

Unilateral Hypertrophy of Tensor Fascia Lata: A Case Report

Review began 11/27/2022

Review ended 12/10/2022

Published 12/13/2022

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Abstract

Hypertrophy of the tensor fascia lata muscle is a rare entity that may be observed in patients presenting with a palpable mass in the antero-lateral aspect of the proximal thigh area. Imaging confirms the diagnosis of such a rare entity. This case report highlights a case of isolated hypertrophy of the tensor fascia lata muscle with no identifiable etiology. Biopsy and surgical intervention were not needed due to the interval stability throughout a three-year period. The orthopedic oncology team reassured the patient and followed up the patient annually.

Categories: Radiology

Keywords: muscle pseudohypertrophy, thigh mass, soft-tissue tumor, tensor fascia lata (tfl), hypertrophy

Introduction

Palpable lump in the anterolateral aspect of the thigh has broad differential considerations including neoplastic, benign entities, and tumor mimickers. Isolated hypertrophy of the tensor fascia lata (TFL) muscle is considered in the latter category. Tensor fascia lata hypertrophy is a rare benign clinical entity that may be considered a differential in patients who complain of swelling and pain in the anterior thigh [1,2]. The TFL is a skeletal muscle situated over the anterior-lateral aspect at the thigh's root. The insertion site is along the anterior section of the anterior-superior iliac spine, in the lateral margin of the iliac crest, and the deep surface of the fascia lata is where more superficial fibers are located [1]. The TFL muscle aids in stabilizing the pelvis and stops it from tipping to one side when depending on one limb. It also helps in hip abduction and internal rotation alongside the gluteus medius and minimus muscles [3]. Moreover, it functions as an additional knee flexor and aids in stabilizing the knee in extension because of its continuity with the iliotibial tract [3]. Imaging with MRI is the best modality for assessing soft tissue tumors [4].

Case Presentation

A 67-year-old female known case of type 2 diabetes mellitus presented to our hospital complaining of left hip swelling. She noticed the swelling three months prior to her presentation. It was associated with mild pain. The patient has no numbness or weakness or any constitutional symptoms. Physical examination revealed a mass over the TFL, and it was noted to be deep to the fascia. The mass was mobile, oval-shaped, soft to firm with no tenderness. The patient has no history of trauma or surgery in that area. Axial MR T1 nonfat saturated and T2 fat-saturated images (Figures 1A, 1B) and coronal MR T1 nonfat saturated image (Figure 2) were performed in our 1.5 Tesla Siemens Sola machine.

The images (Figures 1, 2) demonstrated no muscle fatty replacement or edema and no abnormal enhancing mass. MRI images showed an isolated enlargement of the left tensor fascia lata muscle with preserved muscle architecture and fibers. No aggressive soft tissue masses are seen. Follow-up MRI studies performed after two and three years demonstrate interval stability of the muscle hypertrophy. The overall findings are compatible with unilateral hypertrophy of the tensor fascia lata.

How to cite this article

AlGallaf L Y, Asiri Y N, AlDawsari F A, et al. (December 13, 2022) Unilateral Hypertrophy of Tensor Fascia Lata: A Case Report. Cureus 14(12): e32463. DOI 10.7759/cureus.32463

