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No pain, functional gain: the importance of pain management in older adults with cognitive impairment

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His wife (his primary caregiver) explains what has happened since I last saw them. They are over 80 years old and live in their own home. He has dementia, but otherwise both of them are healthy. He insisted on mowing the grass, although it had been raining, and fell. He was obviously hurt. The emergency room doctor prescribed him pain medication. She was concerned – the medication's side effects included loss of balance and confusion. With his dementia, she wondered if that was safe. The doctor assured her that her husband should take the pain medication. On the medication, his confusion worsened. He fell again. This time, she was also injured trying to prevent the fall.

The review by Defrin and colleagues [4] addresses an important topic – the effects of cognitive impairment on the experience of pain. The review addresses cognitive impairment across the lifespan, but of particular importance is the discussion of the effects of cognitive impairment on the assessment and treatment of pain in older adults.

This review is written at the beginning of an era of unprecedented aging. According to the United Nations by 2047, for the first time in human history, the number of people over the age of 60 will be greater than the number of people under 16 [9]. This radical shift in population structure is stirring deep societal debates about the purpose of medicine in prolonging life and relieving suffering, as reflected in the New York Times bestseller status of books such as *Being Mortal* by Atul Gawande and *Knocking on Heaven's Door* by Katy Butler.

The individual experience of pain is a core feature of suffering, and as such, is at the heart of end-of-life priorities for many people. As explored in the review by Defrin and colleagues [4], cognitive impairment alters the experience of pain, the ability to communicate that experience, and how it is treated medically. As the anecdote above illustrates, the reality of treating pain in older patients with cognitive impairment is complex and requires attention not only to pain management, but also to function and individual priorities of care.

Pain emerges from the integration of sensory input, emotional state, past experiences, current context, and even future implications of current pain [1]. All of these dimensions can be influenced by cognitive impairment. Pain is inherently an individual and subjective

experience. Therefore, Defrin and colleagues [4] state that unlike most other diagnoses, the gold standard in diagnosing pain is the subjective self-report of the person experiencing it.

The first challenge of studying or treating pain in the presence of cognitive impairment is disentangling its effects on the ability to *express* pain versus the *experience* of pain. As reviewed by the authors, early research suggested the experience of pain was diminished in people with cognitive impairment, leading to the conclusion they required less pain treatment. However, studies less reliant on self-report show the experience of pain is not diminished with cognitive impairment, and in some circumstances may be augmented [2].

Cognitive processes such as attention and memory can modulate the experience of pain. For instance, focusing attention away from pain can diminish the experience of pain, while focusing attention on pain can increase it [11]. Cognitive influence allows context to modify the experience of pain. As an example, pain induced as part of a controlled experiment may be experienced as less intense than if the same pain occurred in response to an actual injury [2]. In addition, some of the most common sources of cognitive impairment in aging, such as Alzheimer's disease, affect the structure and connectivity of brain regions that mediate the experience of pain, such as the anterior cingulate cortex, prefrontal cortex, and insula [7].

One of the most important points raised by Defrin and colleagues [4] is that the combination of altered pain experience and impaired ability to self-report in people with cognitive impairment results in pain being undertreated in older adults with cognitive impairment.

Aside from the ethical imperative to relieve suffering in a vulnerable population, pain control is important for maintaining quality of life for both the cognitively impaired person and their caregivers. Cognitive impairment in older age is commonly accompanied by physical function limitations and neuropsychiatric symptoms, such as agitation, apathy, and disruptive behavior [5]. One of the most common reasons for hospitalization of older adults with Alzheimer's disease is falling [8; 10], and chronic pain in older adults is associated with poorer physical function, slowed gait speed, and an increased risk for falls [6]. Pain is also associated with increased neuropsychiatric symptoms in older adults with cognitive impairment, and this relationship is strongest for the people with the most impairment [3].

Exacerbation of limitations in physical function and neuropsychiatric symptoms affect caregivers as well as the person with cognitive impairment. As in the opening anecdote, unpaid family caregivers provide approximately 80% of care for older adults with dementia [8]. Demands on caregivers of people with dementia are associated with negative health outcomes for the caregiver and even an increased risk of death. The health effects on the caregiver come with a hefty price tag; they are estimated to cost the healthcare system an additional \$9.1 billion each year [8]. Neuropsychiatric symptoms and physical dependence are two major contributors to caregiver burden that can both be modified with improved control of pain.

In spite of the importance of optimal pain control, medical management of pain comes with risks, as illustrated in the opening anecdote. Choosing the right pain medication for an older adult with cognitive impairment requires careful consideration of the balance between risks and benefits. Certain medications can increase the risk of falls, interact with other

medications, or affect comorbid conditions. A “function first” perspective can help prioritize care and select the best balance of risk and benefit for an individual.

As the review by Defrin et al. [4] highlights, an enhanced understanding of how cognitive impairment affects the perception and report of pain is crucial to provide the best patient-centered medical care in our rapidly aging world. We should strive to assess and treat pain in a way that honors the patient’s goals and values, promotes function, and provides the best quality of life.

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