



## Chronic Sciatic Pain due to Intramuscular Gluteal Lipoma: A Case Report

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### Abstract

*Sciatica is a highly prevalent condition. Its main presenting symptoms are radiating pain in the lower extremity with possible sensory or motor disturbances. In about 90% of cases sciatica is caused by disc herniation with nerve root compression.<sup>[1]</sup> Lumbar stenosis and tumors are other less common etiologies.<sup>[1]</sup> Few cases in the literature report sciatic pain due to gluteal masses.<sup>[2,3]</sup> We describe a patient with left sciatic pain of 3 years duration who failed to respond to conservative medical treatment. Magnetic resonance imaging showed a large oval mass interposed between the gluteus medius and gluteus maximus muscles and insinuating within the fibers of the gluteus medius. The patient's pain completely resolved after surgical excision of the mass. This represents an uncommon, yet a possibly treatable and reversible etiology of sciatica and should be considered in the differential diagnosis of this condition*

**Keywords:** *Sciatica, intramuscular lipoma, back pain, soft tissue mass, gluteal lipoma.*

### Introduction

Lipomas are benign mesenchymal tumors.<sup>[4]</sup> They represent the most common type of soft tissue tumors.<sup>[5]</sup> Subcutaneous lipomas represent the most common type and they usually lie superficial to the fascia in the subcutaneous tissues.<sup>[4]</sup> However, lipomas may be deep seated, and these can usually originate within a muscle and are known as intramuscular lipomas.<sup>[4]</sup> Due to their deep-seated location, intramuscular lipomas may impinge on adjacent structures. A Lipoma is considered *infiltrating* if there is clear radiological, surgical or microscopic evidence of infiltration of a muscle or other adjacent structures.<sup>[6]</sup> Intramuscular lipoma is a relatively uncommon condition and accounts for about 1.8% of all primary tumours of adipose tissue and less than 1% of all lipomas.<sup>[7]</sup> Fletcher *et al.* found that 83%

were of the infiltrative type and 17% were the well-defined type.<sup>[7]</sup> Most intramuscular lipomas occur between the ages of 40 and 70 years.<sup>[7]</sup> We describe the case of a gluteal lipoma causing sciatic pain, a presentation not commonly reported in the literature.

### Case Report

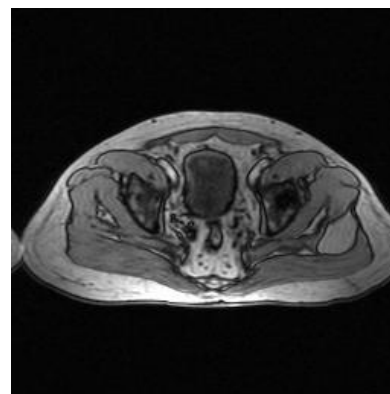
A 63 years old Mediterranean male patient presents for lower back pain of three years duration. He describes the pain as electrical and burning in nature, episodic, severe in intensity, radiating to the left flank area, down to the left knee and reaching the toes. The patient has difficulty standing upon waking up in the morning and describes a 'sword-like' episodic pain. Sometimes the pain is felt as an intense 'swelling' sensation over his left lower back and gluteal area.

The pain is exacerbated by walking, bending, standing, and sitting or sleeping on the left side. No associated tingling, numbness, or weakness in the lower extremities. He denies urinary or fecal incontinence. No history of trauma in the lumbar or pelvic area.

On physical examination, the straight leg raise test was positive bilaterally, with no sensory or motor deficits in the lower extremities. Palpation of the left gluteal region revealed diffuse tenderness, with no evidence of palpable masses.

