Outcomes of Isolated Gastrocnemius Recession for the Treatment of Achilles Tendinopathy

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My disclosure is in the Final AOFAS Program Book. I have no potential conflicts with this presentation.

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Achilles Tendon Disorders

• A common presenting diagnosis with most patients responding well to non operative treatment

• Patients failing non operative treatment: surgical options include invasive procedures that require a significant amount of rehabilitation.

• Many patients failing non operative treatment already have physiological challenges making a lengthy rehab difficult.

• To decrease pain, improve function, and decrease recovery time several authors have suggested performing a gastrocnemius recession in isolation for these patients that present with an isolated gastrocnemius contracture
Purpose

To evaluate the clinical outcomes and peak plantar flexion strength in patients who underwent a unilateral gastrocnemius recession for the treatment of Achilles tendon disorders and compare the results to the patients’ uninvolved side as well as to a control group with no lower extremity pathology.
Methods

• Unilateral gastrocnemius recession on 13 patients with Achilles tendinopathy refractory to a minimum of six months of nonoperative treatment and an isolated contracture of the gastrocnemius

• Peak Isokinetic Plantar flexion strength of the study patients and control group measured in Newton meters with the Biodex Four System

• Clinical outcomes assessed with the FAAM, VAS and a subjective survey
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<th>Study Patients N-13</th>
<th>Control Group N-12</th>
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<tbody>
<tr>
<td><strong>Age Average</strong></td>
<td>53.8 years</td>
<td>53.4 years</td>
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<tr>
<td><strong>BMI Average</strong></td>
<td>30.1 (SD 4.5)</td>
<td>28.5 (SD 4.3)</td>
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<tr>
<td><strong>Follow up Average</strong></td>
<td>20 months (range 13-36)</td>
<td>N/A</td>
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- Total of 13 study patients and 12 control subjects participated in the study
- Control groups average age along with BMI was similar to the study patients
Results

• VAS Pain Scores improved from 7.1 pre operatively to 1.7 post operatively

• 70% were satisfied with their outcome

• 91% were able to resume activities of normal daily living; only 23% reported no activity limitations

• Average self reported FAAM score for the ability to participate in sports/recreation 74%

• Peak plantar flexion strength for the study patients after surgery was 17% less than the uninvolved side

• Peak plantar flexion strength for the non dominant side of the control group was 14% less than the dominant side
Discussion

• Paucity of literature in regards to the clinical outcomes after an isolated gastrocnemius recession to treat Achilles tendinopathy.

• Recent literature includes patient groups with significant pain score improvements from 9/10 pre-operatively to 0/10 – 1/10 post-operatively \(^1,2\).

• Recent studies have reported significant weakness compared to the uninvolved side in patients who underwent a gastroc recession in isolation for the treatment of plantar fasciitis \(^3,4\).
Conclusion

• In our study of patients with an average age of 53.8 years treated with an isolated gastrocnemius recession we found:
  
  – Significant improvements in pain
  – 91% ability to complete activities of daily living
  – Acceptable satisfaction
  – 17% decrease in plantar flexion strength when compared to the uninvolved side but no statistical difference with the 14% decrease in plantar flexions between the control groups dominant and non-dominant extremity.

• A gastrocnemius recession procedure done in isolation for our study group of middle aged patients appears to result in improved quality of life without the amount of rehabilitation needed with more invasive procedures.

• The ability to return to higher demand activities may be impacted by the procedure or by the physiological influences of the disease process.

• Larger RCT are needed to assist in better determining the optimal patient population and surgical treatment for recalcitrant Achilles tendinopathies.

