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Case Report

Gluteus medius calcific tendonitis as a cause of severe anterior hip pain [☆]

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ARTICLE INFO

Article history:

Received 24 October 2023

Revised 23 November 2023

Accepted 6 December 2023

Keywords:

Gluteus tendonitis

Calcific tendonitis

Calcific tendinopathy

Gluteus medius

Anterior hip pain

ABSTRACT

Calcific tendinopathy in the gluteus medius is uncommon and sporadically reported. It may be asymptomatic or present with acute or chronic pain. Pain is usually isolated to the lateral hip overlying the gluteal muscles or greater trochanter. We present a rare case of gluteus medius calcific tendonitis as a cause of severe anterior hip pain. Given the atypical local and clinical presentation these can be often misdiagnosed as septic arthritis or fracture which may lead to overtreatment and even unnecessary surgery. This article will detail the clinical presentation, imaging findings, and clinical course following treatment. This will facilitate the clinician in making a timely diagnosis and establishing an effective treatment course.

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Introduction

Calcific tendonitis is caused by calcium hydroxyapatite crystal deposition in periarticular muscle attachments. It is most commonly reported in the shoulder. Gluteus medius calcific tendonitis is uncommon and sporadically reported [1] usually causing acute or chronic pain in the lateral aspect of the hip [2]. We present a rare case of gluteus medius calcific tendonitis as a cause of severe anterior hip pain. Given the

severity and unusual anterior location of the pain, this pathology can be overlooked resulting in the patient being managed for more common causes of anterior hip pain. These include labral tears, chondropathy and osteoarthritis [3]. More importantly, the severity of the symptoms can cause diagnostic confusion as the presentation can mimic urgent conditions like septic arthritis or fracture where an inaccurate diagnosis can result in detrimental effects. This case report highlights the unusual clinical presentation and image findings in a patient with acute gluteus medius calcific tendonitis.

[☆] Competing Interests: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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<https://doi.org/10.1016/j.radcr.2023.12.008>

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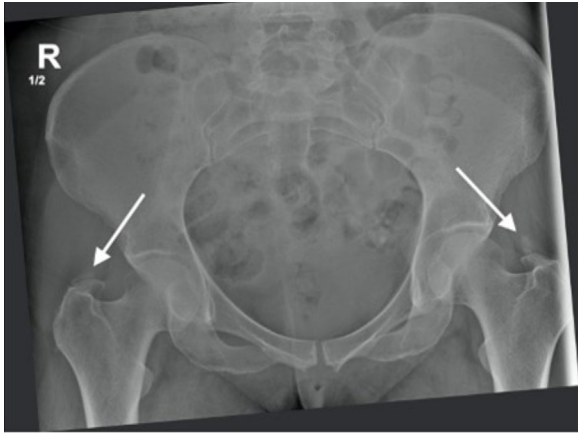


Fig. 1 – Pelvic radiograph. There are amorphous calcific densities projected over both greater trochanters (white arrows).

Case report

A 46-year-old female presented to the emergency department with an acute three-day history of atraumatic deteriorating left hip pain with an inability to weight bear. She had a past medical history of endometriosis, a normal body mass index, and limited daily physical activity. On initial presentation, there was persistent severe pain within the region of the anterior hip despite oral morphine. The vital signs and blood results were normal except for a slightly raised C reactive protein of 13.

On examination, there was no obvious swelling or deformity and no overt leg length discrepancy. There was signifi-

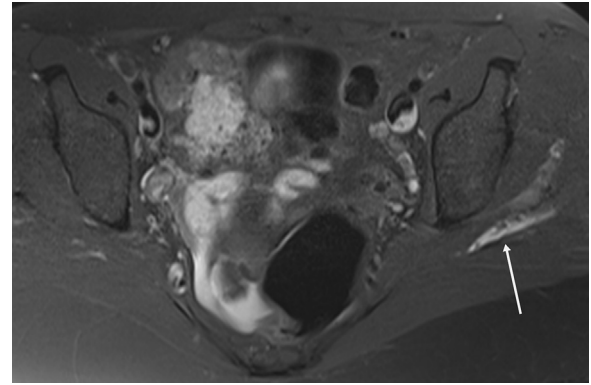


Fig. 3 – Axial PD fluid sensitive MRI. There is fluid tracking along the left gluteus medius myotendinous junction (white arrow).

