The Association of Hyperlipidemia with Achilles Tendinopathy

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Our disclosures are in the FINAL AOFAS Mobile App.
We have no potential conflicts with this presentation.
Arthrex: Royalties, Consultant
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- Achilles tendinopathy (tendinosis) has been theorized to be in part caused by microvascular pathology to the Achilles tendon.
- The microvasculature of the Achilles tendon is thought to be susceptible to the same local and systemic influences that impact microcirculation to other end organ targets.
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• Previous studies have described associations between Achilles tendinopathy and obesity, diabetes mellitus, hypertension, the supplemental use of estrogen as well as exposure to local and systemic steroids.

• Because hyperlipidemia also has a known detrimental impact on end organ microcirculation, this study seeks to determine if there exists an association between Achilles tendinopathy and hyperlipidemia.
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Methods

- February 2010 to February 2013
- 70 patients were diagnosed with Achilles tendinopathy
- Diagnosis was confirmed by ICD-9 code (726.79) and by review of medical records, radiographs and MRI
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Methods

• 28 males, 42 females
• Mean age 51 years (range 23-87)
• Patients were analyzed cumulatively and placed in subgroups by age and gender with respect to diabetes, hypertension, hyperlipidemia, obesity, steroid use and exposure to hormone replacement therapy and birth control pills (BCP’s)
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Methods

- Data was analyzed using Chi-squared 2x2 analysis, comparing the prevalence of the analyzed parameters in our patients with Achilles tendinopathy to those same parameters in the national population at large.
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### Results

<table>
<thead>
<tr>
<th>Age</th>
<th>Male HLD</th>
<th>Male Total</th>
<th>%</th>
<th>Female HLD</th>
<th>Female Total</th>
<th>%</th>
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<td>2</td>
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<td>2</td>
</tr>
<tr>
<td>35-44</td>
<td>3</td>
<td>6</td>
<td>50</td>
<td>35-44</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>45-54</td>
<td>7</td>
<td>11</td>
<td>63</td>
<td>45-54</td>
<td>4</td>
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<tr>
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<td>5</td>
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<tr>
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<tr>
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<td>74+</td>
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<tr>
<td>TOTAL</td>
<td>21</td>
<td>42</td>
<td>50</td>
<td>TOTAL</td>
<td>16</td>
<td>28</td>
</tr>
</tbody>
</table>

% of Total: 57%
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Results

• There was a statistically significant association of hyperlipidemia with Achilles tendinopathy in women aged 35-44 and men aged 45-54 with p-values of .0001 and 0.0410, respectively.
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Discussion

- There is a well-documented relationship between end organ damage and hyperlipidemia
- Recent studies indicate
  - Correlation between tendon pathology and hyperlipidemia
  - Positive correlation between Achilles tendon thickness and elevated lipid panels
- Pathogenesis of this process is often debated, but is theorized to begin with endothelial damage
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References


3. MICHAEL F. MAZZONE, M.D., and TIMOTHY MCCUE, M.D., Medical College of Wisconsin, Waukesha, Wisconsin Am Fam Physician. 2002 May 1;65(9):1805-1811.


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References


