Chronic opioids linked to increased complications after spinal fusion surgery

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Patients who have been taking opioid pain relievers for several months before spinal fusion surgery are at increased risk of complications after their surgery, reports a study in the journal *Spine*.

Patients on chronic opioid therapy before spinal fusion are at increased risk of complications and adverse outcomes—including repeated spinal surgery, according to the new research by Safdar N. Khan, MD, of The Ohio State University Wexner Medical Center, and colleagues. They write, "With increasing emphasis on cost containment and quality improvement, our findings are intended to caution providers about chronic opioid therapy as a risk factor for additional interventions and costs after lumbar fusion."

Increased Risks and Costs after Spinal Fusion in Chronic Opioid Users

Using an insurance database, the researchers identified 24,610 patients undergoing spinal fusion in the lower (lumbar) spine. Of these, 5,500 patients—22.3 percent—were taking opioid pain relievers for more than six months before their surgery. Several factors were linked to an increased rate of chronic opioid therapy: tobacco use disorder, drug abuse/dependence, anxiety, depression, and inflammatory arthritis.

A wide range of complications were more frequent for patients taking long-term opioids. In the first 90 days after spinal fusion, the odds of surgical wound complications were 19 percent higher for chronic opioid users, relative to those with no or less than six months of opioid use.

Chronic opioid therapy was also associated with a higher likelihood of emergency department visits and hospitalizations within 90 days. The odds were especially high for issues related to lumbar spine pain: a 31 percent relative increase in emergency visits and an 80 percent increase in hospital admissions.Patients taking chronic opioids before surgery were eight times more likely to still be taking opioids one year afterward. They had a 33 percent relative increase in the likelihood of repeat spinal fusion surgery within one year.

They also had higher odds of other complications—including constipation, a common side effect of opioids—and increased costs for medical care. "All these findings highlight the vicious cycle of unrelieved pain and fusion and increased healthcare costs in long-term opioid users," Dr. Khan and colleagues write.

With the increased use of opioids for back pain, many patients take these medications for some time before spinal fusion surgery. Previous studies have found various negative effects of opioid use on outcomes after surgery. The new research focused on how chronic opioid therapy affects risks and costs after the most common type of spinal fusion surgery (one- or two-level posterior lumbar fusion).

The results suggest that close to one-fourth of patients are using long-term opioids before spinal fusion. These chronic opioid users have higher complication rates, including wound complications, emergency visits and hospital admissions for back pain, and repeat spinal fusion surgery.

Spine surgeons should be vigilant about the increased complications and higher costs in patients receiving chronic opioid therapy before spinal fusion surgery, Dr. Khan and colleagues believe. They conclude: "As we head toward a value- and outcomes-based reimbursement system, spine surgeons need to incorporate pre-operative opioid use into their surgical decision making."

More information: Nikhil Jain et al. Pre-operative Chronic Opioid Therapy, *SPINE* (2018). DOI: 10.1097/BRS.0000000000002609

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