

# Treat Pain to Improve Cognition in Older Adults

BY KATE JOHNSON  
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ORLANDO — Pain is a comorbid condition too often overlooked in the setting of geriatric psychiatry, despite the potential for better mental health outcomes when it is treated, Dr. Jordan F. Karp said at the annual meeting of the American Association for Geriatric Psychiatry.

"I don't think enough attention is paid to assessing, diagnosing, and managing pain by many psychiatrists and other physicians who treat older adults," he said in an interview. "I highly doubt that clinicians are aware of the effects of pain on cognition."

Because pain has reached "epidemic" proportions among the elderly and can significantly worsen cognition and depression, it should be assessed and treated routinely as part of the psychiatric management of this population, said Dr. Karp, medical director of geriatric psychiatry at one of the referral pain clinics at the University of Pittsburgh Medical Center.

Studies suggest that up to 50% of community-dwelling seniors experience pain that interferes with normal functioning, and up to 80% of nursing home patients live with undertreated pain—the source of which can be musculoskeletal, neuropathic, visceral, metabolic, or other. (See box.)

It is well known that persistent pain limits mobility, increases the risk of falls, and can lead to social isolation, but it is not always appreciated that pain can also increase anxiety, depression, and cognitive impairment, said Dr. Karp, who has a clinical and research focus on both pain and affective disorders in older adults. He disclosed his advisory role with Eli Lilly & Co. and Myriad Genetics Inc.

In a recent survey of 56 patients in an older adult pain management program, he showed that higher pain severity was as-

sociated with poorer performance on a test of number/letter switching (Pain Med. 2006;7:444-52).

In another study of older adults (mean age 73 years), different investigators demonstrated lower neuropsychological function among 163 subjects with chronic low back pain (CLBP), compared with 163 who were pain free (Pain Med. 2006;7:60-70). Recent preliminary evidence also suggests reduced brain volume among eight seniors with CLBP, compared with eight who were pain free (Pain Med. 2008;9:240-8).

The comorbidity of pain and depression is a vicious circle, Dr. Thomas Meeks of the University of California, San Diego, said in a separate presentation at the meeting.

A link between depression and immune system dysfunction has been described, and both pain and weakened immunity have been associated with an increase in inflammatory cytokines. Inflammatory cytokines are also associated with anorexia, sleep disturbance, and fatigue and have been shown to negatively affect brain chemicals such as serotonin and norepinephrine, suggesting "there may be a role of inflammatory cytokines in late-life depression," he said.

Since the rise in inflammatory cytokines seen with acute pain can persist long after the source of the pain has been corrected, prompt diagnosis and treatment of pain is important to reduce the risk of persistent pain and chronic depression, Dr. Meeks said.

"We need to keep pain in mind and ask our patients about it," said Dr. Karp. In addition to various visual or verbal rating scales that can be used to inquire about pain, he said, certain direct questions might be helpful:

- ▶ Are you in pain now, or if not now, do you hurt more often than not?
- ▶ Where do you hurt?

- ▶ How has pain interfered with your life?
- ▶ Does pain interfere with your sleep?

"Insomnia is ubiquitous in this group," he said. "It has been associated with a decreased pain threshold, and it decreases patients' ability to actively cope with their pain problem."

Preliminary analysis from some of his pilot work has shown that insomnia and fatigue among older patients are associated with passive rather than active coping skills. "Passive skills are less effective and involve things like catastrophizing, praying, or hoping the pain will stop, whereas more active coping involves increasing behavioral activities and using coping self-statements like 'I will get through this,' 'the pain will pass,' or 'the pain will not kill me,'" he said.

When direct questioning is not useful or patients are nonverbal, behavioral observation can reveal a great deal about the pain an individual may be experiencing. "They may be grimacing or sighing; they may be irritable, disruptive, or verbally abusive; their body position may be rigid or guarded; or they might show their discomfort by fidgeting," said Dr. Karp.

The recently validated Elderly Pain Caring Assessment 2 provides further insight into nonverbal cues (Pain 2007;133:87-98). "It's unlikely that we are going to be able to introduce another assessment into our nursing homes, but informing staff about some of these probes may be useful," he said.

