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A Hip Pain Caused from Labral Tears Associated with Intraosseous Ganglion of Acetabulum in a Patient with Mild Hip Osteoarthritis

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Ganglion cysts of the hip joint are uncommon. Whereas in the past the correct diagnosis was often made only at surgery there are now valuable imaging methods used for the diagnosis work-up. We present a case of rare ganglion cyst originating from the intraosseous region of acetabulum and this ganglion cyst compressed the limbus-capsular complex, resulting the labral tears that caused a hip pain. We also report the association of paralabral ganglion cyst and intraosseous ganglion detected on MR imaging with surgically proven acetabular labral disorders. In addition, the condition described here has not previously reported in the English medical literature.

Key Words: Intraosseous ganglion, Hip joint, Labral tear, MR imaging

Introduction

Ganglion cysts of the hip joint are very uncommon and were first described by Cooke in 1952.¹⁾ Since then few reports in the literature have described this findings.²⁻⁵⁾ Although the increased frequency of hip surgery including hip replacement surgery, case reports dealing with ganglion cysts of the hip joint are extremely rare.⁶⁾

Typical presentation includes radiographic evidence of intra-articular pathology, including arthritis, or a subchondral cysts. Patients usually pre-

sent with a groin mass⁷⁾ of unclear aetiology and the preoperative diagnosis made on clinical grounds, without the use of imaging techniques, is often missed.

Chronic hip pain may result from synovitis, labral tears, loose bodies, degenerative disease, cartilage defects, or avascular necrosis of the hip.⁸⁾ It has been recently recognized that acetabular tears cause a hip pain.⁹⁾ Acetabular labral tears have been reported in patients with a history of trauma to the hip, dysplasia, or degenerative arthritis.^{8, 10)}

We report a patient who presented with an intraosseous ganglion of acetabulum and compressed the limbus-capsular complex of the hip joint causing acetabular labral tears with symptomatic hip pain. This appears to be the first report of such a condition in

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English-language medical literature.

Case Report

A 62 year-old woman presented with severe left hip pain and mild groin pain for 3 months history after prolonged activity. After several visits to her family physician and failure of non-steroidal anti-inflammatory medications, the patient was urged to seek orthopedic evaluation. Conventional radiographs of the pelvis and of the hip taken revealed a mild osteoarthritic change of the hip and the cystic lesion of the acetabulum antero-laterally, although the joint space of hip joint was relatively reserved (Figure 1). The CT scan revealed an intraosseous cystic lesion of the acetabulum measuring 3.5×2.0 cm (Figure 2). T1-weighted coronal MR image revealed

irregularity of acetabulum along antero-lateral aspect of acetabulum and on a T2-weighted coronal MR image, the hyperintense lesion was found to have



Figure 2. The CT scan revealed an intraosseous cystic lesion.

