

## Case Report

# A Paralabral Cyst of the Hip Joint Causing Sciatica: Case Report and Review of Literature

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## Abstract

The prolapse of the intervertebral disc is most common cause of sciatica; rare causes of sciatica are pelvic fractures, pelvic tumors, piriformis syndrome, a rupture of medial head of gastronemius and sacroiliac joint dysfunction. We report the case of a 30-year-old male with a paralabral cyst of the hip joint with an acetabular labral tear causing sciatica. Our patient had an acetabular labral tear caused by a repetitive micro-trauma and external rotation injury. The diagnosis of the paralabral cyst with acetabular labral tear was based on clinical examination and histopathological examinations, and Magnetic resonance imaging findings. The patient underwent successful surgical excision of paralabral cyst and surgical repair of an acetabular labral tear. The present case reinforces the need for clinicians to be vigilant about rare causes of sciatica.

**Keywords:** sciatica, synovial cyst, acetabulum, hip joint, intervertebral disc

## Introduction

The prolapse of the intervertebral disc is most common cause of sciatica; rare causes of sciatica are pelvic fractures, pelvic tumors, piriformis syndrome, a rupture of medial head of gastronemius and sacroiliac joint dysfunction (1). Proper clinico-radiological examination of the spine and the hip joint is essential in patients presenting with sciatica. Rare causes of sciatica must be considered and investigated in the absence of spine abnormalities. A paralabral cyst of the hip joint is a rare and uncommon cause of nerve compression, and only a few have been described in the literature (2–7). We report a case of a paralabral cyst of the hip joint with an acetabular labral tear causing sciatica.

## Case Report

A 30-year-old male professional tailor presented with a history of pain in the left groin that had been radiating to the anterolateral aspect of the leg for three months; his pain was insidious from its onset and was not preceded by any traumatic event. He had paresthesias and hypoesthesia over the antero-lateral side of the left lower leg and foot. The patient used to practice sitting cross-legged and in a squatting position for a long duration during tailoring activities and was not involved in any sport activities. Clinical

examination revealed tenderness over the left hip joint and painful terminal restriction of a range of movements. The examination of spine was normal and the patient was able to perform straight leg raising test. Neurological examination revealed grade 4 power in ankle dorsiflexors and toe extensors and altered sensations in the dermatome of the peroneal nerve component of the sciatic nerve. Deep tendon reflexes were within normal limits. The hemogram with a differential count, the erythrocyte sedimentation rates and C-reactive protein were within normal limits. The plain radiograph of the pelvis with both hip joints and the lumbo-sacral spine were normal. The magnetic resonance imaging (MRI) of whole spine was normal and there was an absence of spinal abnormalities. Magnetic resonance imaging of the left hip region revealed a cystic lesion of 1.0 × 1.0 cm in size arising from the left hip joint, extending into the pelvis and compressing the sciatic nerve. (Figure 1,2). The cyst was hypo-intense on a T1 weighted signal intensity and hyper-intense on a T2 weighted signal intensity. Adjacent to the cystic lesion an acetabular labral tear was seen.

The patient underwent surgical excision of the cyst and the repair of the acetabular labral tear through the lateral surgical approach to the hip joint (Figure 3). During the surgery, a cyst measuring 1.0 × 1.0 cm was identified on the

posterior aspect of the hip joint. After opening the hip joint capsule communication was found between the cyst and joint space. The cyst was removed totally, and the base was cauterised. The acetabular labral tear was repaired with non-absorbable suture material. Histopathology revealed a cyst of 1.0 × 1.0 cm in size, with thick lucent gelatinous material. Microscopic examination was consistent with synovial paralabral cyst because of the lining of synovial cells and the presence of fibro-connective tissue. The intra-operative findings were consistent with the magnetic resonance imaging and histopathological findings; so the diagnosis of a synovial paralabral cyst with an acetabular labral tear causing sciatic nerve compression was confirmed.

The post-operative period was uneventful and patient was pain free and showed complete recovery in neurological symptoms. The patient was on regular follow-up, and there were no signs of recurrence.

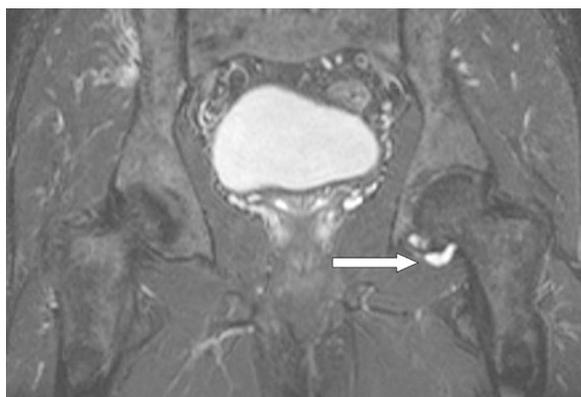
## Discussion

Peripheral nerve compression caused by a paralabral cyst of hip joint has been described by various authors (2–7). Tehbib et al. were the first to describe a paralabral cyst causing femoral nerve compression (2). According to the review of English literature, the present study is first case of paralabral synovial cyst of the hip joint with acetabular labral tears causing sciatica.

