INTRODUCTION

- Thumb basilar joint osteoarthritis (TBJA) affects 7% of men & 15% of women over age 30.
- TBJA radiographic stage is commonly reported not to correlate with patient-reported symptoms, but there are few objective data to support this belief.
- We hypothesize that TBJA radiographic stage does not correlate with patient-reported symptom severity as measured by validated outcome surveys.

METHODS

- We prospectively enrolled consecutive patients with new diagnoses of unilateral TBJA from June 2013 to March 2014
- Exclusions: bilateral disease, concomitant diagnoses, unwillingness to participate, seen by another provider
- We examined:
  - Age, gender, BMI
  - QuickDASH, Short Form 12 (mental MCS-12 & physical PCS-12)
  - Eaton-Littler radiographic stage
- Analysis
  - Spearman’s rank analysis to correlate Eaton-Littler stage with demographics and surveys
  - Power analysis
  - Interobserver agreement on staging between 4 hand surgeons

RESULTS

- 62 patients: 15 men, 47 women
- Average age 62.3 years (32-81)
- Eaton-Littler stage does not correlate to QuickDASH (p=0.91), PCS-12 (p=0.26) or MCS-12 (p=0.89).
- 80% power to detect correlations of rho>0.31
- Maximum differences between stages is less than the minimal importance difference for QuickDash & PCS-12.
- Interobserver Reliability
  - ICC(3,1) = 0.80, p=0.000
  - Fleiss κ = 0.73, p=0.001 (substantial agreement)

CONCLUSIONS

- Eaton-Littler stage does not correlate with or predict QuickDASH or SF-12 (PCS-12 & MCS-12)
- Any undetected correlations are very weak and clinically insignificant
- These data may suggest:
  - Eaton-Littler staging is based on radiographic features which do not predict symptom-severity.
  - These surveys are inadequate to assess TBJA function & symptoms
- Validated metrics that link radiographic and subjective components of thumb basal joint osteoarthritis may improve surgical decision-making and monitoring of treatment response.
- When it comes to TBJA, “how bad it looks” is less important than “how bad it feels”.

Table 1. Distribution of Eaton-Littler stages

<table>
<thead>
<tr>
<th>Stage</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>12.9</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>32.3</td>
</tr>
<tr>
<td>3</td>
<td>28</td>
<td>45.2</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>9.7</td>
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