Case report

Ganglion cyst of the hip mimicking lumbar disk herniation – A case report

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ABSTRACT

Sciatic nerve compression due to a ganglion cyst around the posterior aspect of the hip joint is not commonly described in literature. We report a rare case of a 63-year-old man with a ganglion cyst around his hip joint, who presented with symptoms of sciatica. After excision of the cyst, the patient was symptom free. A high index of clinical doubt and detailed clinical examination is required for non-palpable cystic lesions in close proximity to the sciatic nerve in patients presenting with symptoms of sciatica and in patients with concomitant of lumbar disk herniation.

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1. Introduction

Ganglia are cystic lesions that arise within bone or soft tissue near a joint. Ganglia may be unilocular or multilocular.¹ Ganglia occur most commonly at the dorsal aspect of the wrist and along the tendon sheaths of the hands and feet. They are also found near ankle and knee joints.² Typically, they are small and deep seated, with a clear diagnosis based on history; clinical examination is difficult.³ Occasionally, a large periarticular cyst may cause symptoms owing to its vicinity to neurovascular bundles, such as tibial nerve compression due to a popliteal cyst and femoral nerve compression due to a cyst around the hip joint.^{4,5} The hip joint is rare location for a ganglion cyst.

We report a rare case of ganglion cyst arising from the posteroinferior labrum with bony erosion presenting with symptoms of sciatica. Surgical excision resulted in complete resolution of symptoms in the early postoperative period.

2. Case report

A 63-year-old man complained of radiating pain from the left buttock to the left posterior thigh with aggravated on standing and walking. The patient had no history of trauma, heavy weight lifting,

or any other constitutional symptoms, such as low grade fever, chills, or weight loss.

A straight leg raise test was positive at 45°. Both Sciatic nerve stretch test and Faber's tests were positive. Neurovascular status of both the lower limbs was normal. Radiography showed degenerative changes in the lumbosacral spine and knee. A magnetic resonance imaging (MRI) of the lumbosacral spine revealed lumbar disk herniation at L4/L5 and L5/S1. The herniation was at the broad central to the left foramina, with right subarticular extrusion and L5/S1 nerve root impingement. After diagnosis using MRI, the patient was treated for a herniated lumbar disk. The patient was advised to maintain a treatment of limited bed rest, exercise, and non-steroidal anti-inflammatory drugs.

The conservative treatment did not relieve his symptoms. The patient returned 2 months after his initial presentation because of worsening of left buttock pain and sciatica. On examination, there was deep localized tenderness at the posterior aspect of the hip joint with radiating pain. The hip had normal range of motion. Radiography of the pelvis with both hips was normal. MRI of the pelvis showed a multilobulating cystic lesion abutting the left posterior acetabular wall (3.6 cm × 1.1 cm × 4.9 cm in size), which arose from the posteroinferior labrum base, with mild bony erosion (Fig. 1). The differential diagnoses were ganglion cyst, synovial cyst, capsular tear with cyst formation, and paralabral cyst. Nerve conduction study was normal with no definitive evidence of peripheral or lumbosacral neuropathy. Surgical exploration of the hip cystic lesion was planned, and consent of the patient was obtained.

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Fig. 1. (A) Axial T2 image demonstrating multilobulating, high-signal intensity mass (large arrow) arising from the posteroinferior labrum with compression of the sciatic nerve posterior to the mass. (B) Axial T1 image demonstrating low-signal intensity mass (large arrow) arising from the posteroinferior labrum with compression of the sciatic nerve (small arrows) posterior to the mass.

In the left lateral position, 15-cm incision was posteriorly made to the hip along the posterior border of the greater trochanter. After splitting the gluteus maximus muscle, the short external rotators were divided posterior to the greater trochanter. We identified the multilobular cystic lesion just anterior and lateral to the sciatic nerve (Fig. 2A). The sciatic nerve was mobilized just posterior to the cyst. The cyst was adhered to the posterior capsule of the hip joint but had no communication with the hip joint. A thin walled cyst measuring 4 cm × 2.5 cm × 2 cm was excised en bloc, and the cyst bed was curetted completely (Fig. 2B). Hemostasis was achieved, and the wound was closed over a suction drain. The excised cystic mass was sent for histopathological examination.

Fig. 2. (A) Intraoperative photograph demonstrating multilobulated cyst (indicated with dotted circle) with the sciatic nerve (indicated by forceps with dotted lines) adhered just posterior to the cyst. (B) Intraoperative photograph after excision and cauterization of the cystic bed.

Fig. 3. Ganglion cyst of the hip with multiple cystic spaces and with walls composed of fibrous connective tissue with no specialized lining (H&E stain, ×100).

The histopathological report revealed a cyst with a fibrous wall and lack of epithelial lining; it was filled with mucinous fluid (Fig. 3). These features were consistent with a ganglion cyst.

Intravenous antibiotics were continuously administered for 3 days. The patient was relieved of radiating pain and was fully mobile after drain removal. The patient remains symptom free and was walking comfortably with no numbness or radiating pain at 1- and 6-month follow-ups.

3. Discussion

Sciatica is commonly caused by herniated discs and spinal stenosis. Extraspinal causes of sciatic pain are typically overlooked because they are extremely rare, and because intraspinal factors tend to be the main consideration (i.e., lumbar spinal stenosis, facet joint osteoarthritis, fracture, and tumors of the spinal cord and spinal column). In the hip, sciatica is caused by abscesses, sacroiliitis, heterotrophic ossification, primary tumor of the sciatic nerve, tumor around the hip, or piriformis syndrome.^{6–8}

Ganglia around the hip joint mentioned in the literature are mainly with location anterior to hip joint.^{4,9–11} The symptoms of anterior hip joint ganglia related to the compression of femoral vessels and nerve.

Only a few cases of ganglion cyst with sciatica are reported in the literature.^{3,12–15} Yang et al. reported a case of hip ganglion cyst

extended posteriorly to the superior gemellus and obturator internus, which caused sciatica with the symptoms of neurogenic claudication.¹⁵ Sherman et al. and Jones et al. reported the acetabular labrum tear with paralabral cysts that resulted in the compression of sciatic nerve.^{12,14} Wu et al. reported giant intermuscular ganglionic cyst with the symptoms of sciatica.³

Our case was complicated by the concomitant occurrence of lumbar disk herniation and symptoms related to it. Moreover, a non-palpable, deep-seated lesion at the posterior aspect of the hip joint made the diagnosis difficult. On examination, there was deep localized tenderness at the posterior aspect of the hip joint with radiating pain. When no improvement was observed after conservative treatment for lumbar disk herniation, and an MRI of pelvis was performed because of clinical suspicion. It revealed multilobulating cystic lesion abutting posterior acetabular wall close to the sciatic nerve with ganglion cyst, synovial cyst and paralabral cyst in differential diagnosis. Moreover, during the operation, we found the cyst was adhered to the sciatic nerve. The cyst was filled with thick gelatinous material seems to be ganglion later confirmed by histopathology. After surgical excision of the hip ganglion cyst, the sciatica relieved.

4. Conclusion

The symptoms of sciatica with the concomitant occurrence of hip ganglion cyst and lumbar disk herniation visible on MRI are difficult for a clinician to manage. The treating physician should be aware of this condition as a cause of extraspinal and extrapelvic sciatica, so that early diagnosis and treatment is possible. Early diagnosis not only relieves long-term pain, but also reduces the number of unnecessary interventions for associated lumbar disk disease.

Conflicts of interest

The authors have none to declare.

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