

CASE REPORT

Unusual Case of Psoas Myofascial Pain Syndrome mimicking Radiculopathy

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ABSTRACT

Psoas myofascial pain syndrome, a term applied to the abnormal condition of the psoas muscle, is characterized by symptoms and signs due to entrapment of the lumbar plexus. Psoas syndrome is an easily missed diagnosis. However, it is important to consider this condition as part of the differential diagnosis for patients presenting with low back pain radiating to lower limbs. Here, we report an unusual case of low back pain, radiating to right thigh. On examination, patient had paramedian tenderness over right lower back along with loss of sensation over inguinal and anterior aspect of thigh. The patient was successfully managed by local anesthetic injection along psoas myofascial plane.

Keywords: Low back pain, Lumbar plexus, Myofascial pain syndrome.

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INTRODUCTION

Psoas syndrome may manifest as any of a variety of clinical scenarios involving low back pain and often poses a diagnostic challenge. However, many patients have certain symptoms in common, including pain in the lumbosacral region when sitting or standing, delay or difficulty in achieving a fully erect posture, pain in the contralateral gluteal region, and radiation of pain down the leg (generally stopping proximal to the knee).¹ Symptoms may mimic those of a herniated nucleus pulposus¹ or chemical radiculitis. In the differential diagnosis, other musculoskeletal and visceral causes of pain, such as colon cancer, colon diverticulitis, femoral bursitis, hip arthritis, prostatitis, salpingitis, and ureteral calculi, must be ruled out as the source of low back pain.² It is important to remember the existence of fascial connections when treating patients with psoas

syndrome. Fascia envelops the psoas muscle as well as the adjacent viscera, and it connects to the internal crus of the diaphragm.³ Dysfunction of the psoas muscle can cause restriction of the diaphragm, and, conversely, a restricted diaphragm has potential to cause psoas muscle dysfunction.³ Other anatomic considerations include the parietal peritoneum, which covers the psoas muscle as well as the appendix. Therefore, an inflamed appendix can cause signs of irritation of the psoas muscle,⁴ leading to positive psoas sign in a case of acute appendicitis, but there is lack of literature regarding psoas syndrome presenting with radicular symptoms along with varying degrees of neurodeficit.

Here, we discuss the case of a 35-year-old female who presented in our pain clinic with a history of low back pain along with tingling and numbness radiating up to right thigh. The patient was successfully managed with psoas myofascial injection using C-arm, which resulted in more than 75% pain relief along with improvement in neurological symptoms.

CASE REPORT

A 35-year-old female presented to our clinic with a 4-month history of low back pain. The pain was on the right-sided paramedian region, which was episodic and fluctuating in intensity. It was radiating to anterior aspect of right thigh and over right inguinal region. This radiating pain was described as tingling and electric shock-like pain, which aggravated from sitting to standing, upon walking, and sleeping prone, and was relieved on flexing the right hip. On examination, the patient had hypoesthesia along L2-L3 dermatome with right paramedian tenderness over L3-L4 and L4-L5 regions. The Patrick (FABER—Flexion, Abduction and External Rotation) test was positive bilaterally and straight leg raise was positive at 45°. Motor testing showed grade IV motor loss of hip adductors and flexors. On imaging, X-ray showed loss of lumbar lordosis (Fig. 1), while magnetic resonance imaging (MRI) revealed hyperintense zone (HIZ) in the area adjoining L4-L5 disk (Fig. 2).

Tenderness was more along the psoas muscle; so, in order to provide her adequate pain relief, we planned to perform diagnostic psoas injection keeping psoas myofascial pain syndrome as one of our differential diagnosis. A diagnostic psoas myofascial block was given

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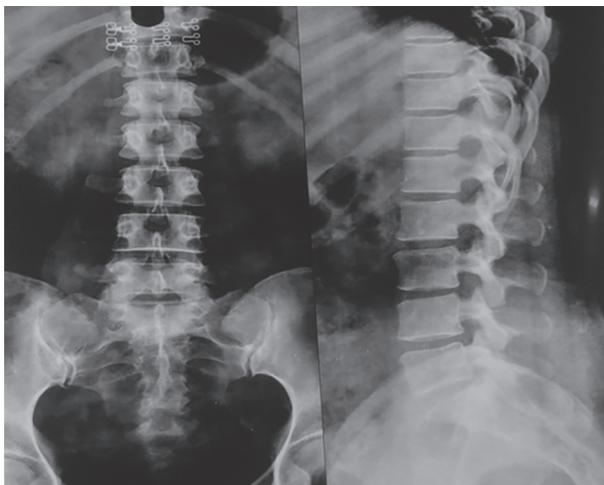


