Combined Hip Arthroscopy and Periacetabular Osteotomy: Intra-Articular Pathology

University of Rochester Department of Orthopaedics and Rehabilitation

Raymond J. Kenney, MD
P. Christopher Cook, MD
Kelly L. McMullen, MEd, ATC
Brian D. Giordano, MD
### Financial Disclosures:

<table>
<thead>
<tr>
<th>Name</th>
<th>Financial Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raymond J. Kenney, MD</td>
<td>No financial relationships to disclose</td>
</tr>
<tr>
<td>P. Christopher Cook, MD</td>
<td>No financial relationships to disclose</td>
</tr>
<tr>
<td>Kelly L. McMullen, MEd, ATC</td>
<td>No financial relationships to disclose</td>
</tr>
<tr>
<td>Brian D. Giordano, MD</td>
<td>Consultant to Arthrex</td>
</tr>
</tbody>
</table>
Uncorrected symptomatic acetabular dysplasia may increase the risk of functional impairment and degenerative joint disease. Previous studies have linked acetabular dysplasia to premature osteoarthritis and an increased likelihood of requiring arthroplasty.
Background

There is insufficient containment of the femoral head, leading to focal articular overload in patients with acetabular dysplasia. An increased sheer vector places strain on the acetabular rim. The resulting hypertrophic labrum commonly fails, and may contribute to hip pain and pelvic dysfunction.
Background

Isolated arthroscopic hip surgery in the setting of uncorrected acetabular dysplasia may perpetuate structural instability and accelerate the progression of osteoarthritis. Moreover, solitary periacetabular osteotomy (PAO) may not fully optimize the outcome of surgery. Labral pathology has been reported in up to 86% of patients undergoing PAO. A combined open and arthroscopic surgical approach addresses both structural malalignment as well as intra-articular hip disease.
Purpose

• Intra-articular pathology has been reported for both arthroscopic and open hip preservation surgery, but to date, there have been few publications that have reported data for combined hip preservation surgery.

• Access and visualization of the central compartment of the hip is more limited with open arthrotomy than arthroscopic visualization, which may improve diagnostic capabilities and optimize concomitant treatment of intra-articular pathology.

• The purpose of this study was to delineate the types and rate of intra-articular pathology in patients who have undergone combined hip arthroscopy and PAO at a high volume hip preservation center.
Methods

A retrospective review was conducted to determine types and rate of intra-articular pathology:

• 29 consecutive patients with 33 surgically treated hips who underwent combined hip arthroscopy and PAO

• June 2012 through October 2013

• Patient medical records were reviewed for arthroscopy operative notes noting intra-articular pathology at the time of the combined procedure
Results

• Average age 30 at time of surgery; Range 13-55

• Chondromalacia of the acetabulum was documented in all 33 hips (100%)
  • Most commonly in geographic zones 2 and 3
  • 22 hips (67%) had chondromalacia in more than one zone of the acetabulum

• Labral pathology was noted in 31 patients (94%)
  • Labral hypertrophy (16 patients, 48%)
  • Labral-chondral disruption at the transitional zone (26 patients, 79%)
  • Maceration and fraying of the labrum (4 patients, 12%)
  • Prior labral repair (2 patients, 6%)
  • Labral deficiency, and labral bruising (1 patient each, 3%)
Results

• Ligamentum teres pathology was documented in 25 patients (76%)
  • Partial thickness tear (21 patients, 64%)
  • Complete tear (1 patient, 3%)
  • Ligamentum teres hypertrophy (3 patients, 9%)

• Concomitant femoral acetabular impingement (FAI) morphology was documented in 30 patients (91%)
  • Mixed FAI was most common (21 patients, 64%)
  • Isolated cam FAI (8 patients each, 24%)
  • Focal pincer type acetabular rim prominence FAI (1 patient, 3%)

• Synovitis was documented in 28 patients (85%)

• Loose bodies were documented and removed in 15 patients (45%)
  • Loose bodies largely represented chondral fragments, focal labral calcifications, or acetabular rim fractures.
Results

Prevalence (%)

- Chondromalacia
- Labral Pathology
- FAI
- Synovitis
- Ligamentum Teres Pathology
- Loose bodies

Prevalence (10%)
Conclusions

• In a series of patients with acetabular dysplasia undergoing combined hip arthroscopy and PAO, a high rate of coexistent intra-articular pathology was encountered.

• Arthroscopy may offer a more comprehensive window into the central compartment of the hip, and subsequently better address all potentially treatable intra-articular pathology.

• Further study will determine whether the use of adjuvant arthroscopy improves long-term clinical outcomes through a more comprehensive approach to treating both intra-articular pathology and structural malalignment.
References:


References:


