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Pain Management in Older Adults

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ABSTRACT

Background: Chronic pain is prevalent among older adults but is underrecognized and undertreated. The approach to pain assessment and management in older adults requires an understanding of the physiology of aging, validated assessment tools, and common pain presentations among older adults.

Objective: To identify the overall principles of pain management in older adults with a specific focus on common painful conditions and approaches to pharmacologic treatment.

Methods: We searched PubMed for common pain presentations in older adults with heart failure, end-stage renal disease, dementia, frailty, and cancer. We also reviewed guidelines for pain management. Our review encompassed 2 guidelines, 10 original studies, and 22 review articles published from 2000 to the present. This review does not discuss nonpharmacologic treatments of pain.

Results: Clinical guidelines support the use of opioids in persistent nonmalignant pain. Opioids should be used in patients with moderate or severe pain or pain not otherwise controlled but with careful attention to potential toxic effects and half-life. In addition, clinical practice guidelines recommend use of oral nonsteroidal anti-inflammatory drugs with extreme caution and for defined, limited periods.

Conclusion: An understanding of the basics of pain pathophysiology, assessment, pharmacologic management, and a familiarity with common pain presentations will allow clinicians to effectively manage pain for older adults. (*Clin Ther*. 2013;▮:▮▮▮–▮▮▮)

Key words: elderly patients, geriatrics, pain.

INTRODUCTION

Pain is a subjective experience that can be challenging to assess and treat.[1] This is particularly true for older adults, many of whom live with serious illness accompanied by significant pain and symptom burdens.[2–4] The approach to pain assessment and management in older adults differs from that in younger adults. Older adults may underreport pain or may have difficulty communicating, and physicians may undertreat pain because of inherent biases and concerns about use of medications in older patients. Concurrent illness and comorbid conditions make pain evaluation and treatment more difficult and patients more likely to experience medication adverse effects.[5,6] In this article, we review overall principles of pain management in older adults and then specifically focus on common painful conditions and approaches to treatment based on a review of literature and 2 major pain guidelines.[5,7]

PHYSIOLOGIC CHANGES ASSOCIATED WITH AGING

The physiologic changes observed through aging are well described and are important when considering the pharmacologic management of pain. The body's total water and lean mass decrease, whereas body fat increases, affecting volume of distribution, plasma concentration, and elimination of drugs. Bones and viscera shrink, and the basal metabolic rate decreases. These changes can be difficult to quantify and vary from person to person.[8] Additional important changes in renal function, hepatic metabolism, and the central nervous system are described below.

Renal Function

Renal function declines as a normal part of aging because of a loss of nephrons, decreased renal plasma flow, tubular secretion and reabsorption, hydrogen secretion, and decreased water absorption and excretion.[8,9] Decreased clearance of drugs may lead to the buildup of metabolites. Increased susceptibility to

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volume depletion and decreased thirst may increase the risk of nephrotoxicity. Commonly used medications are more likely to damage older kidneys, in particular nonsteroidal anti-inflammatory drugs (NSAIDs).[10]

Gastrointestinal and Hepatic Function

The gastrointestinal tract experiences some changes with aging that affect absorption and metabolism of medications. Transit through the esophagus and colon may be slowed. The stomach may atrophy and produce less acid. Pancreatic and liver function is usually well maintained, but the cytochrome P450 system may decline with age. In particular, the decline in demethylization, the process by which benzodiazepines are metabolized, may necessitate dose adjustments.[10]

Brain and Central Nervous System Changes

Pain perception is often altered in older adults, and although this does not lead to decreases in pain, it often leads to changes in the expression of pain, particularly in patients with cognitive impairment.[11–13]

PAIN ASSESSMENT

A comprehensive pain assessment is key to effective pain management. Self-report provides the most accurate and reliable information. In studies that examine patient reports of pain, both clinicians' and family members' perceptions underestimate pain severity as reported by patients.[14–16] There are indeed challenges in assessing pain in older adults, but these can be circumvented. Visual scales and assistive hearing devices can be used in patients with hearing impairment, whereas larger print or use of verbal scales for reporting pain can be helpful for patients with visual impairment.[7] Even cognitive impairment does not preclude a direct assessment of the patient because most patients with mild-to-moderate dementia are capable of reporting pain using any number of validated tools.[11] For patients with severe cognitive impairment, the Pain Assessment Checklist for Seniors with Limited Ability to Communicate, the Pain Assessment in Advanced Dementia, and the Doloplus-2 scale have been created and validated to assess pain.[13] Finally, clinicians can ask family members and caregivers to give their own impression to add to information gleaned from the patient and physical examination, but this should not serve as substitute.

The use of validated instruments can improve the diagnosis and treatment of pain in older adults. The visual analog scale, for which patients place a mark on a horizontal or vertical line that represents a spectrum from no pain to severe pain, is helpful in patients who have difficulty speaking. The Faces Pain Scale, Numeric Rating Scale, and Verbal Descriptor Scale (VDS) have all been used in older adults. The Numeric Rating Scale asks a patient to rate pain on a scale of 0 to 10. The VDS has the patient describe their pain as mild, moderate, or severe. Both have been validated in patients with mild to moderate cognitive impairment, although the VDS is more reliable, preferred, and more easily completed by patients with cognitive impairment.[12]

An important component of pain assessment, particularly in older adults, is an evaluation of its effect on the patient's quality of life and function. Depression can alter the perception of pain and lead to difficulty coping. Alternatively, pain and loss of function can lead to depression.[17] There are several validated tools for functional assessment developed in older adults, including the Range of Motion scale, performance of activities of daily living, Timed Up and Go test, Katz Activities of Daily Living Scale, Lawton Instrumental Activities of Daily Living, and Functional Independence Measure. The Geriatric Depression Scale has been developed to screen for depression in older adults and is easily administered in a yes/no format. Depression often makes pain worse, and vice versa; therefore, screening and treating one without the other can lead to difficulty resolving both conditions.[17] The Brief Pain Inventory and the Geriatric Pain Measure are both well-validated tools that assess the effect of pain on quality of life in older adults.[12]

There are other barriers to achieving effective pain assessment and management. Many older adults and health care practitioners have concerns about addiction to pain medications. Taking a history that includes questions about substance abuse can identify patients at increased risk of psychological dependence for the clinician, but educating patients on the tolerability of opioids in those at low risk for psychological dependence will allay their fears.[5,7,18] Patients may have concerns about masking their disease, beliefs that pain is a "normal" part of aging, or lack of understanding of their diagnoses. They may have a lack of information about medications and nonpharmacologic pain control interventions, inadequate access to health care resources, or embarrassment about the use of adaptive devices that might reduce pain and emotional stress.[7,19]