cant tenderness spanning the anterior inferior iliac spine, rectus femoris origin, iliopsoas, and proximal third of the rectus femoris. There was no obvious tenderness over the hip joint but significant soft tissue tenderness over the iliopsoas bursa level on palpation. There was minimal tenderness over the greater trochanter and gluteal muscle and no tenderness over the iliotibial band or proximal hamstrings. The left hip was kept in slightly flexed position but not in a position of comfort (flexion, abduction, external rotation). She could tolerate only a few degrees of hip motion with severe pain mostly on hip flexion, especially on resisted hip flexion. A straight leg raise could be performed with no back or radiculopathy symptoms. Patient was neurovascularly intact. From the clinical examination, the most likely clinical diagnosis was thought to be iliopsoas bursitis or hip flexor pathology.

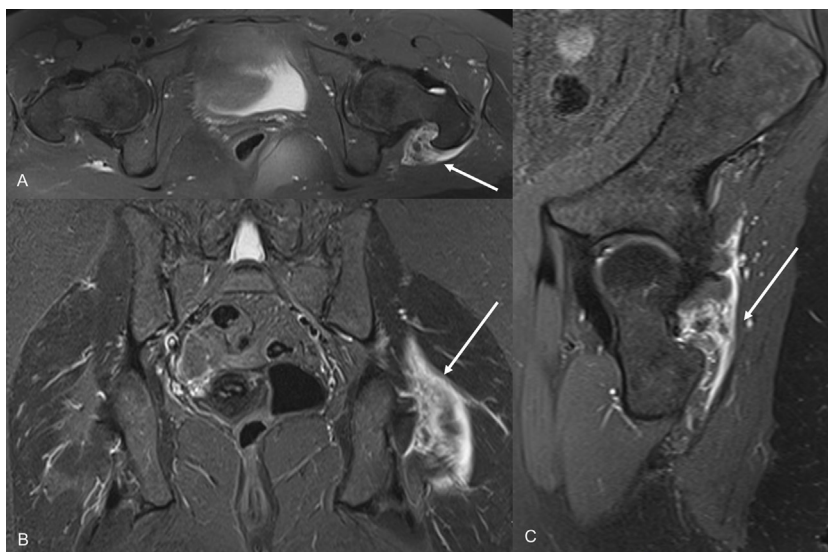


Fig. 2 – Axial (A) and sagittal (C) PD fluid sensitive and coronal STIR (B) MRI sequences. There is extensive fatty and peritendinous edema surrounding the posterior facet of the left greater trochanter with fluid distention of the greater trochanteric bursa (white arrows).

