Abstract: Case Series: Safety and Effectiveness of 3-Level Lumbar Percutaneous Decompression with an Interspinous Spacer

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Background: Lumbar interspinous process decompression (IPD) to treat lumbar spinal stenosis (LSS) was first made available in the 1980s. In 2015, the FDA approved a second-generation IPD spacer. The main difference is that this surgery may be performed by an interventional pain medicine physician under moderate sedation. 5-year data from an industry-sponsored study on IPD have been published showing improvements in quality of life (QOL) and pain scores.[1] Indications for Vertiflex IPD include skeletally mature patients who have neurogenic intermittent claudication secondary to moderate stenosis at one or two levels. Function should improve when the patients are in lumbar flexion. Contraindications include allergy to titanium, spinal instability, ankylosis, fracture, scoliosis, cauda equina, osteoporosis, prior decompression at index level, and morbid obesity.

The author has performed more than fifty 2-level percutaneous decompression with interspinous spacer and only four 3-level percutaneous decompression with interspinous spacer. Based on 1-year data from the cohort of 2-level, a majority of patients reported improvement in their leg pain, improved ability to ambulate street blocks, and would recommend the procedure; there were no infections, hematomas, or neurological injuries.

Case presentation: In this case series, we review 4 patients who had 3 levels of lumbar spinal stenosis treated at the Veterans Affairs Medical Center of New Orleans.

Patient A was an 80-year-old male with L2-3 severe, L3-4 mild, and L4-5 moderate stenosis and pain for 25 years. There was no benefit from tramadol, lidocaine, Cymbalta, gabapentin, or physical therapy. He had epidural steroid injections with no benefit as well as unknown interventional pain treatments outside of our hospital. Comorbidities included morbid obesity, hga1c 7.5, CKD-3, chronic lower extremity stasis dermatitis. Neurosurgery evaluated him and recommended against laminectomy +/- fusion, so they referred back to me for Vertiflex. Post-operatively he stated he would recommend this procedure for a fellow veteran with the same symptoms as it decreased his left leg pain from a 9/10 to a 1/10 and his right leg pain from a 9/10 to a 6/10. He also stated he had doubled his walking distance from 75 feet to 150 feet.

Patient B was a 72-year-old male with L2-3 severe, L3-4 severe, L4-5 severe stenosis with pain for more than 10 years. There was no benefit from diclofenac, lidocaine, NSAIDs, or physical therapy. He had epidural steroid injections and facet injections with no benefit. Comorbidities included smoking tobacco. The patient declined referral to neurosurgery. He states he would recommend this procedure for a fellow veteran with the same symptoms as his leg pain was decreased by 50% from a 10/10 to a 5/10. Additionally, his distance of ambulation post-operatively was increased from 2.5 blocks to 3.5 blocks.

Patient C was a 77-year-old male with L2-3 moderate, L3-4 severe, L4-5 severe stenosis with pain for 20 years. There was no benefit from hydrocodone, gabapentin, trazodone, or physical therapy. He had multiple epidural steroid injections and facet injections with no benefit as well as unknown interventional pain treatments outside of our hospital. Comorbidities included smoking tobacco and coronary artery disease. He was seen by neurosurgery who felt that he was too high risk for laminectomy +/- fusion. The patient would not recommend this procedure for a fellow veteran with the same symptomatology, reporting he experienced zero relief from his pain which was still rated as a 10/10. It should be noted that post-operatively he stated his pain was always predominantly in the back and not the legs (which differs from pain distribution during initial patient eval). Additionally, there was no post-operative change in his ambulation distance which was 150 feet pre-op and post-op.

Patient D was a 77-year-old male with L2-3 severe, L3-4 severe, and L4-5 severe stenosis with pain for 10 years. There was no benefit from baclofen, diclofenac, gabapentin, lidocaine, or physical therapy. He had 3 epidural steroid injections with no benefit as well as unknown interventional pain treatments outside of our hospital. Comorbidities included stroke with 3/5 strength on his right side. He declined referral to neurosurgery. He would recommend this procedure to a fellow veteran with the same symptoms and reports his pain was decreased from a 10/10 to a 4/10 post-operatively. He also states his ambulation distance was doubled, from 0.5 block to 1 block post-operatively.

Objective: Determine safety and effectiveness of 3-level percutaneous decompression with interspinous spacer.

Methods: A post operative telephone visit was conducted to see if each patient had improvement in radicular leg symptoms or neurogenic claudication, would recommend the procedure, improved ability to ambulate in number of street blocks.

Conclusions: 3 level interspinous process spacer decompression has been shown to increase ambulation distance and decrease leg pain in veterans with lumbar spinal central stenosis with neurogenic claudication.

Disclosure: I have no disclosures

References:

1. Nunley PD, Patel VV, Orndorff DG, Lavelle WF, Block JE, Geisler FH. Five-year durability of stand-alone interspinous process decompression for lumbar spinal stenosis. Clin Interv Aging. 2017 Sep 6;12:1409-1417.

Encore presentation: N/A

Presenter's CV