

CASE REPORT

A Case of Piriformis Syndrome Mimicking Radiculopathy

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ABSTRACT

Piriformis syndrome constitutes a constellation of sign and symptoms and has always remained as a diagnostic dilemma for pain physician. Piriformis syndrome not only causes pain due to its myofascial trigger point but also due to nerve compression and injury on sciatic nerve and its branches. The neural irritation to the sciatic nerve will cause radiculopathy like pain which is misleading the diagnosis to a lumbar nerve root pain. Piriformis syndrome remains a challenge to physician and burden to patients having this syndrome and costly to the society. Diagnostic piriformis block remains a standard for diagnosis and modalities like magnetic resonance imaging (MRI) and nerve conduction velocity (NCV) testing would be helpful in ruling out other diseases. This is a case report of a piriformis syndrome patient presented with radicular symptoms of the leg.

Keywords: Magnetic resonance imaging, Nerve conduction velocity, Piriformis syndrome, Radiculopathy.

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We are presented with a 70 years old female with chronic low back pain and recent onset of right leg pain of 20 days. She predominantly presented with mild low back pain which was diffused, poorly localized, non-radiating, aggravated by activities of daily living and relieved with rest. She also had an associated moderate left leg pain shooting, radiating, and pricking in character relieved with NSAID and paracetamol intake. She suddenly developed right leg pain, radiating down the posterior aspect of right thigh, leg, and up to the lateral aspect of the foot. The back pain was aggravated on sitting and leg pain was aggravated by walking and relieved by lying down. She rated her low back pain with intensity of 8 of 10 on numerical rating scale (NRS).

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The patient had no other comorbidities, trauma, or significant weight loss. On examination, right foot preferentially noted to be externally rotated at rest. Straight leg raising (SLR) was positive on right side at 40°. Right lower extremity flexion, adduction, internal rotation (FAIR) was positive and piriformis muscle stretch pain and tenderness upon palpation was noted. No sensorineural deficit was present over the right lower extremity. Motor power and the ankle reflex were normal. No red flags noted. Examination of other systems was normal.

Provisional primary diagnosis of myofascial pain syndrome of piriformis muscle was made with a strong suspicious secondary diagnosis of S1 radiculopathy due to its dermatomal presentation.

Blood examination and nerve conduction velocity studies were normal. Lumbosacral MRI showed diffuse osteoporotic changes with cervical and lumbar degenerative changes. We proceeded with diagnostic and therapeutic piriformis injection which provided a near complete resolution of pain also confirmed our initial diagnosis.

DISCUSSION

Piriformis syndrome is a neuromuscular condition characterized by leg, low back, hip and buttock pain. It is thought to be more common in women than men, often occurring on fourth to fifth decades of life.¹ Sciatic nerve is formed by L4-S3 nerve roots and it passes anteriorly to the piriformis muscle but in 17% of cases sciatic nerve and its branches passes through the piriformis muscle which can cause selective or dermatomal type of pain when a branch is compressed.² It is worse when sitting for more than 20 minutes and relieved by standing, walking or lying supine.^{3,4} Typical presentation of piriformis pain would be only up to the knee and no further but some patient presented until the leg and down to the foot as seen in our patient. Patient lower extremity pain is noted by stretching the piriformis by flexion, adduction and internal rotation (FAIR-test).⁵ Laseague's sign which is pain on pressure application over the piriformis muscle when hip is flexed at 90° is also seen.^{4,5} Our patient presented with acute right leg pain up to the foot which is neuropathic in character with an S1 dermatomal distribution.

History and physical examination is still the most reliable tool in arrival of diagnosing piriformis syndrome.



Although diagnostic block of the piriformis muscle remained a standard in locating the pain generator of the leg.⁴ Magnetic resonance imaging and NCV testing would help us differentiate from many diseases ranging from nerve root pain, intervertebral disk pain, sympathetically mediated pain, compression vertebral fracture, spinal cord diseases, and canal stenosis. In our patient MRI and NCV testing showed normal results which reflect more on a disease such peripheral neuropathy rather than spinal cord cause.

In above-mentioned case, we made piriformis syndrome as our first provisional diagnosis because the back pain was aggravated upon sitting FAIR-test was positive and upon palpation piriformis was tender.⁶⁻⁸ Right foot was externally rotated at rest. However, we could not rule out S1 radiculopathy as the pain was strictly dermatomal aggravated by walking and SLR positive. The pain was relieved on lying down.

CONCLUSION AND RECOMMENDATION

Piriformis pain syndrome encompasses many symptoms and overlap with other disease presentation. It is a commonly seen in all pain clinics and making the correct diagnosis is utmost important. It can mimic pain and radiculopathy of the leg from any cause. Proper and

organized history and physical examination should be accomplished with aid of MRI and NCV testing which can eliminate other disease entity. Piriformis pain syndrome should always be in our mind in any kind of pain experienced in the lower extremities.

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