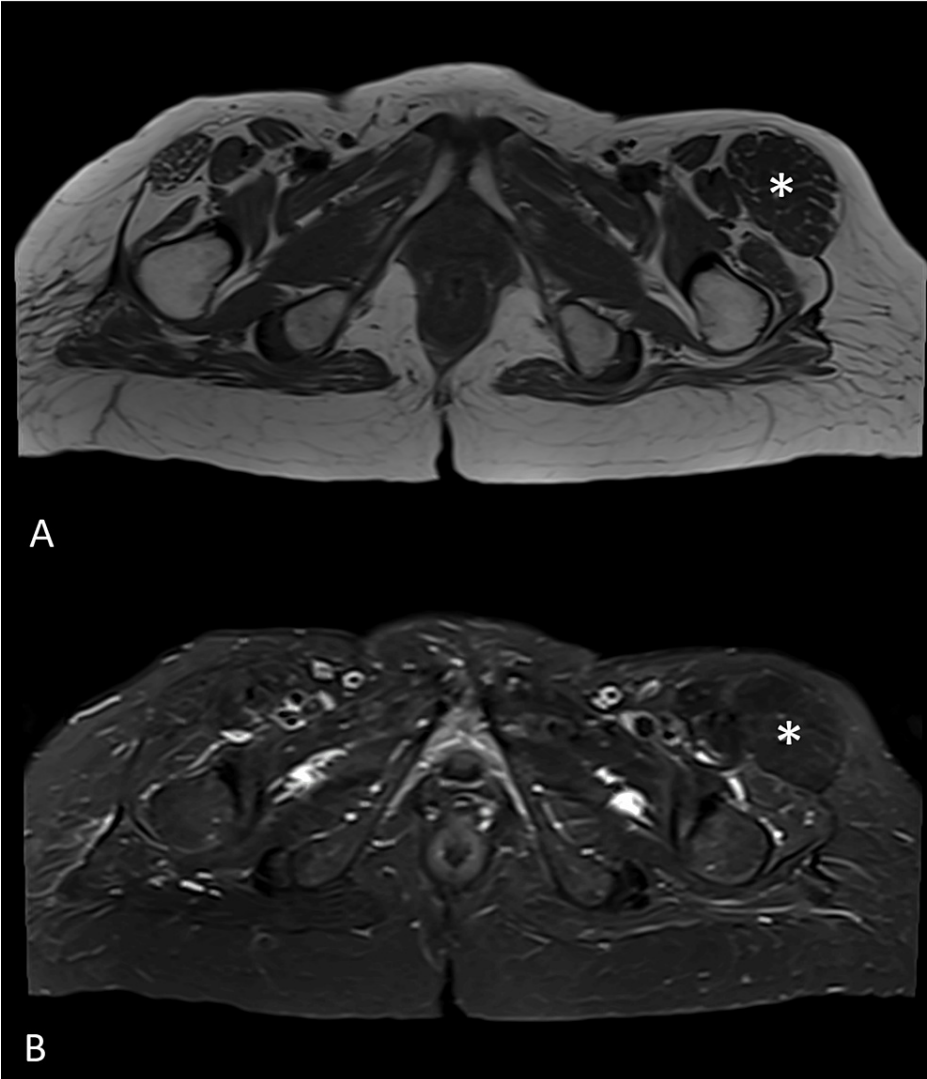


FIGURE 1: Axial T1 and T2 Weighted Images

(A) : Axial T1 weighted image at the level of the proximal thighs demonstrates a diffuse enlargement of the left tensor fascia lata muscle (white asterisk) with preserved muscle fibers. No significant fatty replacement.

(B): Axial T2 with fat saturation demonstrates the enlarged left tensor fascia lata muscle with no significant muscle edema.

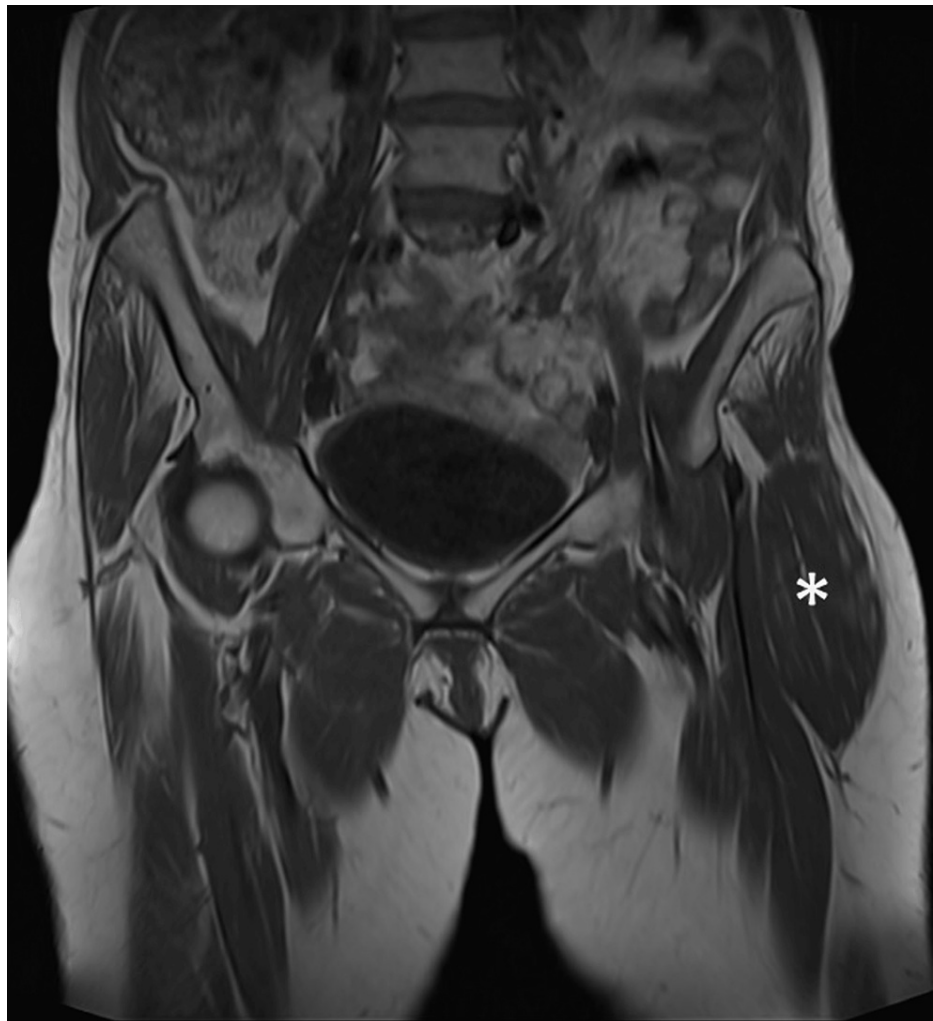


FIGURE 2: Coronal T1 Weighted Image

Coronal T1 weighted image of the pelvis shows the asymmetrical enlargement of the left tensor fascia lata muscle (white asterisk).

