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A Common Yet Under-Diagnosed Cause Of Low Back Pain: Facet Joint Arthropathy

Milan Stojanovic, M.D.

Up to 75% of Americans suffer from low back pain (LBP) at some point in their lives. The etiology of low back pain is often multifactorial; the most common pain generators in patients with low back pain are: a)

lumbar radiculopathy due to disc protrusion; b) facet joint disease; c) discogenic (internal disc disruption) pain; d) failed back syndrome; e) myofascial and piriformis muscle pain and f) sacroiliac joint syndrome.



Over the last decade, minimally invasive treatments for low back pain have gained in popularity as an alternative to medications and surgery. Some of the most important features of these treatment options for low back pain are their extremely favorable risk/benefit ratio, improved outcome data and diagnostic value not achievable by MRI imaging.

The abnormalities in the lumbar facet (zygapophysial) joints have been identified as a frequent cause of low back pain in select patients, with its prevalence ranging from 15-40%. The facet joint is innervated by medial branches emerging from the dorsal rami of the spinal nerves and the L5 dorsal ramus itself (Figure 1).

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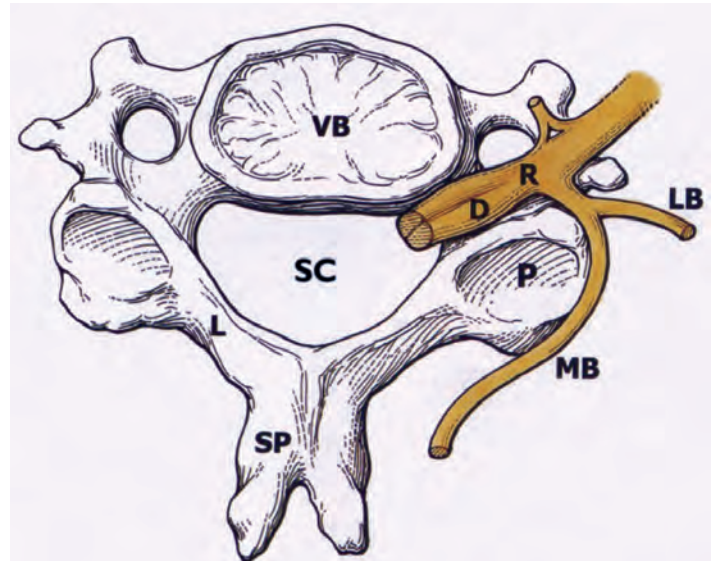


Figure 1: Anatomy of spinal nerve as it exits the neural foramen; VB=Vertebral Body, SP=Spinous Process, L= Lamina, D= Dorsal Root Ganglion, R=Nerve Root, P= Pedicle, MB= Medial Branch, LB= Lateral Branch, SC=Spinal Canal

NEW DOCTOR JOINS THE SPINE AND PAIN INSTITUTE OF NEW ENGLAND

Aneesh Singla, M.D., M.P.H. has recently joined the Spine and Pain Institute and is accepting new patients into his practice. Dr. Singla completed his training in Anesthesiology at Massachusetts General Hospital and completed his Pain Fellowship at Brigham and Women's Hospital, both affiliated with Harvard Medical School. Dr. Singla is also a staff physician at Massachusetts General Hospital. Dr.



Singla specializes in minimally invasive treatments for pain management and has published many articles in medical literature. He also does research in pain medicine and is proficient in state-of-the-art treatments for pain management. Dr. Singla will be accepting patients in our Dedham office as well as in our new Framingham office located at 463 Worcester Rd., Suite 205. Please join us in welcoming him.

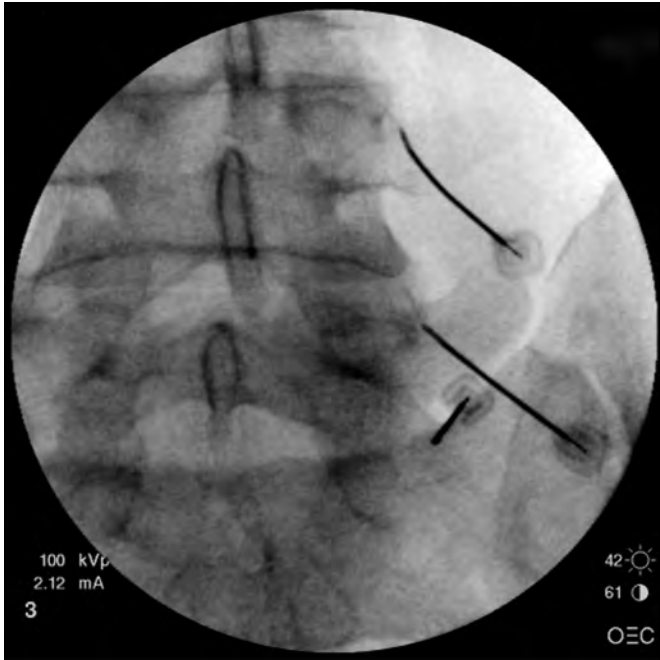


Figure 2. AP fluoroscopic view of cannulae positioned for injection of the right L3 and L4 medial branches and L5 dorsal rami.

History, physical examination and MRI findings do not provide adequate diagnostic information in these patients. Increased pain with back extension and palpation over the facet joints is suggestive but not conclusive of the disease. The only way to make the final diagnosis of this condition is to perform one or two diagnostic medial branch/dorsal ramus blocks (Figure 2).

Two separate diagnostic blocks are necessary to reduce the high false positive rate of these procedures. Patients experiencing at least 50% pain relief with diagnostic medial branch blocks may then go on to experience long-term pain relief following radiofrequency denervation (RF) of these nerves. The long-term success of RF is 50-86% lasting from 4 months to several years. The recurrence of pain is due to re-growth of nerves and a second RF may be necessary in selected cases. Intensive physical therapy, weight loss and a home exercise regimen after the successful RF may improve chances of long-term pain relief.

It appears that facet joint disease remains an under-diagnosed and undertreated condition despite substantial data supporting the diagnostic and therapeutic value and safety of facet joint blocks and RF. With early diagnosis and treatment, this cause of back pain can be prevented from spiraling out of control and the cycle of pain can be broken.

References:

1. Slipman CW, Bhat AL, Gilchrist RV et al. A critical review of the evidence for the use of zygapophysial injections and radiofrequency denervation in the treatment of low back pain. *Spine J.* 2003 Jul-Aug;3(4):310-6. Review.
2. Van Kleef M, Barendse GA, Kessels A, Voets HM, Weber WE, de Lange S. Randomized trial of radiofrequency lumbar facet denervation for chronic low back pain. *Spine* 1999;24:1937-1942.
3. Dreyfuss PH, Dreyer SJ, Herring SA. Contemporary concepts in spinal care: lumbar zygapophysial (facet) joint injections. *Spine* 1995;20:2040-2047.
4. Fenton DS, Czervionke LF. *Image-Guided Spine Intervention.* Philadelphia; Saunders; 2003; 20.

INTERVENTIONAL PROCEDURES

- Diagnostic and therapeutic injections
- Spinal cord stimulators
- Radiofrequency lesioning
- Percutaneous disc decompression
- Discography
- Botox injections for pain
- IDET
- Epidural steroid injections
- Facet joint injections
- Vertebroplasty
- Epidural lysis of adhesions
- Sacroiliac joint injection
- Sympathetic nerve blocks
- Selective nerve injections