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Effect of obesity on the functional outcome of flexor hallucis longus tendon transfer surgery in patients with Achilles tendinopathy

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Introduction: Several factors, including diabetes and smoking, increase the risk of and predisposition for complications of foot and ankle surgeries; however, studies assessing the effects of obesity remain scarce. The objective of this study is to assess the effects of obesity on functional outcomes of flexor hallucis longus (FLH) tendon transfer surgery in patients with chronic Achilles tendinopathy.

Methods: A retrospective study was performed with patients aged 18 years or older who underwent FHL tendon transfer between March 2010 and May 2015. The characteristics recorded were sex, age, body mass index (BMI), American Orthopedic Foot and Ankle Society (AOFAS) score, Foot and Ankle Outcome Score (FAOS) and ankle plantar flexion and dorsiflexion strength, assessed using an isokinetic dynamometer.

Results: The sample had 24 participants (13 women and 11 men) with a mean age of 55.7 years; among them, 13 were obese (BMI \geq 30), and 11 were nonobese (BMI $<$ 30). After a mean follow-up time of 66 months, the FAOS of the sample increased from 28 to 91 points ($p=0.000$). No significant difference in the postoperative AOFAS score or FAOS was found between the subgroups ($p>0.05$), with values of 83 and 86.7 points (AOFAS) and 92.72 and 90 points (FAOS) for obese and nonobese patients, respectively. The comparison of the strength of each motion revealed no significant difference ($p>0.05$) between subgroups. There was no association between BMI and postoperative functional outcomes (AOFAS score and FAOS) ($p>0.05$) or correlation between BMI and the strength of the operated ankles.

Conclusion: Our findings indicate that flexor hallucis longus tendon transfer surgery in Achilles tendinopathy is effective for obese and nonobese patients based on the AOFAS and FAOS scores and dynamometry results.

Keywords: Obesity; Achilles tendon; Tendon transfer; Tendinopathy.

