

# Primary Epidural Varicosis as a Rare Cause of Sciatica: A Case Report

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## Abstract

Non-discogenic sciatica can be caused by any lesion along the course of the lumbosacral nerve roots and sciatic nerve. We aim to present a rare case of refractory sciatica in an otherwise healthy 25-year-old man. He complained of left leg pain without significant back pain. Extensor hallucis longus muscle was weak on the left side with limited straight leg rising. On magnetic resonance imaging, a space-occupying lesion resembling a sequestered disc was noted that after surgical decompression, epidural varicosis was demonstrated.

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**Keywords** • Epidural varicosis • Non-discogenic sciatica • Leg pain • Surgery

## Introduction

Risk of low back pain in the human life span is 80%, while this probability for sciatica is about 50%.<sup>1</sup> Usually, when a patient presents with sciatalgia and positive straight leg raising test, most of the physicians referred it to a herniated lumbar disc. In rare cases, physicians are faced with some patients who have obvious clinical sciatica, but their imaging studies indicate normal intervertebral discs.

This non-discogenic sciatica can be caused by any space-occupying lesion along the course of the lumbosacral nerve root and the sciatic nerve and therefore it can be arbitrary divided into two general categories: intraspinal and extraspinal non-discogenic sciatica.<sup>2</sup> In this report, we present a rare case of refractory sciatica in an active otherwise healthy 25-year-old man that a diagnosis of varicose veins in epidural space was ultimately confirmed.

## Case Report

A 25-year-old man presented to spine clinic with chronic left leg pain for about two years. He declared that analgesics were relatively useless for relieving his pain, but he could still do his ordinary activities. He could lift heavy weights without extra pain, but his maximum walking pain free distance was about 400 meters. Pain prevented him from sitting or standing more than 30 minutes. He was obliged to take medicine to sleep well. On visual analogue scaling, he pointed the score of 10 for his leg pain, but zero for low back pain.

In physical examination, he complained of paresthesia on the dorsal aspect of the foot. We found that his left extensor hallucis longus power was fair accompanying with limitation of straight

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leg rising to 40° associated with normal Achilles deep tendon reflex. His previous conservative treatment consisted of modification in activities of daily living, 30 consecutive physiotherapy sessions along with plenty of anti-inflammatory and analgesic drugs for about two years. His blood laboratory test was normal and in electrodiagnostic study, a moderate degree of left L5 radiculopathy was reported. Recorded Oswestry disability index was 36%.<sup>3</sup>

Magnetic resonance imaging has been reported as normal, but we notice a space-occupying lesion in left side of L4-L5 level with a signal intensity that resembled disc material on T1 weighted slices (Figure 1). On the other hand, intervertebral discs were appeared completely normal on T2 weighted images. With a preliminary diagnosis of a synovial cyst or perhaps an old degenerative free sequestered disc, surgery was offered and the patient agreed immediately.

The patient was given sufficient explanation about the disease and he signed the informed consent. With minimal longitudinal skin incision, left paravertebral muscles were retracted laterally. With limited laminotomy, vertebral canal was opened and explored with caution. Compressed left L5 nerve root was retracted medially and beneath it, there was a bulging flexible mass. With some dissection, the mass was ruptured and a relatively huge bleeding occurred. Disc's appearance and consistency were completely normal and nerve root had a relax posture. Biopsy was taken for pathologic examination. The wound was closed with an anatomic soft tissue repair on a deep drain.

The patient's symptoms completely disappeared even on the same day of the operation and he was discharged the day after. Pathological examination revealed enlarged and distended veins corresponding with varicosis. In postoperative study, we carried out an outpatient complete clinical and paraclinical examination accompanying with appropriate consultations to rule out any underlying disease (like hepatobiliary

diseases or alike) but nothing could be found. In the last patient visit, performed 23 months after surgery, he was completely asymptomatic and Oswestry disability index improved to 2% (compared with 36% preoperatively).

## Discussion

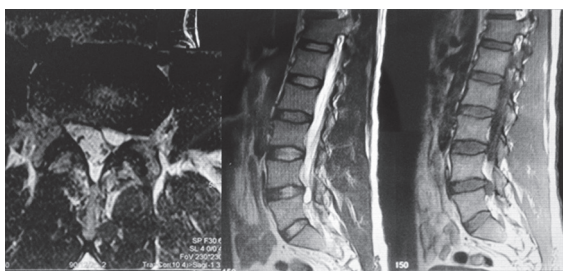
Any peculiar pathology along the course of the sciatic nerve from its origin (lumbosacral nerve roots) to its bifurcation into tibial and common peroneal nerves can create sciatalgia similar to classic clinical presentation of a lumbar disc herniation. These are usually reported as rare cases in the literature. Awareness of these possible causes of non-discogenic sciatica and careful attention to the patient's history, physical examination, and paraclinical details can assist the physician in making the correct diagnosis and treatment.

Numerous reasons have been reported for non-discogenic sciatica. Some of them include herpes zoster, infection, lumbar nerve root tumor, spinal instability, excessive hypertrophy of the facet joint, ankylosing spondylitis, sacroiliitis, sciatic neuritis, piriformis syndrome, intrapelvic mass (hypertrophic ossification), intraspinal ganglion cyst, endometriosis, adenomyosis, coxarthrosis, et cetera.<sup>4,5</sup>

Literature reveals that the presence of varicose vein in the limited epidural space as an underlying cause of sciatica has been reported in some papers previously, but very rare reports of sciatica due to idiopathic epidural varicosis (without any underlying disease) have been ever done.<sup>6,7</sup> Secondary epidural varicosis may be due to the different types of inferior vena cava anomalies (hypoplasia, aplasia), obstruction of this vein (pregnancy or thrombosis), portocaval hypertension, compressive lesions in the spinal cord and herniated disc itself.<sup>8</sup> The clinical presentation of both primary and secondary epidural varicosis might be completely similar to a typical lumbar disc herniation (as in our patient).

Several mechanisms for secondary epidural varicosis have been proposed, but none of them confirmed for primary cases. According to the literature, ideal diagnostic tool for this entity is still magnetic resonance image, although its signal intensities based on its contents (degree of thrombosis) can be varied.<sup>7</sup>

Patent large flowing vessels display decreased signal intensity on both T1 and T2 weighted images, whereas a totally thrombosed vein has an increased signal intensity on both weighted images.<sup>8</sup> In the patient presented, the mass showed an increased signal intensity



**Figure 1:** Magnetic resonance images revealed a space occupying mass with high signal intensity on T2 (left and middle images) and low signal intensity on T1 (right image) weighted slices.

on T2 and decreased signal intensity on T1 weighted images. This probably means a cystic degeneration of a dilated thrombotic vein.

Although in idiopathic and symptomatic epidural varicosis, some authors proposed coagulative ablation, the preferred approach is surgical resection of the varicose vein (as we did) and generally, long-term favourable outcomes have been reported.<sup>7</sup>

### Conclusion

Although the most common cause of sciatica, even in pediatric patients is lumbar disc herniation, with careful attention to the patient's history, physical examination, and paraclinical details, the possibility of non-discogenic sciatica should always be in mind.

**Conflict of Interest:** None declared.

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