Diagnostic 'guidelines' a barrier to prompt relief for some back pain

EurekAlert

Slavishly following long-held guidelines for diagnosing the cause of arthritis-related back pain is resulting in excessive tests, delays in pain relief and wasteful spending of as much as $10,000 per patient, new Johns Hopkins-led research suggests.

Arthritis is a common cause of back pain, though difficult to precisely diagnose, experts say, because of the poor correlation between a finding of arthritis on an X-ray or MRI and the degree of a patient's back pain. That has routinely led to a series of temporary diagnostic nerve blocks to prove the arthritis connection before doctors will recommend radiofrequency denervation, a relatively safe, noninvasive procedure that interrupts nerve-pain signals from arthritic joints.

The new study, published in the August issue of the journal *Anesthesiology,* says the wiser course is to skip the diagnostic nerve blocks altogether and move straight to treatment when arthritis is the suspected cause of back pain.

"The whole way we're doing this is wrong," says study leader Steven P. Cohen, M.D., an associate professor of anesthesiology and critical care medicine at the Johns Hopkins University School of Medicine. "If we just do the radiofrequency procedure first, we're going to help more people and we're going to save a lot of money."

In Cohen's study, 151 patients at several hospitals whose back pain fit the criteria for arthritic back pain were randomized to one of three groups: Group 0 received radiofrequency denervation based on clinical findings without nerve blocks; group 1 underwent the radiofrequency treatment only after a positive response to a single diagnostic block; and group 2 only got the treatment if they had positive responses to two diagnostic blocks.

One-third of the patients in group 0 experienced significant pain relief lasting at least three months, while just 16 percent of group 1 and 22 percent of group 2 improved. Those in group 0 were treated immediately, visited a clinic just once and lost no extra days of work to undergo repeated diagnostic tests, Cohen says. The costs per successful treatment in groups 0, 1 and 2 were $6,286, $17,142 and $15,241, respectively.

Notably, among those who had radiofrequency treatment, success rates were higher in those who had the diagnostic blocks first because they were more likely to actually have arthritis. Still, Cohen says, those patients endured long delays and multiple procedures before finally getting lasting pain relief, and some may have not gotten needed radiofrequency treatment because of the false-negative results associated with diagnostic blocks.

"Our goal is to get people feeling better," he says. "When you do two blocks, you may be wrongly weeding out many people who would actually benefit from radiofrequency denervation."

Cohen notes that radiofrequency denervation is as safe as giving a diagnostic block and need only be done once for relief of symptoms. "The proof is in the treatment," he says. Radiofrequency denervation is unlikely to help patients whose back pain is not caused by arthritis. However, the procedure is not considered dangerous for those without arthritis.

Radiofrequency denervation is the second most common procedure in pain clinics across the United States. The relief can last many months and sometimes years, but often must be repeated when pain returns.

Cohen, who is also a colonel in the U.S. Army Reserves and director of chronic pain research at Walter Reed Army Medical Center, says the idea to do without diagnostic blocks came from his experience treating active-duty soldiers who complain of debilitating back pain. Deployed military doctors are under time pressure because soldiers who can't be sent back to their posts quickly are likely to be evacuated out of the war zone with the likelihood that they will not return.

In the civilian world, he says, patients also should be treated as quickly and safely as possible. Going straight to treatment typically means that those patients can also return to work and their normal lives in a shorter period of time.

Until recently, the big debate in the pain management community was whether to do one or two diagnostic blocks before the radiofrequency nerve-burning procedure. The rationale behind using two blocks is that some people without arthritic back pain can get pain relief from a single block, which is called a "false-positive" test. But Cohen and colleagues believe that making diagnostic accuracy a higher priority than pain relief may be misguided.

"If you ask patients what their main goal of treatment is, the answer is typically that they want to be able to pick up their grandkids or play golf,'" he says. "It's not, 'I want to know if it's my arthritic joints or my discs.'"

Cohen cautions that diagnostic nerve blocks are called for in some cases. For example, they should be used to determine whether surgery is the right option for relieving certain kinds of back pain in people without a clear-cut anatomical problem in order to avoid an unnecessary, risky operation.

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