Arthroscopic Treatment of Symptomatic Paralabral Cysts in the Hip

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abstract

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Acetabular labral tears or paralabral cysts in the hip are frequently detected using magnetic resonance imaging or arthrography. Unlike parameniscal cysts in the knee and paralabral cysts in the shoulder, reports of the outcomes of surgical treatment for paralabral cysts in the hip recalcitrant to conservative management are limited in the literature.

The authors report 2 cases of paralabral cysts in the hip that were treated with arthroscopic surgery. The patients presented with chronic hip pain, and preoperative magnetic resonance imaging showed paralabral cysts at the superior aspect of the acetabulum. After failure of conservative management for more than 6 months, arthroscopic surgery was performed while the patients were under general anesthesia and in a supine position on a fracture table. Arthroscopic examination confirmed the preoperative diagnosis of paralabral cysts with degenerative labral fibrillation or tears in both patients. Arthroscopic cyst decompression and debridement of the degenerative labral tissues were performed using an arthroscopic thermal probe and a shaver.

Clinical outcomes, determined by the Harris Hip Score, Western Ontario and McMaster Universities Osteoarthritis Index score, and University of California, Los Angeles activity score, were satisfactory for the 2 patients at 2 and 3 years postoperatively, respectively. Magnetic resonance imaging obtained for 1 patient at 6 months postoperatively showed complete decompression of the paralabral cyst. The authors believe that arthroscopic treatment for symptomatic hip paralabral cysts is a safe and effective procedure with excellent clinical outcomes.

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Figure: Arthroscopic image taken from the antero-lateral portal showing a paralabral cyst at the superior aspect of the acetabulum (A). Arthroscopic image taken after cyst decompression and debridement of the degenerative labral tissues (B).
Many causes of hip pain have been reported, including fractures, degenerative arthritis, avascular necrosis, muscle or ligament tears, trochanteric or iliopsoas bursitis, developmental dysplastic hip disease, and femoroacetabular impingement. Using magnetic resonance imaging or arthrography, acetabular labral tears or paralabral cysts have been detected in patients who have none of those conditions. Similar to paralabral cysts in the shoulder and parameniscal cysts in the knee, recognizing paralabral cysts in the hip is helpful to confirm the diagnosis of acetabular labral tears.

It has been suggested that the increased intra-articular pressure secondary to the loss of congruency between the femoral head and the acetabulum can force synovial fluid through the area of labral degeneration or through the tear in the acetabulum, resulting in a paralabral cyst. It is well documented that the results after both open excision and arthroscopic decompression of parameniscal cysts in the knee and paralabral cysts in the shoulder have been satisfactory. In contrast, the treatment of paralabral cysts in the hip is limited in the literature and restricted to radiographic findings.

The current authors report 2 cases of symptomatic paralabral cysts in the hip that were treated with arthroscopic decompression of the cyst with debridement of the labral tear. To the authors’ knowledge, this is the first report in the peer-reviewed literature that describes the clinical outcomes of arthroscopic treatment for symptomatic paralabral cysts in the hip. The patients provided consent for the use of case information in this report.

**Case Reports**

**Patient 1**

A 70-year-old woman with no history of trauma reported an 18-month history of right hip pain that began with feelings of discomfort in the right greater trochanteric and inguinal areas. Initially, she was restricted to walking short distances and limited her activities of daily living, but the pain worsened and changed to a sharp, stinging pain when walking or internally rotating her right hip.

Physical examination of the right hip revealed no significantly reduced range of motion in all directions, but she had a positive Patrick test and a positive anterior impingement test that was performed by placing the hip in 90° of flexion and then applying adduction and internal rotation. Plain radiographs of both hips showed no dysplasia or other bony abnormalities. Magnetic resonance imaging showed a 15×13-mm multilobulated and septated cystic lesion arising from the superolateral portion of right acetabulum with labral degenerative changes (Figure 1A). The patient underwent arthroscopic treatment for the lesion because pain had relieved after 6 months of conservative management, such as physical therapy, oral medications, and activity modification.