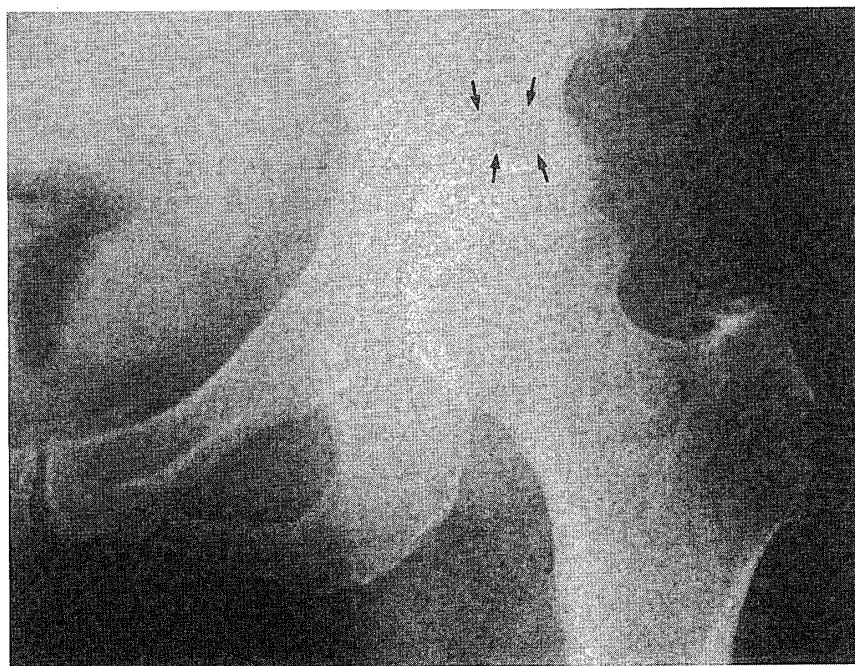


Figure 1. Preoperative radiograph of the left hip. Note the cystic lesion (arrows) of the acetabulum and mild osteoarthritic change of the joint.

its origin in the intraosseous lesion of the acetabulum (Figures 3 and 4). In addition T2-weighted coronal MR image shows paralabral fluid collection extending into anterior portion of acetabulum (Figure 4). On a T1-weighted coronal image, the limbus-capsular



Figure 3. T-1 weighted MR image revealed hypointense mass in the acetabulum (arrows) and irregularity of acetabular labrum along anterolateral aspect of acetabulum.

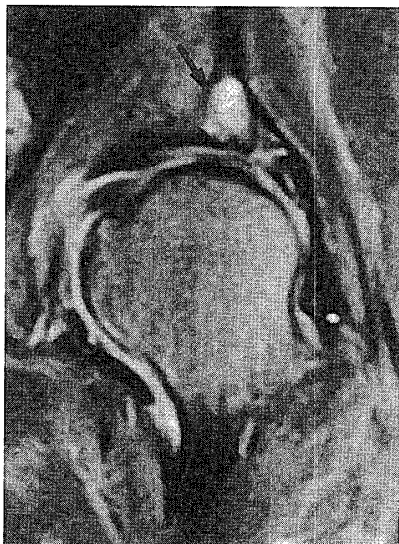


Figure 4. T-2 weighted coronal MR image showed the hyperintense lesion in the acetabulum (arrow) and irregularity of the labrum.

complex was detached from the acetabulum and was impinged between femoral head and the acetabulum (Figures 5). We concluded that the mass was benign, and a diagnosis of intraosseous ganglion and labral tears was made.

Intraoperative findings

The patient underwent a left femoral exploration through a longitudinal incision of anterolateral approach. The interosseous mass was multilobular and covered by pseudocapsule in the acetabulum. Furthermore, acetabular labrum of anterolateral corner was detached from the acetabulum by the mass, and the detached labrum was inverted into the joint space of the hip joint. On flexion and abduction of hip joint, femoral head was found to be locked by this detached labrum and the soft tissue mass. Evaluation of mass revealed a typical stalk arising from the intraosseous lesion of the acetabulum.



Figure 5. T-1 weighted coronal image showed inverted limbus-capsular complex (arrow).

Pathology

The excised specimen was a rounded, fluctuant cystic structure of brownish pink, soft tissue measuring $3.0 \times 2.0 \times 2.0$ cm. Sectioning revealed a multi-loculated cystic structure and filled with clear mucoid-like exudates. Microscopic examination of surgical specimen demonstrated cystic spaces filled with mucinous material surrounded by dense collagenous fibrous tissue without mesothelial or epithelial lining (Figure 6), consistent with the diagnosis of a ganglion cyst as described previous report.^{11, 12)}

Discussion

A ganglion cyst is a benign soft tissue mass that commonly presents on the dorsum of the wrist or the foot. Ganglion cysts about the hip joint are uncommon with few cases reported in

the literature.^{1-7, 11-13)} These cases have included patients who have considerable joint disease as the underlying pathology.¹¹⁾ Intraosseous subchondral cysts also have been implicated as a direct origin of these extraarticular masses.^{11,12)} Labral tears also have been suspected as a possible etiology.

