Clinical Presentation of Patients Undergoing Hip Arthroscopy for Symptomatic Femoroacetabular Impingement

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Disclosures

• Allston J. Stubbs, M.D., M.B.A.
  – I have financial relationships with the following companies:
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• Dr. Wright, Dr. Howse, Mr. Kelsey, Mr. Barnes, Mr. Antunes, and Dr. Atilla have nothing to disclose.
Introduction

• Femoroacetabular impingement is a morphological hip condition that can cause hip pain in younger, active adults.

• The purpose of this study is to capture the nature of physical impairments associated with symptomatic FAI in a large surgical database of 1000 subjects.

• Our hypothesis is that patients who present with femoroacetabular impingement demonstrate significantly asymmetric findings of hip pain, loss of hip motion, and pain with provocative testing.
Methods

- A retrospective analysis of a prospectively collected hip data within a large healthcare system (single surgeon).
- 1000 consecutive patients with symptomatic femoroacetabular impingement attending their pre-operative visit for hip arthroscopy.
- Clinical history, physical exam, and previous treatments were evaluated.
Statistical Analysis

• Statistical analysis comprised paired sample t-tests to calculate differences between the involved and non-involved sides of all continuous variables.

• A related sample McNemar Test was performed to compare differences of the involved and non-involved sides for the Flexion Adduction Internal Rotation (FADIR) test.

• To compare clinical findings between gender, a multivariate general linear modeling was performed only on the symptomatic hip.

• Significance was determined at p<0.05.
Demographics

• The average patient age was 32.9 (+/-12.2) years
• 67% were female
• BMI was 25.7 (+/-5.5)
• Average pain duration was 28.1 (+/-3.7) months.
• The right hip was the symptomatic hip in 54% of the sample population.
Results - History

• Asymmetric symptoms included
  – 77% reported hip pain while sitting
  – 64% reported pain while walking
  – 73% reported pain while crossing their legs
  – 43% reported night pain
  – 97% reported pain with activity.
  – Of those offered an NSAID previously, only 35% reported any relief.
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Surgical Side</th>
<th>Contralateral Side</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anterior Impingement Test</td>
<td>89%</td>
<td>15%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Avg. Hip Flexion</td>
<td>95.0° (13.4)</td>
<td>106° (13.2)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>mean difference of 11.4° (13.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg. Internal Rotation</td>
<td>10.1° (11.0)</td>
<td>19.2° (13.0)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>mean difference of 9.1° (11.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average FABER distance</td>
<td>25.1cm (9.1)</td>
<td>15.9cm (7.5)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>mean difference of 9.1cm (8.2)</td>
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<td></td>
</tr>
</tbody>
</table>
## Results – Physical Exam Gender (2)

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean Flexion Values</strong></td>
<td>95.5° (12.4)</td>
<td>96.5° (13.1)</td>
<td>= 0.28</td>
</tr>
<tr>
<td></td>
<td>mean difference of 1.0° (favor of females)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean Internal Rotation</strong></td>
<td>7.6° (8.7)</td>
<td>11.4° (11.6)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>mean difference of 3.8° (favor of females)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean FABER distance</strong></td>
<td>26.6cm (9.6)</td>
<td>24.0cm (8.6)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>mean difference of 2.6cm (favor of females)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results - Radiology

- 27% of these patients were classified radiographically as CAM only
- 14% were classified as Pincer only
- 71% were classified as Mixed FAI.
Conclusions

- Our study of a large database of 1000 patients supports our hypothesis that at original diagnosis for femoroacetabular impingement, patients characteristically have:
  - asymmetric hip pain with activity
  - loss of hip motion
  - hip pain with provocative testing
- Additionally, this study highlights two other findings consistent with smaller case series:
  - females appear to present more often than males with prearthritic hip pain
  - mixed impingement is the predominate pathomorphology
Thank You!

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