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Case Report

Ischiofemoral Impingement in a 64 Year Old – A Case Report

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Abstract

Ischiofemoral impingement (IFI) is an under-recognized form of hip pain. Patients have presented with assorted symptoms including radiating leg pain, generalized hip and buttock pain and hip catching with or without an inciting injury. The pain is usually reproducible on examination. On imaging, patients are usually found to have a narrowed ischiofemoral space width with associated quadratus femoris muscle (QFM) edema.

This case demonstrates a patient presenting with an insidious, constant, non-specific hip pain in her lateral and posterior hip. The physical exam was negative for any reproducible pain. The patient later noted a slight catching sensation. On MRI, the patient was diagnosed with IFI after imaging demonstrated a narrowed ischiofemoral space of 11mm with associated QFM edema. She was treated conservatively with physical therapy and ultrasound-guided cortisone injection. Patient had a positive response with improvement in symptoms. This report adds to the growing literature of cases of surgically naïve IFI patients. This case illustrates the importance of utilizing MRI for further investigating uncertain and non-specific pain in the hip. It also adds to the increasing evidence for providers to consider IFI in their differentials of non-specific hip pain.

Keywords: Ischiofemoral; Impingement; Quadratus Femoris

Abbreviations

IFI: Ischiofemoral Impingement; QFM: Quadratus Femoris Muscle

Introduction

Ischiofemoral impingement (IFI) is a rare cause of hip pain. The pain can present generically as hip and buttock pain, with or without precipitating injury. It can be reproduced through extension, abduction, and external rotation of the hip. It is a diagnosis of exclusion given the wide breadth of differential diagnoses: sciatica, hamstring injury, hip labral injuries, osteoarthritis and adductor tendinitis…etc [1]. The source of the pain comes from the impingement of the quadratus femoris muscle (QFM) between the ischium and the lesser trochanter. This is an uncommon location of impingement given that the distance between the two is often 2 cm. A narrowing of this gap was first described in post operative hip arthroplasty patients in 1977 [2]. It was more recently first reported in non-operative patients where the native anatomy caused the impingement in 2008 [3]. This case report adds to the sparse literature available exemplifying another presentation of this rare impingement syndrome.

Case Presentation

A 64-year-old female with a past medical history Hashimoto's thyroiditis, degenerative joint disease in the knee and hyperparathyroidism presents to the clinic with a new complaint of left hip pain. She developed an insidious onset of pain in her groin without an inciting injury three months prior. Pain was described as constant and rated as 8/10 on visual analog scale. Pain was

on the lateral and posterior aspects of her hip. She was unable to qualify what makes the pain better or worse, however she had been more avoidant of weight bearing activity, walking and stepping. She denied previous injuries or surgeries to her help. She had not tried injections, physical therapy or other treatments for her condition.

Surgical history included left bunionectomy with internal fixation, left parathyroidectomy, exploratory parathyroidectomy and left thyroidectomy, open incisional hernia repair, open gastric bypass, anterior cervical fusion and left knee arthroscopy.

There was no significant social history. Patient does have a family history of heart disease, hypertension, osteoarthritis, coronary artery disease in her mother. She has a family history of diabetes, hypertension, and stroke in her father. She has a family history of hypertension and osteoarthritis in her siblings.

Physical examination of the left hip revealed no ecchymosis or edema over the left hip. There was focal tenderness over the greater trochanter. Range of motion and strength were intact in all directions without acute pain. There was no pain with flexion, adduction and internal rotation test (FADIR) and flexion, abduction and external rotation test (FABER) maneuvers. Hip grind test was negative. There were no signs of instability.

X-rays of the left hip were completed at the time of visit (2 views). These demonstrated acetabular osteophytes, the joint spaces were preserved and no obvious fractures (Figure 1, Figure2).

