Lumbar Decompression Relieves Spinal Stenosis Pain More Than Epidural Injection

Minimally invasive lumbar decompression (MILD) reduced back pain caused by lumbar stenosis, and decreased opioid use, in patients far more effectively than epidural steroid injection, in a new study.

These findings were reported in a research poster presented at the 2019 annual meeting of the American Society of Interventional Pain Physicians.

Noting that epidural steroid injections frequently are given for lumbar spinal stenosis, sole author Navdeep Singh Jassal, MD, explained that although "epidural injections are efficacious to treat acute radiculopathy, a pain that is caused by an inflammatory condition, lumbar spinal stenosis is caused by compression of the nerve roots, and the only effective way to treat it is to decompress the spine." Dr. Jassal is an assistant clinical professor in the Department of Neurology/Interventional Pain Medicine, University of South Florida School of Medicine, in Tampa.

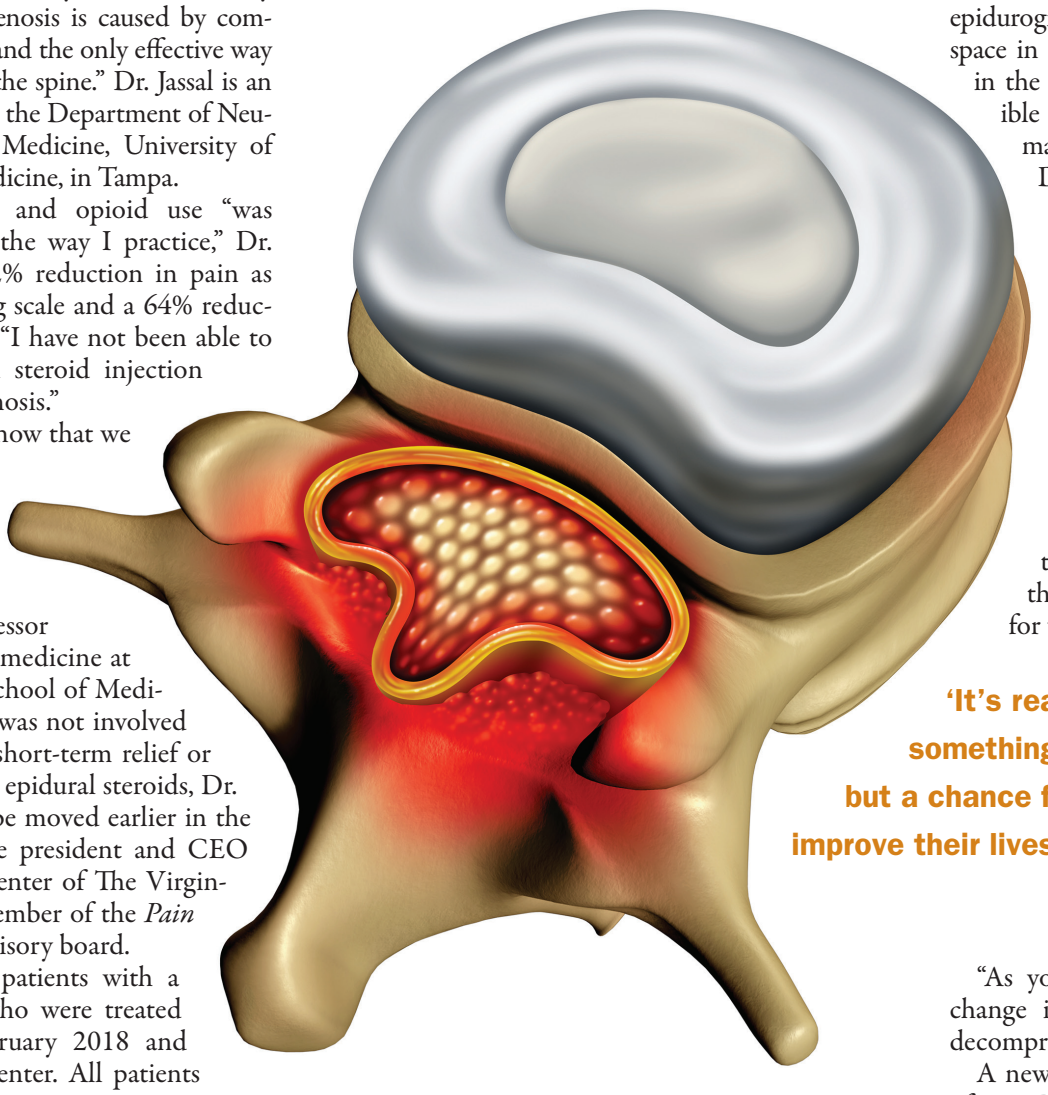
The reduction in pain and opioid use "was enough for me to change the way I practice," Dr. Jassal said. There was a 72% reduction in pain as measured on a visual analog scale and a 64% reduction in opioid use, he said. "I have not been able to achieve that with epidural steroid injection for treatment of lumbar stenosis."

