

The Joint Effort: MSK Quiz

## Middle-aged woman with chronic right hip and groin pain

Shrishail Adke<sup>1</sup>, Sanjay Desai<sup>1</sup>

<sup>1</sup>Department of Radiology, Deenanath Mangeshkar Hospital, Pune, Maharashtra, India.



### PART 1: QUESTION

#### Clinical history

A 40-year-old female presents with a 9-month history of right hip and groin pain. Identify the pathology.

**\*Corresponding author:**

Shrishail Adke,  
Department of Radiology,  
Deenanath Mangeshkar  
Hospital, Pune, Maharashtra,  
India.

shri.adke@gmail.com

Received: 19 November 2024

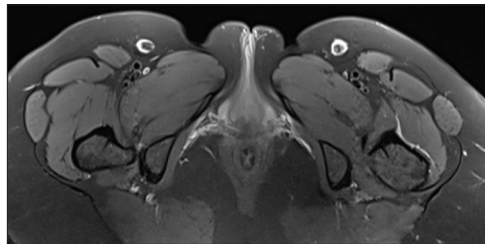
Accepted: 17 February 2025

Published: 11 March 2025

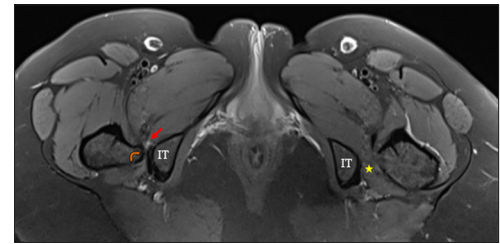
DOI

10.25259/IJMSR\_71\_2024

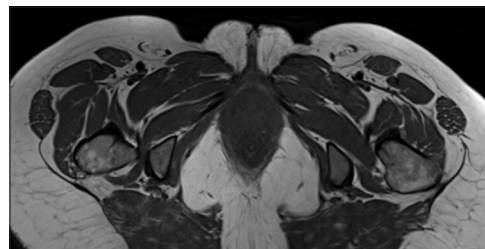
Quick Response Code:



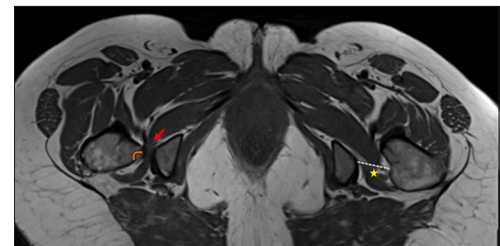
**Figure 1:** Axial proton density fat saturation (PDFS) image of pelvis.



**Figure 3:** Axial PDFS image of the pelvis demonstrates right ischiofemoral narrowing (orange curved arrow) with severe quadratus femoris muscle compression and edema (red arrows) and normal ischiofemoral space on the left side (yellow star). IT: Ischial tuberosity, PDFS: Proton density fat saturation



**Figure 2:** Axial T1 image of pelvis.



**Figure 4:** Axial T1 image of pelvis demonstrates right ischiofemoral narrowing (orange curved arrow) with severe quadratus femoris muscle compression and atrophy (red arrows) and normal space on the left side (yellow star and dashed white line).

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, transform, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

©2025 Published by Scientific Scholar on behalf of Indian Journal of Musculoskeletal Radiology

## PART 2: ANSWER

### Findings

Diagnosis: Right ischiofemoral impingement.

### DISCUSSION

Ischiofemoral impingement (IFI) occurs when soft tissues, especially the quadratus femoris muscle (QFM), are compressed between the ischial tuberosity and the lesser trochanter of the femur.<sup>[1]</sup> This impingement is typically caused by a congenital or acquired narrowing of the ischiofemoral space, defined as the shortest distance between the medial cortex of the lesser trochanter and the lateral cortex of the ischial tuberosity. The normal width of this space is around 2 cm, with a threshold of approximately 15 mm considered indicative of narrowing.<sup>[2]</sup> IFI is often seen in middle-aged to elderly women and is a common source of hip, groin, and/or posterior thigh pain. As QFM is located in close proximity to the sciatic nerve, pressure effects may produce nerve-related symptoms. In acute cases, the QFM may show signs of edema or tears, while chronic cases reveal fatty atrophy. In addition, some patients may develop adventitious bursitis or a bursa-like fluid collection around the lesser trochanter.<sup>[3]</sup> Bone marrow edema or cystic changes in the ischium or lesser trochanter may also be evident. While magnetic resonance imaging (MRI) is an essential tool for diagnosing IFI, it is important to note that not all patients with ischiofemoral narrowing or muscle edema will experience symptoms. Furthermore, MRI should not be performed with the hip in external rotation, as this position can lead to an overestimation of the degree of space narrowing.<sup>[2]</sup>

### DIFFERENTIAL DIAGNOSIS

1. QFM tear
2. Adductor/Hamstring muscle injury
3. Snapping hip syndrome
4. Piriformis syndrome
5. Lumbar radiculopathy.

### TREATMENT

The initial approach to managing IFI is generally conservative, focusing on rest, activity modification, and the use of non-steroidal anti-inflammatory drugs to alleviate pain and inflammation.<sup>[4]</sup> In cases where conservative measures

fail, computed tomography-guided injections of the QFM with a combination of local anesthetic and corticosteroid have demonstrated potential for providing long-term pain relief. For patients who do not respond to these non-invasive treatments, surgical options may be considered. Surgical interventions may involve the removal of inflamed or bursal-type tissue or, in more severe cases, excision of part of the lesser trochanter to relieve impingement and restore mobility.<sup>[5]</sup>

**Acknowledgment:** We acknowledge the help extended by Dr. Stanzin Spalkit in editing the manuscript.

**Ethical approval:** Institutional Review Board approval is not required.

**Declaration of patient consent:** Patient's consent not required as patients identity is not disclosed or compromised.

**Financial support and sponsorship:** Nil.

**Conflicts of interest:** There are no conflicts of interest.

**Use of artificial intelligence (AI)-assisted technology for manuscript preparation:** The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

### REFERENCES

1. Tosun O, Algin O, Yalcin N, Cay N, Ocakoglu G, Karaoglanoglu M. Ischiofemoral impingement: Evaluation with new MRI parameters and assessment of their reliability. *Skeletal Radiol* 2012;41:575-87.
2. Singer AD, Subhawong TK, Jose J, Tresley J, Clifford PD. Ischiofemoral impingement syndrome: A meta-analysis. *Skeletal Radiol* 2015;44:831-7.
3. Torriani M, Souto SC, Thomas BJ, Ouellette H, Bredella MA. Ischiofemoral impingement syndrome: An entity with hip pain and abnormalities of the quadratus femoris muscle. *AJR Am J Roentgenol* 2009;193:186-90.
4. Hernando MF, Cerezal L, Pérez-Carro L, Canga A, González RP. Evaluation and management of ischiofemoral impingement: A pathophysiologic, radiologic, and therapeutic approach to a complex diagnosis. *Skeletal Radiol* 2016;45:771-87.
5. Heimann AF, Wagner M, Vavron P, Brunner A, Donners R, Schmaranzer E, *et al.* CT-guided infiltration of the ischiofemoral space in young patients with ischiofemoral impingement is an effective diagnostic tool. *Insights Imaging* 2024;15:235.

**How to cite this article:** Adke S, Desai S. Middle-aged woman with chronic right hip and groin pain. *Indian J Musculoskelet Radiol*. 2025;7:137-8. doi: 10.25259/IJMSR\_71\_2024