Fig. 1: X-ray showing loss of lumbar lordosis



Fig. 2: Magnetic resonance imaging showing HIZ in the area adjoining L4-L5 disk

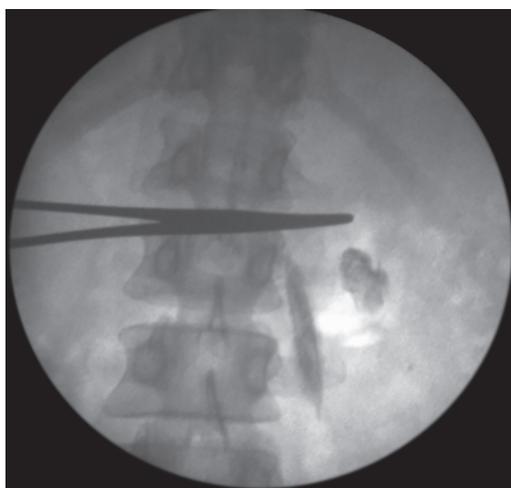


Fig. 3: Psoas myofascial injection under fluoroscopy showing dye spread

with 2% lignocaine under fluoroscopic guidance following confirmation of psoas muscle using dye. It resulted in near complete pain relief along with improvement in neurological features (Fig. 3).

DISCUSSION

The psoas major is the largest muscle in cross-section at the lower levels of the lumbar spine.⁵ It has fibrous attachments to the anterior aspect of all lumbar transverse processes and to the anteromedial aspect of all the lumbar discs and adjoining bodies with the exception of the L5/S1 disk.⁶ For their relative positions on the spine, the attachments on the transverse processes are named the posterior attachments and those on the disk and bodies are called the anterior attachments. The fascicles are oriented inferolaterally and come together as a common tendon, which descends over the pelvic brim and shares a common insertion with the iliacus muscle on the lesser trochanter of the femur. It is well

established that the psoas functions as a primary flexor of the hip joint.⁶ Nachemson⁷ showed that the psoas major was active during upright standing, forward bending, and lifting.

Myofascial pain of the psoas major will often present as anterior hip and/or lower back pain. Patient history generally reveals aggravation of lower back pain while maintaining antigravity activity, and alleviation when recumbent position is maintained. Fetal position or a supine position with hips and knees flexed offers the maximum relief. These antalgic positions place the least tension on a contracted and shortened psoas muscle. Referral areas include the anterior thigh⁸ and along the lower limb. Piriformis syndrome can mimic similar kind of presentation.⁹ Low back pain can be referred from trigger points in the quadratus lumborum, the lowest section of rectus abdominis, longissimus thoracis, gluteus maximus, and medius muscles. Iliopsoas trigger points do not cause pain on coughing and deep breathing as do those in quadratus lumborum muscle. When patient indicates that pain spreads horizontally across the low back, the pain is much more likely to be referred from trigger points from quadratus lumborum or rectus abdominis.

Most of these myofascial pain syndromes cannot be confirmed by MRI, but can be confirmed by diagnostic block.¹⁰

Initial treatment should focus on immobilizing the injured muscle for approximately 3 to 5 days to prevent further retraction of the strained muscle while attempting to reduce pain by using various conservative modalities like relaxation, physiotherapy, or medication like muscle relaxants and interventional procedures. Interventional procedures can be injection of local anesthetic along psoas muscle under fluoroscopic guidance or under high frequency ultrasound, computed tomography, or MRI. About 100 units of botulinum (type I) injection also can be used for long-term pain relief.¹¹

Literature is lacking in patients having radiating pain with tingling and numbness along the lower limb. Our patient presented with a similar kind of neuropathic component, which included tingling, numbness, and weakness of hip adductors and flexors, which was also relieved following diagnostic psoas injection along with pain. This can be explained by the exact anatomical knowledge of lumbar plexus. The lumbar plexus originates from the ventral rami of the L1-L4 nerve roots and projects laterally and caudally from the intervertebral foramina, posterior to the psoas major muscle.¹² As most of the lumbar plexus lies within substance of the psoas muscle, following diagnostic psoas injection, the muscle would have been relaxed resulting in relief from various neurological symptoms including tingling, numbness, and weakness.

CONCLUSION

Lumbar plexus can be compromised following spasm of psoas muscle as most of the lumbar plexus lies within the substance of psoas muscle. Thus, for any patient presenting with low back pain radiating to other parts along with tingling, numbness, and weakness, psoas myofascial pain syndrome should be kept in mind, which can be successfully managed with diagnostic psoas injection using local anesthetics.

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