Regardless of whether patients live in the community or in a nursing home, treating their pain with opioids can raise concerns about sedation and cognitive impairment. The decision should involve an individualized risk-benefit analysis. "While opioids do increase the risk of sedation, confusion, falls, and constipation, for some people the analgesia that results outweighs these potential risks—and cognition actually seems to improve," he said. "Perhaps

## Common Sources Of Geriatric Pain

### Musculoskeletal

Degenerative joint disease  
Spinal stenosis  
Fractures  
Improper positioning  
Contractures

### Visceral

Coronary artery disease  
Urinary retention  
Constipation

### Neuropathic

Postherpetic neuralgia  
Radiculopathy  
Poststroke syndrome  
Diabetic neuropathic pain

### Metabolic

Vitamin D deficiency  
Paget's disease

### Other

Cancer  
Fibromyalgia  
Oral/dental disorder  
Peripheral vascular disease  
Polymyalgia rheumatica

they are less distracted by pain and are better able to focus and concentrate."

Health care professionals should regard persistent pain in the elderly as treatable, with the potential for improvement in many patients. "We need to get the word out that the management of pain should be moved up the priority list, because we can get these patients feeling and functioning better," Dr. Karp said. ■

## Many Elderly, Particularly in Nursing Homes, Lack Vitamin D

BY KEITH HAGLUND  
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SALT LAKE CITY — Even among nursing home residents receiving substantial vitamin D supplements, half or more show deficiencies in the nutrient, according to two separate posters presented at the annual symposium of the American Medical Directors Association.

Researchers who conducted both studies suggested that nursing home residents should routinely receive two or more times the dose of the vitamin currently recommended for healthy elderly people.

"We were astounded to find how prevalent the deficiency in vitamin D was," said Dr. Todd H. Goldberg, director of geriatrics at West Virginia University Health Sciences Center, Charleston, who conducted the study while he was the medical director of Paul's Run Retirement Community, Philadelphia.

Dr. Goldberg and his colleagues reviewed the charts of 105 residents of Paul's Run and the Allegheny Valley School, a home for adults with developmental disabilities, also in Philadelphia, and studied those that included data on concentrations of serum 25-hydroxyvitamin D (25(OH)D). All the residents had taken multivitamins and vitamin D-calcium supplements that yielded a total of 400-1,200 IU of the vitamin daily. Yet 38 of the 45 residents had 25(OH)D levels under 30 ng/mL, the target

considered sufficient in most adults. Eleven had levels under 20 ng/mL, which Dr. Goldberg called "severely deficient."

In the second study, Dr. William Zirker and Dr. Sri Yenupotula of the Crozer-Chester Medical Center in Upland, Pa., tested for 25(OH)D in 100 residents aged 65 years and older in the nursing home affiliated with the medical center. Although 84 residents were on the home's standard regimen of 800 IU of vitamin D with 1,200 mg of calcium daily, 35 (42%) had 25(OH)D levels under 30 ng/mL. Of the 16 residents not receiving the standard supplements, 12 were below the target level. "Our conclusion is that you can't just assume that you're going to achieve a target level by treating with the recommended [supplemental regimen]," said Dr. Zirker, chief of geriatric medicine at the medical center.

Dr. Zirker and Dr. Goldberg suggested different ways in which nursing homes could address vitamin D deficiency despite recommended supplementation.

Dr. Goldberg said that nursing home residents should be given extra over-the-counter vitamin D doses up to 2,000 IU per day routinely, whether or not their 25(OH)D levels are known. He pointed out that it can cost \$100 for

each test for the metabolite, whereas a hefty dose of vitamin D costs about 2 cents.

Conversely, Dr. Zirker advocated extensive blood testing. "We know that vitamin D deficiency is epidemic, particularly in nursing home residents," he said. "All long-term care residents should have their 25(OH)D level checked after they have been on a standard [regimen] of 1,200 mg of calcium and 800 IU of vitamin D for at least 1-2 months," he

**Of 45 residents who had taken vitamin D and calcium supplements, the levels in 38 were considered sufficient, and 11 had levels labeled 'severely deficient.'**

wrote. Residents with low 25(OH)D concentrations then should receive as much as 50,000 IU a week and then 50,000 IU a month.

In a separate presentation at the AMDA meeting, Dr. F. Michael Gloth III, director of

outpatient services for geriatric medicine and gerontology at Johns Hopkins University, Baltimore, said that elderly people absorb 40% less vitamin D than young people do, and older skin produces less vitamin D when exposed to sunlight. The current Institute of Medicine-recommended daily intake of vitamin D (600 IU for people aged older than 70 years) "is nice, but it doesn't really apply to anyone you have in the nursing home," said Dr. Gloth.

In long-term care, "one of the most beneficial interventions one can do is simply give people vitamin D supplements," he concluded. ■