History goes back to three years prior to presentation when the patient started feeling the same described pain, with a moderate intensity. An Xray of the lumbar spine requested by an orthopaedic surgeon, revealed disc degeneration at L4-L5 and L5-S1. The patient received conservative medical therapy, including anti-inflammatory medications, muscles relaxants, pregabalin, vitamin B12 injections, and traditional massages with no improvement. The pain was rather progressively increasing. After a second orthopaedic consultation, an MRI of the lumbar spine was requested, showing L4-L5 and L5-S1 disc protrusion with minimal compression on the left L5 and S1 nerve roots. A pelvis MRI done concomitantly showed a large oval formation, interposing between the left gluteus medius and maximus muscles, and infiltrating the fibers of the left gluteus medius, measuring 11 x 6 x 3 cm, compatible with a lipoma (Fig 1& 2). Two epidural steroid injections were subsequently done at an interval of six months resulting in no improvement. The lipoma was totally ignored by the treating physicians. The patient then underwent 10 sessions of physical therapy and acupuncture at weekly intervals, as well as chiropractic manipulations with no improvement. Finally, the patient visited our clinic for a trial of dry needling. 4 sessions at weekly intervals were done with no improvement. However, we referred the patient to general surgery for surgical excision of the mass. Under general anesthesia, the mass was wire localized preop. Incision was made and the mass was seen at the intramuscular level. The

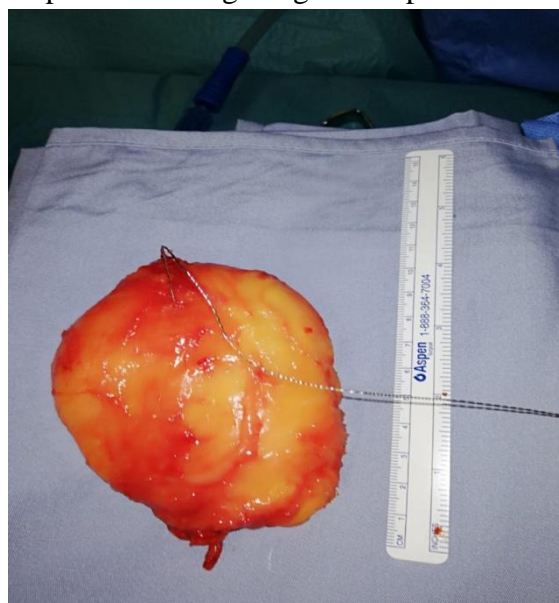
mass was dissected and cut off the muscle by cautery and excised in an intact manner. Figure 3 shows the lipoma after surgical excision. The patient tolerated the procedure well. Final pathological review confirmed the diagnosis of lipoma. 2 days after the surgery the patient's chronic sciatic pain was almost completely gone.



**Fig. 1** Magnetic resonance imaging (axial view) of the pelvis showing the gluteal lipoma



**Fig. 2** Magnetic resonance imaging (coronal view) of the pelvis showing the gluteal lipoma



**Fig. 3** The gluteal lipoma after surgical excision

## Discussion

Sciatic pain aetiologies can be classified into axial and appendicular depending on the location of the injury along the sciatic nerve pathway. Axial sciatica is more prevalent and is usually due to nerve root compression secondary to lumbar disc protrusions or herniations. Appendicular sciatica is less common and can have various aetiologies, such as peripheral compression from a benign or malignant mass, trauma, or ischemia.<sup>[2]</sup>

In our case, the low back pain was due to the compression of the sciatic nerve by a gluteal lipoma, located between the gluteus medius and gluteus maximus muscles.

Intramuscular lipomas usually clinically present as a slowly growing asymptomatic mass or 'swelling' with no palpable mass. Pain is a late and infrequent manifestation that most often happens with very deep and big lipomas and is usually due to peripheral entrapment of adjacent nerves or soft tissue compression.<sup>[8-12]</sup> Paresthesias and other sensory deficits due to nerve entrapment may happen.<sup>[13-15]</sup> Some patients may also complain of occasional cramping, probably due to dysfunction of the affected muscle due to its infiltration by the mass.<sup>[14, 15]</sup> With size progression, intramuscular lipomas may cause decreased range of motion due to mechanical restriction. Duration of symptoms before diagnosis ranges from a few months to years.<sup>[9]</sup>

Although studies show that intramuscular lipomas most often occur in the large muscles of the limbs and the trunk,<sup>[16, 17]</sup> they can occur in almost any muscle.<sup>[12,18]</sup> Fletcher *et al.* found that of the infiltrative subtype only 10% were located in the lower limbs.