Scherman et al. described a case of ganglion cyst of the hip joint causing compression of the sciatic nerve; the cyst, in this case, was not having communication with hip joint, and the histopathology was suggestive of a ganglion cyst (3). There was no associated acetabular labral tear with paralabral cyst (3). The case in the present study had communication between the synovial cyst and hip joint with an associated acetabular labral tear which was surgically treated.

Sciatica is defined as pain in the lower back and gluteal region radiating to a lower limb. The diseases which can mimic sciatica are ankylosing spondylitis, multiple myeloma, vascular insufficiency, arthritis of the hip, extra-dural tumors, peripheral neuropathy and herpes zoster (1).

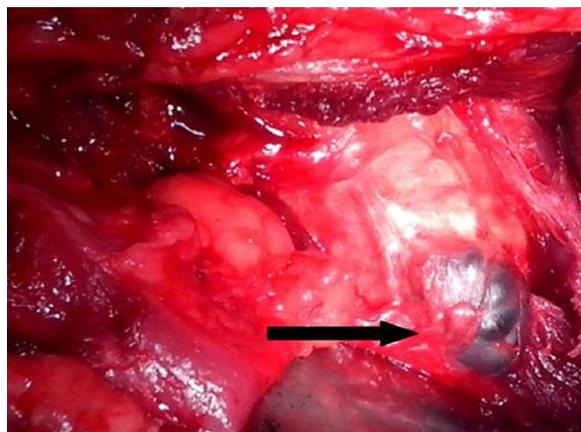
The sciatic nerve arises from the lumbosacral plexus fourth and fifth lumbar nerves and the first, second and third sacral nerve roots. The nerve exits the greater sciatic foramen as distinct tibial and peroneal divisions, enclosed in a



**Figure 1:** Stir coronal image showing a paralabral cyst of the hip joint (white arrow).



**Figure 2:** Transverse T2 image showing a paralabral cyst compressing the sciatic nerve (white arrow).



**Figure 3:** Intra-operative image showing a paralabral cyst of the hip joint (black arrow).

common nerve sheath. In the pelvis, the sciatic nerve descends anterior to the piriformis muscle. The nerve continues down to the thigh, posterior to the adductor magnus and anterior to the gluteus maximus muscle (8). In the present case, the paralabral cyst caused compression of the peroneal component of sciatic nerve.

An acetabular labral tear is caused by non-traumatic and traumatic mechanisms. Repetitive micro-trauma are the causative factors in non-traumatic cases; trauma around the hip joint and sports activities associated with repetitive external rotation is the causative factor in traumatic cases (9). The patient in the present study was a professional tailor and use to use to practice sitting cross legged and in (squatting position) hyperflexion for a long time during tailoring activities. Thus, the mechanism of the acetabular labral tear in the present case was repetitive micro-trauma, repetitive external rotation and the hyper- flexion position of the hip joint. An antero-superior acetabular quadrant tear is more common as compared to a postero-superior acetabular quadrant tear in the western population. The possible reason for more incidence of a postero-superior acetabular quadrant tear in the Asian population is because of the practice of sitting on the floor or squatting (9). Poor blood supply to the anterior acetabular labrum makes it more vulnerable to wear and degeneration without the ability to heal and repair (10). Strong forces around the anterior hip region are an important cause of an anterior acetabular labral tear. The present case had a tear in the postero-superior acetabular quadrant region.

The acetabular labral tear was diagnosed in a clinical examination, by magnetic resonance imaging and by an arthroscopy of hip joint. The treatment options for a paralabral cyst are ultrasound-guided aspiration and surgical excision (2–7). Yukata et al. described use of ultrasound guided aspiration for a paralabral cyst compressing the obturator nerve (4). The risk of recurrence increases with the use of only aspiration method treatment. Complete excision of a paralabral cyst is the treatment method recommended by the majority of previous published reports (2,3,5–7). The patient in the present study had no recurrence during the follow-up period. An acetabular labral tear does not heal spontaneously because it has a poor blood supply (10). The treatment options for an acetabular labral tear are surgical repair and debridement of the torn tissue with arthroscopic and open

methods (9). In this present study, after opening of the hip joint capsule, a direct visualization of the acetabular labral tear was performed and this tear was treated with a surgical repair. The histopathological types of paralabral cysts are the ganglion and the synovial cyst (3). The paralabral cyst in this case was of synovial; it arose from the joint capsule and had communication with the hip joint.

## Conclusion

A paralabral cyst of the hip joint is one of the possible causes of sciatica and one that needs to be investigated, especially in the absence of spine abnormalities. It can be successfully treated with surgical excision. This case reinforces the need for clinicians to be vigilant about rare causes of sciatica.

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## Conflict of Interest

None.

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## Authors' Contributions

Conception and design, analysis and interpretation of the data, drafting of the article, critical revision of the article for the important intellectual content, final approval of the article, provision of study materials or patient and statistical expertise: AAS Administrative, technical or logistic support and collection and assembly of data: RP

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