The patient was monitored by the orthopedic oncology team and was reassured after confirming stability for three years. A yearly follow-up regimen is currently in place for the patient.

Discussion

Muscle hypertrophy involves an increase in muscle volume based on an increase in the number and size of muscle fibers. In contrast, in pseudohypertrophy, the increase in volume occurs because of the infiltration of fat and connective tissue into the muscle belly [5]. Imaging studies, specifically MRI, are helpful in the differentiation between muscle hypertrophy and pseudohypertrophy by assessing the amount of fatty infiltration [6].

Tensor fascia lata muscle hypertrophy is a rare pathology, with only a few cases published in the literature. Imaging with MRI studies would demonstrate diffuse enlargement of TFL muscle, with preservation of its morphology and signal characteristics [1].

A case report conducted by Cedric De Clercq et al., has found a patient with bilateral tensor fascia lata hypertrophy. Differential diagnoses of muscle hypertrophy include exercise, denervation, radiation, and myopathies [6]. In our case, the patient has none of these etiologies.

Moreover, two cases of unilateral TFL hypertrophy were present at Hospital Universitario de Fuenlabrada. Both patients were treated with conservative treatment and clinical observation due to the absence of growth and physical limitation [7].

A case reported a 68-year-old man with no relevant medical history presenting with asymptomatic swelling

gradually increasing in size. The TFL hypertrophy was secondary to an abductor tendon tear [8].

Many cases reported have described an underlying cause, such as a tear following an injury, radiculopathy, or post-surgery. However, our patient did not have any signs of weakness, and based on her MRI the hypertrophy has been stable since her diagnosis. Given the interval stability over three years, biopsy and surgical intervention were not required. The patient was reassured and kept on regular annual follow-up.

Conclusions

Tensor fascia lata hypertrophy is a rare entity that may simulate a soft tissue tumor. Patients may present with symptoms such as pain and swelling in the anterolateral proximal thigh area. MRI imaging features, in conjunction with the clinical assessment and regular follow-up would help in reaching the correct diagnosis. To avoid the need for invasive procedures, it is essential to understand the imaging characteristics of tensor fascia lata muscle hypertrophy.

We report a case of tensor fascia lata muscle hypertrophy without an identifiable etiology. Imaging characteristics demonstrated interval stability throughout a three-year period; hence, neither a biopsy nor surgical intervention was required. The patient was reassured by the orthopedic oncology team and is currently undergoing yearly follow-up.

Additional Information

Disclosures

Human subjects: Consent was obtained or waived by all participants in this study. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

References

1. Pumar Pérez M, Marsico S, Rodríguez Baeza A, Solano López A: Role of imaging techniques in the diagnosis of selective hypertrophy of the tensor fascia lata. *Radiologia (Engl Ed)*. 2022, 64:368-74. [10.1016/j.rx.2021.06.006](https://doi.org/10.1016/j.rx.2021.06.006)
2. Mosquera Morales N, López Hermoza JG, Fernández Bravo A: Tensor fascia lata unilateral hypertrophy: a case report. *Rehabilitacion (Madr)*. 2019, 53:65-7. [10.1016/j.rh.2018.10.003](https://doi.org/10.1016/j.rh.2018.10.003)
3. Amy P, Trammell, Ahmed Nahian, Holly Pilson: Anatomy, bony pelvis and lower limb, tensor fasciae latae muscle. *StatPearls*. 2022,
4. Ilaslan H, Wenger DE, Shives TC, Unni KK: Unilateral hypertrophy of tensor fascia lata: a soft tissue tumor simulator. *Skeletal Radiol*. 2003, 32:628-32. [10.1007/s00256-003-0687-0](https://doi.org/10.1007/s00256-003-0687-0)
5. Petersilge CA, Pathria MN, Gentili A, Recht MP, Resnick D: Denervation hypertrophy of muscle: MR features. *J Comput Assist Tomogr*. 1995, 19:596-600. [10.1097/00004728-199507000-00017](https://doi.org/10.1097/00004728-199507000-00017)
6. De Clercq C, Jans L, Verstraete K: Bilateral hypertrophy of the m. tensor fascia latae. *J Belg Soc Radiol*. 2022, 106:44. [10.5334/jbsr.2724](https://doi.org/10.5334/jbsr.2724)
7. Meijer RP, Jasper J, Snoeker B, Jansen J: A pseudotumour of the thigh: tensor fasciae latae muscle hypertrophy due to an underlying abductor tendon tear. *BMJ Case Rep*. 2017, 2017: [10.1136/bcr-2017-219542](https://doi.org/10.1136/bcr-2017-219542)
8. Jiménez Hidalgo, Calvo Haro, Mediavilla Santos, et. al: Hypertrophy of the faciae latae: a pseudotumor of the thigh. *Archives of Clinical and Experimental Surgery*. 2020, 9:22-24.