Arthroscopic surgery was performed while the patient was under general anesthesia and in the supine position on a fracture table. Traction was applied to the hip until a vacuum sign was observed in the joint space. Two standard anterolateral portals were used. Arthroscopic examination confirmed the preoperative diagnosis of a paralabral cyst on the superior aspect of the hip (Figure 1B). A visible extrusion of gelatinous liquid was observed during direct decompression of the cyst (Figure 1C). All degenerative labral tissues were debrided using an arthroscopic thermal probe and a shaver (Figure 1D).

The patient had an uneventful hospital stay and was discharged with partial weight bearing using axillary crutches.
One month postoperatively, she reported no symptoms excluding mild discomfort in the right hip when flexing the hip more than 90°. At final follow-up 2 years postoperatively, she reported no discomfort or pain with activities of daily living or walking. The Harris Hip Score improved from 58 to 93 points, the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score improved from 69 to 26 points, and the University of California, Los Angeles (UCLA) activity score improved from 4 to 8 points.

**Patient 2**

A 41-year-old woman reported an insidious onset of right hip pain for 3 months. She reported no history of trauma. Her hip pain was aggravated when she changed positions or performed long-distance walking or running. Physical examination revealed nearly full hip range of motion, except for a limitation in internal rotation less than 10°, which resulted in sharp pain. She had a positive Patrick test and a positive anterior impingement test. Plain hip radiographs showed no dysplasia or other bony abnormalities. Magnetic resonance imaging showed a 21×18-mm multilobulated cystic lesion on the superior aspect of the right acetabulum (Figure 2A). After failure of conservative management for 6 months, she underwent arthroscopic surgery.

Arthroscopy revealed radial flap tears and fibrillated margins of the superior labrum (Figure 2B) with an adjacent superoposterior paralabral cyst (Figure 2C). The cyst was decompressed using a shaver after puncturation with a knife and probe, and then the degenerative labral tears were debrided using an arthroscopic thermal probe and a shaver (Figure 2D).

Postoperatively, pain subsided slowly, with complete resolution of pain after 3 months. The patient has since returned to full participation in activities of daily living. Magnetic resonance imaging 6 months postoperatively showed cyst resolution (Figure 2E). At final follow-up 3 years postoperatively, she reported no discomfort or pain. The Harris Hip Score improved from 52 to 98 points, the WOMAC score improved from 61 to 16 points, and the UCLA activity score improved from 4 to 9 points.

**DISCUSSION**

Unlike parameniscal cysts in the knee and paralabral cysts in the shoulder,9-11 reports of the outcomes of surgical treatment for paralabral cysts in the hip recalcitrant to conservative management are limited in the literature. The current authors report 2 cases of paralabral cysts in the hip that were treated with arthroscopic surgery. The patients presented with chronic hip pain, and preoperative magnetic resonance imaging showed paralabral cysts at the superior aspect of the acetabulum. Arthroscopic surgery was considered after failure of conservative management for more than 6 months.

Clinical outcomes, as measured by the Harris Hip Score, WOMAC score, and UCLA activity score, were satisfactory.
for the 2 patients at 2 and 3 years postoperatively, respectively. Postoperative magnetic resonance imaging obtained for 1 patient at 6 months postoperatively showed complete decompression of the paralabral cyst. In both cases, some forms of degenerative labral fibrillation or tears were observed in association with paralabral cysts, which agrees with other articles suggesting a relationship between paralabral cysts in the hip and labral tears.6-8 Labrum tears can be caused by shear stress that leads to the development of paralabral cysts.

The loss of congruency between the femoral head and the acetabulum may lead to elevated intra-articular pressure in the hip joint. This elevated pressure forces synovial fluid through the labral tear, resulting in a paralabral cyst.9 It is reasonable to assume that pain in this condition is caused by the cyst stretching the hip joint capsule and by the labral tear. Thus, cyst decompression combined with labral debridement is generally accepted as the optimal treatment, and it can be performed through an open or arthroscopic surgical approach. With advances in arthroscopic techniques, arthroscopic surgery has become the preferred treatment method for those conditions to avoid the morbidity of an open surgical procedure.12,13 To the current authors’ knowledge, their cases are the only reported cases that describe the clinical outcomes of arthroscopic treatment of symptomatic paralabral cysts in the hip.

REFERENCES