



GASTROENTEROLOGY

Sleep Apnea May Predict Peptic Ulcer Bleeding

A patient with sleep apnea may be at a 2.4-fold increased risk for peptic ulcer bleeding, say researchers from Taipei Veterans General Hospital and National Yang-Ming University, both in Taipei, Taiwan.

Their study, the first to their knowledge to address the relationship of sleep apnea and subsequent peptic ulcer bleeding, used a large-scale nationwide database: 7,096 patients with newly diagnosed sleep apnea were compared with 28,384 adults without sleep apnea. During 3 to 4 years of follow-up, 32 patients with sleep apnea (0.45%) and 52 control subjects (0.18%) developed peptic ulcer bleeding ($P < .0001$).

Medications prescribed for the 2 groups were not significantly different, although patients with sleep apnea were more likely to be taking proton pump inhibitors. Patients with incident peptic ulcer bleeding were older and more likely to have sleep apnea, heart disease, peptic ulcer, ischemic stroke, and often taking nonsteroidal antiinflammatory drugs (NSAIDs). But after adjusting for age, gender, comorbidities, and medicines, only sleep apnea, increasing age, and a history of peptic ulcer were independently associated with bleeding. Age, peptic ulcer, and use of NSAIDs are well-established risk factors; sleep apnea is not.

Evidence shows that sleep apnea can be harmful to the cardiovascular system, cognitive function, and glucose homeostasis through a variety of means: chronic intermittent hypoxia, excessive oxidative stress, sympathetic hyperactivation, and systemic

inflammation. The researchers add that those may also be the means by which apnea can harm the gastrointestinal system, causing gastroesophageal reflux disease, liver injury, and fatty liver disease. Further, cycles of hypoxia/reoxygenation may cause cytotoxic injury to gastric or duodenal mucosa by producing reactive oxygen species. Hyperactivation of the sympathetic system could encourage peptic ulcer bleeding in much the same way as stress ulcers occur, the researchers speculate.

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The researchers also say they have demonstrated a possible association between severity of sleep apnea and greater risk of peptic ulcer bleeding. Patients being treated with continuous positive airway pressure had an even higher risk of bleeding. However, the researchers note, factors associated with increasing severity of sleep apnea, such as obesity, might also predispose to the bleeding. Although the association was statistically significant, they advise further research. They also caution that, because their study was done using Chinese subjects who generally have a lower body mass index, their results are not generalizable to non-Asians without more evaluation.

Source: Shiao T-H, Liu C-J, Luo J-C, et al. *Am J Med.* 2013;126(3):249-255, 255.e1.
doi: 10.1016/j.amjmed.2012.08.017.

PAIN MANAGEMENT

Change the Mood, Change the Pain

Two recent studies show the importance of mood for people in pain: (1) Having an optimistic disposition can help with pain tolerance; and (2) If they aren't natural optimists, they can learn to reframe their outlook.

Studies have shown that catastrophizing—an exaggerated negative appraisal of the pain experience—is less common among optimists, who have lower levels of pain. But the majority of studies examining the association between optimism and pain responses have involved young, healthy volunteers; researchers from the University of Alabama at Birmingham, and the University of Florida in Gainesville, weren't clear whether the findings could be extrapolated to older adults.

These researchers speculated that dispositional optimism influences pain responses by altering endogenous pain processing. They designed their study of 140 older community-dwelling adults with symptomatic knee osteoarthritis in part to find out whether dispositional optimism is also associated with temporal summation (TS), a measure of endogenous pain facilitation.

They assessed TS by using a tailored heat pain stimulus on the forearm. And, indeed, they found that greater dispositional optimism was associated with less pain catastrophizing and less TS of heat pain. Further, pain catastrophizing significantly mediated the association between dispositional optimism and TS of heat pain.

Findings such as these suggest that patients who are less optimistic

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CLINICAL DIGEST

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need more treatment and help with managing their catastrophizing, the researchers say. Researchers from the Pain Management and Research Centre at Royal North Shore Hospital in Sydney, Australia agree. For the first time, there is good evidence that catastrophizing mediates the impact of pain on depressed mood in older people, almost completely in people aged ≥ 80 years, according to researchers from the Pain Management Research Institute at Royal North Shore Hospital in Sydney; University of Sydney; National Ageing Research Institute of Royal Melbourne Hospital in Parkville; Caulfield Pain Management and Research Centre in Caulfield, all in Australia; and from Shahed University in Tehran, Iran. Moreover, pain catastrophizing not only intensified pain, but also deepened depression. Thus, immediately addressing catastrophizing may help improve pain relief for older patients.

In this second study, 669 participants aged ≥ 61 years were assessed over a 7-year period. All patients completed several pain assessment

measures, including the Pain-Related Self-Statements (PRSS), Depression Anxiety Stress Scales (short version, DASS-21), and Numerical Rating Scale (NRS). The PRSS assesses cognitive strategies that help or hinder coping with pain. The DASS-21 assesses severity of depression, anxiety, and stress. The NRS measures the usual level of pain in the preceding week. In addition to the self-reports, the researchers did a psychometric evaluation.

Research has suggested that age may account for differences in coping with pain, but the evidence is conflicting. While common in people with persistent pain, depression is less common or less severe in older people, possibly because they tend to be more stoic, the researchers say. In contrast, studies have shown that older people may catastrophize more but for good reason—they're more afraid of injury or reinjury, which can have worse consequences as people age.

This is the first study, to the researchers' knowledge, to establish

some of the psychometric properties of a measure of catastrophizing in older adults with persistent pain, particularly in the oldest-old (aged > 80 years). They identified 2 factors—magnification and helplessness—that mediated pain intensity and depressed mood somewhat in older patients and almost completely in those who were aged > 80 years.

This finding has important clinical implications, the researchers say, for the treatment of older patients. Cognitive-behavioral pain management programs often exclude older patients, even though older patients treated in such programs can learn to change their thinking habits. ●

Sources: Goodin BR, Glover TL, Sotolongo A, et al.

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doi: 10.1016/j.jpain.2012.10.007.

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doi: 10.1016/j.jpain.2012.10.011.



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