

Pain perception and processing in alzheimers disease



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Alzheimer's patients feel pain as powerfully as others. Pain perception and processing are not diminished in Alzheimer's disease, thereby raising concerns about the current inadequate treatment of pain in this highly dependent and vulnerable patient group.

Pain activity in the brain was just as strong in the Alzheimer's patients as in the healthy volunteers. In fact, pain activity lasted longer in the Alzheimer's patients. Pain may be even more bewildering to more severely affected patients. The experience of pain may be more distressing for these patients on account of their impaired ability to accurately appraise the unpleasant sensation and its future implications.

Doctors can use a tool called the Pain and Discomfort Scale or PADS. It's a system for evaluating pain based on facial expressions and body movements. People caring for someone with Alzheimer's disease or other dementias can do an even better job than doctors can. Caregivers have an incredible capacity — even beyond doctors — to know the behavior of the person they are caring for and to look for the times they are in discomfort or pain.

The trick is to watch the facial expressions and movements of patients when they are not in pain, both during sleep and waking hours. Using this as a baseline, you should be attentive to circumstances where they seem agitated, where eye contact is altered, where there is grimacing or a facial expression indicative of discomfort.

As Alzheimer's disease progresses towards the later stages, the ability of the affected person to communicate becomes increasingly compromised.

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Caregivers can no longer ask “ are you comfortable?” or, “ are you in pain?” and get a reliable answer. A caregiver has to interpret what behavior means. Are shouts, screams, severe withdrawal, aggression, due to confusion, something else, or are they signs of pain?

The way in which a normal person experience pain differs. Pain is a subjective experience. People who have problems communicating are disadvantaged. Research into the prevalence of pain in elders in nursing homes is estimated at between 40 and 80 percent. There is evidence that people with cognitive disabilities may have an even higher risk of being under-medicated for pain. Painful conditions such as arthritis, cancer, urine infections are sometimes not treated with painkilling medications. Even when people can communicate effectively research suggests that observers tend to assume that people over-report pain either verbally or in their facial expressions.

Effective pain management for people with dementia is a complex issue. Families and health professionals caring for people with dementia have to acquire new skills and it can be a rather hit and miss situation.

The first step in pain management is assessment of the discomfort. Acute pain

syndromes commonly follow injuries, surgical procedures, etc. and require standard analgesic or narcotic management. Acute pain syndromes are expected to

last for brief periods of time, i. e., less than six months. Pain that persists for over

six months is termed chronic pain. Chronic non-malignant pain requires a more

complex strategy to minimize the use of narcotics and maximize non-

pharmacological interventions. Acute pain rarely produces other long-term

psychological problems, such as depression, although acute discomfort will

produce distress manifested by acute anxiety or agitation in the demented patient.

Mildly demented patients can become agitated or anxious with pain because they

rapidly forget explanations or reassurances provided by staff. Amnesic

individuals may forget to ask for PRN non-narcotic analgesics such as

acetaminophen and these patients need regularly scheduled medications.

Disoriented patients do not realize they are in a health care facility and aphasic

patients may not comprehend the staff's inquiry about pain symptoms.

The symptoms of pain expressed by patients with moderate to severe dementia

include anxiety, agitation, screaming, hostility, wandering, aggression, failure to

eat, and failure to get out of bed. A small number of demented individuals with

serious injury may not complain of pain, e. g., hip fractures, ruptured appendix, etc.

Assessment of pain in the demented patient requires verbal questioning and direct

observation to assess for behaviors that suggest pain. Standardized pain

assessment scales should be used for all patients; however, these clinical

instruments may not be valid in persons with dementia or psychosis. The past

medical history may be valuable in assessing the demented resident.

Individuals

with chronic pain prior to the onset of dementia usually experience similar pain

when demented, e. g., compression fractures, angina, neuropathy, etc.

These

individuals can be monitored carefully and non-narcotic pain medication can be

prescribed as indicated, e. g., acetaminophen on a regular basis, anticonvulsants for

neuropathy.

The management of pain in any person requires careful consideration about the

contribution of each component of the pain circuit to the painful stimulus.

Neuropathic pain is produced by dysfunction of the nerve or sensory

organ that perceives and transmits noxious stimulus to the level of the spinal cord.

Persons with serious back disease may have herniated discs that compress specific nerve roots. This pain is often positional and produces spasms of the

musculature in the back. The brain interprets pain in a highly organized systematic pattern. Discrete brain regions interpret and translate painful stimuli from specific body regions, e. g., arm, leg, etc., misfire in that discrete brain region will misinform the person that pain or

discomfort is being experienced in that limb or part of the trunk. A person who

loses a limb from trauma or amputation may continue to experience painful sensations in the distributions for that limb termed phantom limb pain.

Management of chronic pain involves three elements (1) physical interventions, (2)

psychological interventions, (3) pharmacological interventions. Physical interventions include basic physiotherapy that incorporates warm or cool compresses, massage, repositioning, electrical stimulation and many other treatments. Dementia patients need constant reminders to comply with physical

treatments e. g., using compresses, sustaining proper positioning, etc., and many do

not cooperate with some interventions, like nerve stimulators or acupuncture.

Physical interventions are particularly helpful in older persons with musculoskeletal pain regardless of cognitive status. Psychological interventions

usually require intact cognitive function e. g., relaxation therapy, self-hypnosis, etc.

Demented patients generally lack the capacity to utilize psychological interventions; however, management teams should provide emotional support to

validate the patient's suffering associated with pain. Demented patients may experience more suffering from pain than intellectually intact individuals because

they lack the capacity to understand the cause of their discomfort. Fear, anxiety,

and depression frequently intensify pain.

Pharmacological management begins with the least toxic medications and follows

a slow progressive titration until pain symptoms are controlled. Clinicians must

distinguish between analgesia and euphoria. Some medications that appear to have

an analgesic or pain relieving effect actually have an euphoric effect, which

diminishes the patients' concern about perceived pain. The goal of pain

management is to remove the suffering associated with the painful stimulus rather

than making the patient euphoric or high to the point where they no longer care

whether they experience pain. Euphoria-producing medications can cause

confusion, irritability, and behavioral liability in patients with dementia.

Narcotic

addiction is not a common concern in dementia patients as these individuals have a

limited life expectancy and rarely demonstrate drug-seeking behaviors.

Pharmacological interventions always begin with the least toxic, i. e., least confusing, medications. A regular dose of acetaminophen up to 4 grams per day

will substantially diminish most pain and improve quality of life. Clinical studies

show that regular Tylenol reduced agitation in over half the treated patients.

Chronic arthritic pain with inflammation of the joints may also respond to non-

steroidal anti-inflammatory (NSAIDS) or Cox-2 inhibitors. The gastrointestinal toxicity associated with NSAIDS is greater than that of Cox 2 inhibitor

medications. Patients who fail to respond to non-narcotic analgesics should receive narcotic-like medications, i. e., Tramadol. Patients who fail to respond to

maximum doses of Tramadol, i. e., 300 mgs per day, may require narcotic

medications.