In the present study we report the association of paralabral ganglion cyst originating from acetabulum detected on MR imaging with surgically proven acetabular disorders.

Acetabular labral tears have been reported in patients with a history of trauma to the hip, dysplasia, or degenerative arthritis. Posttraumatic labral tears can occur after minor trauma or result from a severe injury such as a hip dislocation.⁸⁻¹⁰⁾ Haller et al. reported on seven cases of juxta-articular cysts of which two patients had radiographically confirmed labral tears.³⁾

Shear stress on the labrum can

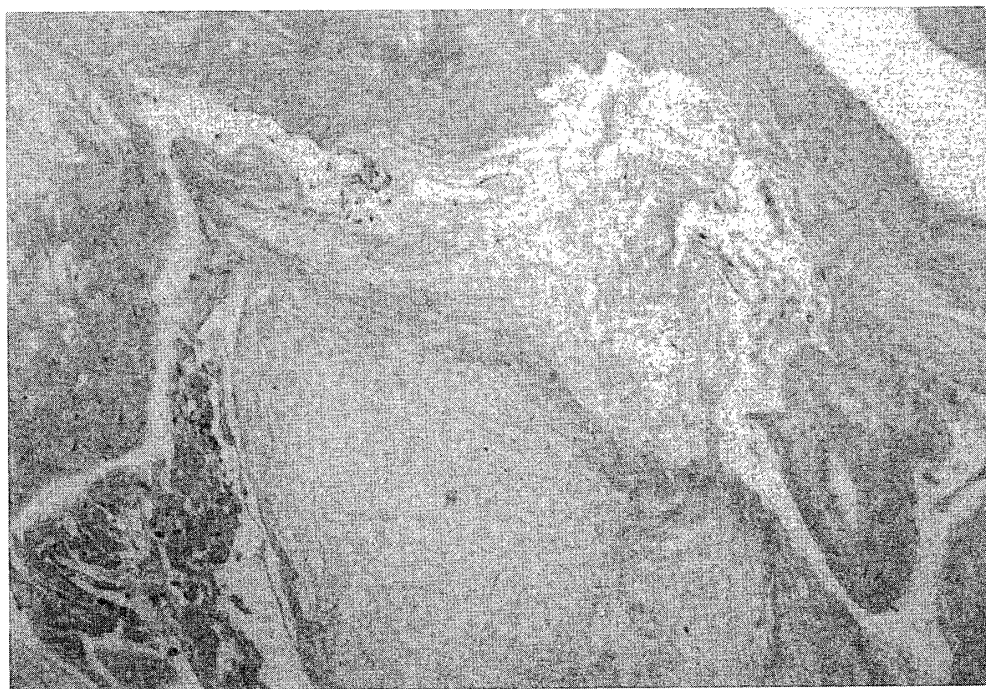


Figure 6. Microscopic examination of surgical specimen demonstrated cystic spaces filled with mucinous material, consistent with a ganglion cyst.

cause labral degeneration and tearing.¹⁰⁾ Labral tears can result in a loss of congruity between the femoral head and acetabulum, resulting in increased intraarticular pressure. In our case it seems likely that ganglion originating from acetabulum could force synovial fluid through the area of labral degeneration or through the tear in the acetabulum and the soft tissue adjacent to the acetabulum, resulting limbus-capsular complex detachment.

Paralabral cysts have been described in patients with developmental dysplasia of the hip, osteoarthritis, and remote trauma.¹⁴⁾ Those cases have included patients who have considerable

degenerative joint disease as underlying pathology.

Hip ganglia become clinically manifest with a broad spectrum of symptoms but generally cause localized or radiating pain. The correct diagnosis of a ganglion cyst was made by CT scan and confirmed by MRI.

In conclusion, paralabral cyst may be associated with labral disorders. The appearance of a paralabral cyst MR imaging is an useful indirect sign of acetabular abnormality. In addition, the condition described here has not previously been reported in the English medical literature.

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