This case draws attention to the importance of the correlation between clinical and radiological findings, especially because disc herniations identified by imaging are highly prevalent in people with no symptoms.<sup>[5]</sup> And on the other hand, many people with symptoms of sciatic pain have no evidence of lumbar disc herniations on imaging.<sup>[6, 7]</sup> In our case for instance, the patient

had lumbar disc disease; however, it was not the cause of his symptoms.

This case emphasizes not only the importance of taking into consideration appendicular causes in the differential diagnosis of sciatic pain, but also the value of a good correlation between clinical and radiological findings.

## Conclusion

This case of gluteal lipoma represents an uncommon, yet a possibly treatable and reversible etiology of sciatica and should be considered in the differential diagnosis of this condition. Clinical correlation of radiological findings is essential for establishing an effective plan of care.

## References

1. Koes, B.W., M. Van Tulder, and W. Peul, *Diagnosis and treatment of sciatica*. Bmj, 2007. 334(7607): p. 1313-1317.
2. de Almeida Holanda, M.M., et al., *Intermuscular gluteal lipoma mimicking sciatic pain*. Rev. Chil. Neurocirugía, 2014. 40: p. 117-118.
3. Lirola, S., et al., *A Buttock Soft Tissue Tumor and Sciatica: Another Clinical Utility of Ultrasound-Guided Diagnosis Block*. Journal of Anesthesia & Clinical Research, 2013, vol. 4, num. 3, p. 1-4, 2019.
4. McTighe, S. and I. Chernev, *Intramuscular lipoma: a review of the literature*. Orthopedic reviews, 2014. 6(4).
5. Murphey, M.D., et al., *From the archives of the AFIP: benign musculoskeletal lipomatous lesions*. Radiographics, 2004. 24(5): p. 1433-1466.
6. Regan, J., W. Bickel, and A. Broders. *Infiltrating benign lipomas of the extremities; report of two cases*. in *Proceedings of the staff meetings. Mayo Clinic*. 1946.
7. Fletcher, C. and E. Martin-Bates, *Intramuscular and intermuscular lipoma: neglected diagnoses*. Histopathology, 1988. 12(3): p. 275-287.

8. Ramos, L.P., et al., *Intramuscular lipoma of the deltoid mimicking a sarcoma. A case report*. La Chirurgia degli organi di movimento, 2001. 86(2): p. 153-157.
9. Warner, J., N. Madsen, and C. Gerber, *Intramuscular lipoma of the deltoid causing shoulder pain. Report of two cases*. Clinical orthopaedics and related research, 1990(253): p. 110-112.
10. Morris, A.D., et al., *Diffuse intramuscular lipomatosis of a lower limb*. Sarcoma, 1998. 2(1): p. 53-56.
11. Gutknecht, D.R., *Painful intramuscular lipoma of the thigh*. Southern medical journal, 2004. 97(11): p. 1121-1123.
12. Kapetanakis, S., et al., *Unusual intramuscular lipoma of deltoid muscle*. Folia Medica, 2010. 52(2): p. 68-71.
13. Lee, Y.H., et al., *Intramuscular lipoma in thenar or hypothenar muscles*. Hand Surgery, 2004. 9(01): p. 49-54.
14. Kindblom, L.G., et al., *Intermuscular and intramuscular lipomas and hibernomas. A clinical, roentgenologic, histologic, and prognostic study of 46 cases*. Cancer, 1974. 33(3): p. 754-762.
15. Colella, G., et al., *Giant intramuscular lipoma of the tongue: a case report and literature review*. Cases journal, 2009. 2(1): p. 1-3.
16. Dutton, J.J. and J.D. Wright Jr, *Intramuscular lipoma of the superior oblique muscle*. Orbit, 2006. 25(3): p. 227-233.
17. Kransdorf, M., et al., *Fat-containing soft-tissue masses of the extremities*. Radiographics, 1991. 11(1): p. 81-106.
18. Lahrach, K., et al., *An unusual case of an intramuscular lipoma of the biceps brachii*. Pan African Medical Journal, 2013. 15(1).