Labral Hypertrophy is Associated with Subtle Hip Dysplasia

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Disclosure: I DO have a financial relationship with

Stryker Mako, Conformis, Arthrex
Introduction

- Femoroacetabular impingement (FAI) and hip dysplasia commonly present with labral tears

- Diagnosis between the two is confusing and overlapping
Introduction

• One way to differentiate between the two is labral size

• Labral hypertrophy commonly linked with dysplasia

• Some have found labral hypertrophy with FAI and hypoplastic labrums with dysplasia
Objectives

1. Identify differences between labral hypertrophy (LH) and normal labrums (NL) in an impingement cohort

2. Hypothesis: LH will be associated with dysplasia and microinstability
Methods

• Matched case control analysis
• LH patients were matched to NL patients by:
  ✓ Age
  ✓ Gender
  ✓ BMI
• Consecutive series of 231 hip arthroscopies by a single surgeon
• Demographic, physical exam, radiologic (X-ray and CT) compared
Methods

• LH was identified intraoperatively by arthroscopic probe

• Greater than **4mm** measured was classified as LH
Results

- 42 were identified
- 39 successfully matched to an impingement cohort

Demographics

<table>
<thead>
<tr>
<th></th>
<th>Labral Hypertrophy</th>
<th>Normal Labrum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>30.6±10.8</td>
<td>30.7±10.4</td>
</tr>
<tr>
<td>Sex</td>
<td>10=M 29=F</td>
<td>10=M 29=F</td>
</tr>
<tr>
<td>BMI</td>
<td>23.5±3.3</td>
<td>23.1±3.2</td>
</tr>
</tbody>
</table>
Results

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Labral Hypertrophy</th>
<th>Normal Labrum</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Rotation at 90°</td>
<td>13.6±10.7</td>
<td>9.3±6.2</td>
<td>0.04</td>
</tr>
<tr>
<td>Coronal center-edge angle</td>
<td>27.6±6.00</td>
<td>31.6±6.60</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Acetabular Index</td>
<td>6.61±4.18</td>
<td>4.14±6.13</td>
<td>0.04</td>
</tr>
<tr>
<td>Coronal center-edge angle (CT)</td>
<td>31.8±5.30</td>
<td>36.3±9.53</td>
<td>0.01</td>
</tr>
</tbody>
</table>

- No other parameters were significant
Discussion

• LH patients have physical exam, CT, and radiographic measurements suggestive of dysplasia and microinstability

• Our approach is unique in using an objective cut-off (4 mm) in addition to physical exam and CT
Conclusion

- Labral size is another tool to differentiate FAI and dysplasia patients

- Labral size is an important factor in making the correct diagnosis for this complex patient population of overlapping disorders
References