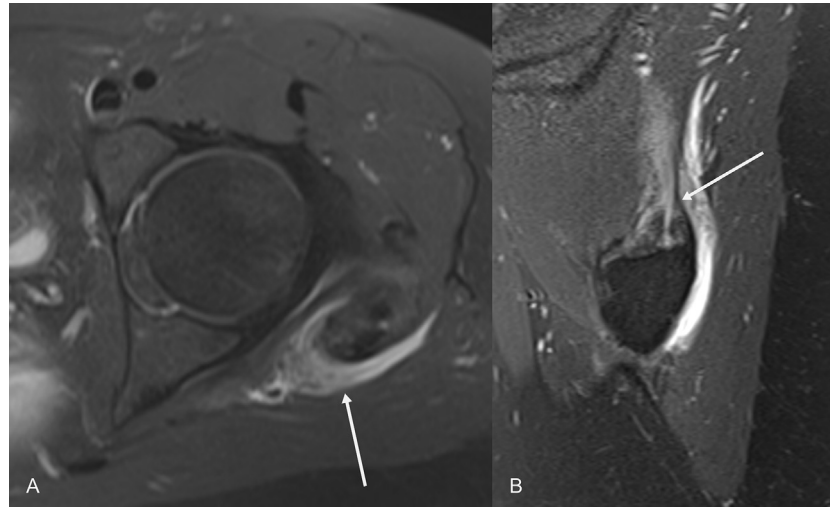


Fig. 4 – Axial (A) and sagittal (B) PD fluid sensitive MRI. There is thickening and heterogeneity of the left gluteus medius tendon at its insertion onto the greater trochanter (white arrows).

The patient subsequently had a radiograph of the pelvis which demonstrated bilateral homogenous amorphous calcific densities projected above the greater trochanters (Fig. 1).

Given the clinical history of atraumatic sudden left hip pain, the suspicion of calcific tendinopathy was raised and the patient proceeded to an MRI.

In the MRI study, there was extensive fatty and peritendinous edema and fluid surrounding the posterior facet of the left greater trochanter (Figs. 2A–C). This was consistent with trochanteric bursitis.

In addition, there was fluid tracking along the myotendinous junction of the gluteus medius and swelling of the distal tendon in keeping with tendonitis (Fig. 3 and Figs. 4A and B).

The MRI findings confirmed the diagnosis of acute gluteus medius calcific tendonitis causing greater trochanteric bursitis. She was managed conservatively with rest and oral nonsteroidal anti-inflammatory medication.

The patient was asymptomatic when seen in the fracture clinic 5 days later. There was no tenderness over the greater trochanter or gluteal muscles. Full range of motion was regained which was symmetrical on both sides. She was referred for physiotherapy for core and pelvic strengthening as well as stretching exercises of the gluteal muscles, iliotibial band, and tensor fasciae latae. She remained pain-free and asymptomatic at the 3-month review.

Discussion

Few cases of calcific tendinopathy in the gluteus medius have been reported [4–6]. This case is excellent at highlighting two crucial parts to confirming the diagnosis: clinical history and plain film findings. Although MRI remains the gold standard for detecting hip pathologies it has a much lower sensitivity for calcification than plain radiograph which can be missed on MRI alone. In this case, plain radiograph clearly delineated calcification in the expected region of the gluteus medius tendon.

With regard to clinical history, the patient only complained of left-sided pain. On the pelvic radiograph, calcification was seen superior to the right greater trochanter as well, however, the patient was asymptomatic on this side. The reason for this is that there are 4 stages of calcific tendinopathy—precalcific, calcific, resorptive, and postcalcific [7]. In the calcific phase symptoms are variable from none to pain on movement. The resorptive phase is the most symptomatic. In this phase, the calcium hydroxyapatite can extravasate into adjacent tissues causing bursitis as seen in this case on the left. The patient was therefore likely in the resorptive phase on the left side. On the right, the calcification may have represented the earlier calcific phase which is why the patient was asymptomatic on the right side. Therefore, the presence of calcium deposits must be correlated with the patients' clinical symptoms in order to determine their relevance.

This case report highlights the importance of considering gluteus medius tendinopathy as a potential cause for anterior hip pain with minimum or absent greater trochanter pain. Given the atypical local and clinical presentation, these can be often misdiagnosed as septic arthritis or fracture. This leads to overtreatment with antibiotics and occasionally unnecessary surgery. Recognition of this condition is therefore crucial in order to establish an effective treatment course. Earlier studies have proposed arthroscopic excision or endoscopy as therapeutic options in intractable cases [2,8]. The treatment is often conservative in a majority of cases with modification of activities, nonsteroidal medication, physiotherapy, ultrasound-guided injections, and in some cases, the condition is self-limiting.

Patient consent

Verbal and written informed consent for the publication of this case report was obtained from the patient.

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