What are the Costs for Conservative Care Prior to Arthroscopic Treatment of Femoroacetabular Impingement Syndrome?

Presented by Zain M Khazi, BS
I (and/or my co-authors) have something to disclose.

Detailed disclosure information is available via:

“My Academy” app;

or

AAOS Orthopaedic Disclosure Program on the AAOS website at
http://www.aaos.org/disclosure

None relevant to the topic of this study
Introduction and Objectives

- With the increasing incidence of diagnosing patients with femoroacetabular impingement syndrome (FAI), the economic burden of conservative care prior to hip arthroscopy (HA) is not known.

- Objective: To examine the cost of non-operative (diagnostic and treatment based management) care for FAI during the year prior to HA.
Methods

• Retrospective cohort study of primary HA for FAI (2007-2017q1) in the Humana insurance database and carried the insurance for ≥ 1 year prior to HA.
  • n = 1,383 patients

• Cost for non-operative care was calculated as total amount paid by Humana insurance per non-operative care modality, and per patient cost for each non-operative care modality. All cost information is reported in United States dollar (USD)
Methods - Categories of Non-operative Care

- **Non-operative provider care costs** included office visits with a physician/physician extender or physical therapy visit for hip pain.

- **Diagnostic imaging costs** included X-rays, computed tomography (CT) scans, or magnetic resonance imaging (MRI) utilization for hip pain.

- **Therapeutic management costs** included cost of image guided steroid injection, opioids, analgesics, anxiolytics, skeletal relaxants, gabapentin, non-steroidal anti-inflammatory medication (NSAIDs), and tramadol prescriptions for hip pain.
Statistical Analyses

• Descriptive analyses were utilized to report total and per patient costs in USD ($)
Results

• Total cost of conservative care during the year prior to HA was $2.4 million.

• Cost of non-operative provider care was $0.7 million (29.2%), diagnostic imaging was $1.2 million (50%), and therapeutic management was $0.5 million (20.8%).
Results

Non-operative Provider Care
For provider care, physical therapy ($451.92/patient) comprised the highest per patient cost.

<table>
<thead>
<tr>
<th>Treatment Modality</th>
<th>Patients (%)</th>
<th>Total Paid ($)</th>
<th>Per Patient Costs ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Operative Provider Care</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Visits</td>
<td>1,383 (100)</td>
<td>$496,164.00</td>
<td>$358.76</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>447 (32.3)</td>
<td>$202,008.00</td>
<td>$451.92</td>
</tr>
<tr>
<td>Total Cost of Non-Operative Care</td>
<td></td>
<td>$698,172.00</td>
<td></td>
</tr>
</tbody>
</table>

Diagnostic Imaging Costs
For diagnostic imaging, MRI ($904.80/patient) accounted for the highest per patient cost.

<table>
<thead>
<tr>
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<th>Patients (%)</th>
<th>Total Paid ($)</th>
<th>Per Patient Costs ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic Imaging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X-rays</td>
<td>719 (52)</td>
<td>$49,523.00</td>
<td>$68.88</td>
</tr>
<tr>
<td>MRI</td>
<td>1,097 (79.3)</td>
<td>$992,564.00</td>
<td>$904.80</td>
</tr>
<tr>
<td>CT</td>
<td>189 (13.7)</td>
<td>$113,179.00</td>
<td>$598.83</td>
</tr>
<tr>
<td>Total Cost of Diagnostic Imaging</td>
<td></td>
<td>$1,155,266.00</td>
<td></td>
</tr>
</tbody>
</table>
Results

For therapeutic management, image guided steroid injection constituted the highest cost ($1,570.47/patient) followed by analgesics ($67.61/patient), opioids ($52.64/patient), and NSAIDs ($44.34/patient) prescriptions.
Discussion

• The cost of non-operative management prior to HA for FAI is $2.4 million, with diagnostic imaging accounting for 50% of the cost.

• Image guided steroid injection incurred the highest per patient cost.

• Despite recommendations for trial of physical therapy set forth by American Orthopedic Society of Sports Medicine (AOSSM), only a third of patients underwent physical therapy for hip pain during the year prior to HA for FAI.
Limitations

- Reimbursements paid by the insurance company were utilized as a proxy for cost of non-operative care. Therefore, payments made by patients was not taken into account.

- Facility fees were also not accounted for in the database which can account for a significant portion of healthcare cost. Therefore, the cost data in our study can be considered an underinflated approximation of the true cost of conservative care.
Thank You

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