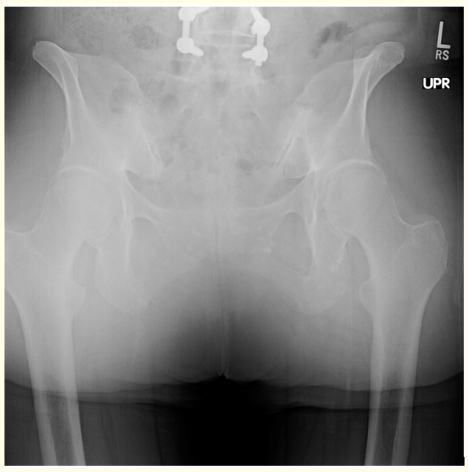

Figure 1

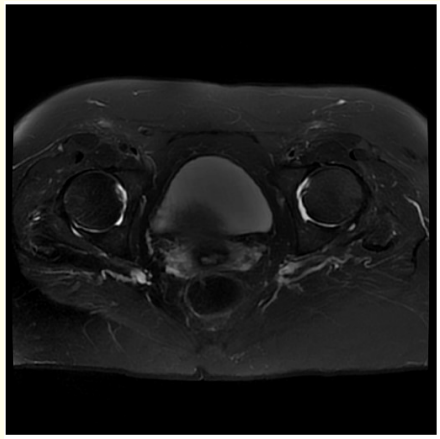

Figure 2

A prior right hip MRI revealed left hip gluteal tendinosis and trochanteric bursitis. On exam there was no clear explanation for her groin pain. This came out of nowhere, she was unable to qualify what made it worse or better, x-rays show minimal DJD and the exam was otherwise unremarkable. An MRI of her left hip was ordered with instructions to follow up in the office after completion.

Follow up and outcome

Patient presented for follow-up one month later and noted that symptoms were the same or may be slightly worse. Patient additionally noted a slight catching sensation in her hip.

MRI of the left hip without contrast showed bilateral ischiofemoral impingement, left greater than right with narrowing of the left ischiofemoral interval at 11m. There was edema present on both quadratus femoris muscles (Figure 3).

Figure 2

Treatment options were discussed with the patient. Initial conservative treatment with physical therapy with an option for an ultrasound guided cortisone injection of the QFM was proposed. It was explained to the patient that she may need surgery with resection of part of the lesser trochanter if conservative treatment were to fail. The patient opted to try physical therapy and declined the cortisone injection. She was advised to follow up in eight weeks.

The patient followed up in eight weeks. She had seen no improvement in the pain with physical therapy. She still had pain in her groin and buttocks region. She opted to pursue the cortisone injection of the quadratus femoris. Patient was seen by musculoskeletal radiology for her left hip.. Ultrasound evaluation revealed narrowing of the ischiofemoral space. Patient underwent ultrasound-guided cortisone injection of the left quadratus femoris at the site of ischiofemoral narrowing.

Patient updated the physician three weeks after the procedure and related her hip symptoms improved considerably. Recommendation was made to continue with her home exercise program from physical therapy. She was advised if symptoms were to recur she could consider surgical consult for resection of lesser trochanter to eliminate the anatomic site of impingement.

Discussion

The incidence of IFI is unknown. Through the analysis of individual patient reports, IFI disproportionately affects female patients [4]. This is theorized from the decreased width of the ischiofemoral space in females found in a 2015 study measuring normative width measurements in the asymptomatic population [5]. While there is not enough evidence to determine whether age impacts the incidence of this condition, this study found that the ischiofemoral space tends to decrease in width with age [5]. Given that our patient had not experienced symptoms until she was 62, there may be a component of degeneration of the gap through age, but there is not enough evidence to make this assertion.

Patients tend to report nonspecific posterior hip pain and tend to be intolerant of weight bearing activity [3,6,7]. They can have radiating hip and groin pain and experience a locking feeling [3]. They often have pain that is reproducible on passive movement of the hip [3,6,7]. Our patient experienced non specific pain in the lateral and posterior aspect of the hip and was intolerant of weight bearing exercise. The pain was not acutely worse during activity but rather constantly present. The patient did not have any reproducible pain on exam. The patient mentioned in follow up of a slight locking sensation in their hip that has been reported in previous cases.

The imaging helped confirm the diagnosis. The MRI helped exclude other pathologies of adductor tendinitis, sciatic nerve related pathologies and hamstring injuries. It reported a narrowed gap of 11mm of the left ischiofemoral space with corresponding edema in the QFM. In a 2015 meta analysis of five studies, the ischiofemoral space was significantly smaller. The analysis revealed that a cutoff of ≤15mm yielded a sensitivity of 76.9% and a specificity of 81.0% [8]. The QFM edema is another imaging indicator where the presence of edema along with the narrowed ischiofemoral space is associated with IFI [9].

There is no recognized optimum treatment strategy for IFI. Patients are often started on conservative treatment of rest, activity restriction, NSAIDs, acetaminophen and physical therapy. One such case reported improvement with only conservative management [3]. Corticosteroid injection of the quadratus femoris can provide some pain relief [10]. When conservative treatment fails, patients have benefited from a lesser trochanter resection [6,7].

Our patient did not experience much relief from physical therapy but had a positive response to corticosteroid injection at reported time of follow up.

Conclusion

This case highlights an under-recognized form of nonspecific hip pain. This case further adds to the importance of obtaining MRI imaging for diagnosis of this syndrome to find a narrowed ischiofemoral space with associated quadratus femoris edema. Providers can learn from this patient's case to consider ischiofemoral impingement within their differential diagnosis in their evaluation of non-specific hip pain.

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