs.[3–5]