"This is very exciting to show that we can use minimally invasive procedures like MILD to improve function and improve pain scores," said Timothy R. Deer, MD, a clinical professor of anesthesiology and pain medicine at West Virginia University School of Medicine, in Morgantown, who was not involved in the research. Given the short-term relief or complete lack of relief from epidural steroids, Dr. Deer said, "MILD should be moved earlier in the algorithm." Dr. Deer is the president and CEO of The Spine and Nerve Center of The Virginias, in Charleston, and a member of the *Pain Medicine News* editorial advisory board.

The study included 33 patients with a mean age of 77.9 years, who were treated with MILD between February 2018 and January 2019, at a single center. All patients had presented with moderate to severe central stenosis, including lumbar ligamentum flavum hypertrophy, as well as facet hypertrophy and degenerative disk disease, and 82% had presented with foraminal stenosis. They had failed conservative treatment, including at least one epidural steroid injection per patient.

After treatment with MILD, no device- or procedure-related adverse events occurred during a three- to six-month follow-up (20 patients were followed for six months). To date, no patients received subsequent interventions related to the study treatment for lumbar spinal stenosis.

Dr. Jassal emphasized that treating lumbar spinal stenosis patients with epidural steroid injections had been frustrating. "I practice in a geriatric community," he said. "I've noticed that my patients would require repeated epidural injections. Even though I could offer them three to four per year, it only allowed the patient to have pain relief for a short time, and they were always asking me, 'when am I due for the next one?'"



Dr. Jassal recounted how one patient, in his 90s, with severe spinal stenosis had come to see him in a wheelchair, and was now getting around with a rolling walker. "It's really nice that we finally have something that offers not only pain control but a chance for our patients to functionally improve their lives," he said, including the ability to stand longer, walk farther, "and to have more freedom to cook, shop and otherwise care for themselves."

In addition, Dr. Jassal stressed that decreasing the quantity of opioids needed to relieve pain also reduced the risk for falling, as well as overdosing, in patients.

Risk involved in the procedure is also low, Dr. Jassal said. "You have to use some IV sedation, but you don't have to put the patient completely asleep, and there is no intubation requirement." Since it takes just a half-hour, "you're minimizing surgical time."

Details of MILD Treatment

The first step in performing MILD is to obtain an epidurogram to assess the structure of the epidural space in the spine. "This involves placing the needle in the epidural space, with contrast, to render visible the fine border of where the problem area may be, so that you don't breach that border," Dr. Jassal said.

"To start, you place the needle at the level you are going to treat, and you use contrast dye to highlight the barrier between the area to be treated and the area to be avoided," Dr. Jassal explained. The first step is to use a bone rongeur to remove pieces of lamina and to create a working space. The next step is to use a second tool, the tissue sculptor, to remove pieces of the ligamentum flavum, the increased thickness of which is causing the tightness in the spine. "When it's greater than 2.5 mm, it is considered thick enough for us to debulk it.

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"As you refresh the contrast dye, you notice a change in the epidurogram—proof that you are decompressing," Dr. Jassal said.

A new prospective, multicenter, randomized trial of MILD, known as MOTION, is nearing completion of enrollment, aimed at increasing the evidence and evaluating the short- and long-term efficacy of MILD. Dr. Deer is the primary national investigator.

—David C. Holzman

Dr. Deer serves as a consultant to Cornorloc, Vertiflex and Vertos. Dr. Jassal serves as a consultant for Nuvectra, as a key opinion leader and consultant for Vertos, and sits on the Global Commercial Advisory Board for Abbott.