Clinical Outcomes of Arthroscopic Capsular Plication for Hip Microinstability with a Minimum 5 Year Follow-Up

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Disclosure

No conflict of interest with the current presentation
Introduction

• Hip micro instability is increasingly recognized as a cause of hip pain in the non-arthritic hip
• It is caused by anterior capsular insufficiency (mainly iliofemoral ligament) especially related to activities with forceful extension & external rotation such as dancing & yoga
• Diagnosis is based on a history of hip pain, associated with specific tests that stress the iliofemoral ligament
Introduction

• Hip microinstability may present by itself or in association with femoroacetabular impingement (FAI) and dysplasia. Imaging should be performed to investigate signs of these conditions.

• Treatment is initiated conservatively with physical therapy (PT), with focus on hip and core strengthening.

• If PT fails, surgery is indicated. A hip arthroscopy is performed where the chondro-labral damage is addressed and a hip plication is performed.
Introduction

• The senior author published 1 year outcomes following hip capsular plication for patients with “pure” hip microinstability – that is hip plication & labral treatment with no bony work.

• Excellent results were reported at 1 year.

• Question remains if the results would be maintained after longer follow up, as the soft tissues may stretch out.

• Thus, the goal of this study was to evaluate the clinical outcomes of the same cohort at a minimum of 5 years follow-up.
Methods

• IRB approved
• Retrospective review of hip arthroscopy database

Inclusion criteria:
• Age < 50 years old
• Diagnosis of hip microinstability based on history & PE (at least one test positive)
• Symptoms refractory to non-op management
• Pain relief >50% with intra-articular injection of anaesthetic

Exclusion criteria:
• Center edge angle < 18°
• Any bony resection during hip arthroscopy (including cheilectomy and acetabuloplasty)
Methods

Intra-operatively hip instability was confirmed with ease of distraction of the femoral head and/or lack of reduction of the femoral head when releasing traction.

A capsulotomy between portals was not performed in an attempt to maintain the integrity of the hip capsular ligaments.

The RICH (rotator interval closure of the hip) technique was used. The capsular plication was performed in the “bare area” of the hip capsule, between the iliofemoral and ischiofemoral ligaments.
Results

• 31 patients were included in the 1 year follow-up study (previously published)

• 5 year follow-up was obtained in 24 patients (77.4%)

• 2 patients were excluded > submitted to revision arthroscopy by other surgeon

• 20 patients completed the modified Harris Hip Score (mHHS)

• 2 patients were contacted and reported good outcomes but did not complete the mHHS
Clinical Outcomes – mHHS

• A significant difference was found between the pre-op & 1 year mHHS (p<0.05).

• No difference was found between the 1 & 5 years mHHS.

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<tr>
<th></th>
<th>Pre-op</th>
<th>1 year</th>
<th>5 years</th>
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<tbody>
<tr>
<td>Average</td>
<td>60.6</td>
<td>88</td>
<td>90.7</td>
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<tr>
<td>SD</td>
<td>8.7</td>
<td>4.9</td>
<td>9.6</td>
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Results – Physical Exam

5 patients were available for physical examination after a minimum 5 year follow-up.

In this small cohort post operative flexion increased while internal rotation (IR) and external rotation (ER) were maintained.

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<thead>
<tr>
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<th>Pre</th>
<th>Post</th>
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<tbody>
<tr>
<td>Flexion</td>
<td>116 (10.8)</td>
<td>130 (7.1)</td>
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<tr>
<td>IR</td>
<td>43 (7.6)</td>
<td>42 (9.7)</td>
</tr>
<tr>
<td>ER</td>
<td>63 (10.9)</td>
<td>62 (18.2)</td>
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Discussion

- Hip micro-instability is an evolving field with scarce literature regarding diagnosis, treatment & clinical outcomes.
- Domb et al. reported favorable clinical outcomes in a series of patients with borderline hip dysplasia treated with the capsular shift plication technique. However, patients developed a significant loss of hip external rotation. The technique utilized in the current study did not present such loss. This may be an important advantage since even a small decrease in ROM may be detrimental to patients participating in certain sports requiring extreme hip ROM.
- Longer follow up will be paramount to demonstrate the success of this technique, but the presented medium term results are encouraging.
Conclusions

• Hip micro instability can be successfully managed with hip arthroscopy and capsular plication when non-operative management has failed.

• Clinical outcomes are maintained at 5 year follow-up.

• Hip range of motion is maintained using the RICH technique.
References


