Category: Ankle/Foot/Calf
Psychiatric Disorders are Predictive of Worse Pain Severity and Functional Outcomes after Fasciotomy for Chronic Exertional Compartment Syndrome of the Leg

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Summary:
History of psychiatric disorder was predictive of worse postoperative pain and activity outcomes after fasciotomy for CECS but not pain frequency or return to sports.

Data:
Background: Chronic exertional compartment syndrome (CECS) is a neuromuscular disorder that causes exertional limb pain and is most commonly diagnosed among athletes such as runners and joggers. CECS of the leg may be surgically treated with fasciotomy but pain relief and outcomes for return to sport may vary considerably. Psychiatric conditions may influence pain perception and thus affect patient-reported outcomes following fasciotomy. This study aimed to determine whether psychiatric diagnoses and medication use were associated with post-fasciotomy outcomes among CECS patients. Methods: We conducted a retrospective analysis of patients who underwent primary fasciotomy for CECS at a single academic medical center from 2010-2020. Psychiatric history was abstracted from electronic health records and included disease diagnosis and associated medications. Postoperative outcomes were assessed using an email survey and included pain frequency, pain severity, Tegner Activity Scale score, and return to sport. Associations between psychiatric history and outcomes were identified using multivariable linear or logistic regression with subjects without psychiatric disorders as controls. P-values less than 0.05 were considered significant. Results: 81 subjects (legs) were included in the study cohort. The cohort was 54% male with average age at time of surgery of 30 years (range 14 - 64) and average follow-up time of 52 months (range 4 - 126). 24 subjects (30%) had at least one psychiatric diagnosis at the time of surgery. Regression analysis found positive psychiatric history to be an independent predictor of worse outcomes versus controls for postoperative pain severity and postoperative Tegner scores (p < 0.05). Furthermore, subjects with a psychiatric disorder but not on medication were associated with worse pain severity (p < 0.001) and Tegner scores (p < 0.01) versus controls whereas subjects with a psychiatric disorder and on medication were associated with better pain severity during daily activity and sports (p < 0.05) versus controls. Conclusion: History of psychiatric disorder was predictive of worse postoperative pain and activity outcomes after fasciotomy for CECS but not pain frequency or return to sports. Furthermore, use of psychiatric medication was associated with improvement in pain severity in some domains. These findings suggest that psychiatric disorders may modulate pain pathways leading to more severe self-reported postoperative pain, while psychiatric medications may potentially provide an analgesic effect in these patients.

Category: Ankle/Foot/Calf
Calf Muscles Volume And Tendon Elongation After Acute Achilles Tendon Rupture. A Predefined Secondary Analysis In A Randomized Controlled Trial Investigating Treatment Selection Using The Copenhagen Achilles Rupture Treatment Algorithm (CARTA)

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Summary:
The aim of the present study was, in a randomized setup, to investigate if treatment selection by use of CARTA could reduce hypotrophy and tendon elongation. No indication was found that treatment selection by use of CARTA reduced calf muscle atrophy or tendon elongation when compared to surgical and non-surgical treatment.

Data:
Background: Surgical treatment of acute Achilles tendon rupture substantially lowers the risk of re-rupture and has been claimed to reduce calf atrophy and elongation of the Achilles tendon compared to non-surgical treatment. The Copenhagen Achilles Rupture Treatment Algorithm (CARTA) was developed to provide evidence-based individualized treatment selection based ultrasound-graft (US) evaluation of the rupture. Purpose: The aim of the present study was, in a randomized setup, to investigate if treatment selection by use of CARTA could reduce hypotrophy and tendon elongation in comparison with 1) patients treated surgically, and 2) patients treated non-surgically. Study design: Randomized controlled clinical trial Methods: 60 patients with an acute ATR were randomized in a 1:1:1 order to treatment selection based on CARTA (Intervention), surgical treatment (control) or non-surgical treatment (control). After one year MRI of both calves was performed and muscle volume and Achilles tendon length was measured. Results were presented as the ratio between the affected and the unaffected limbs: the Limb Symmetry Index (LSI). Trial registration: NCT03529564. Results: 156 patients were assessed for eligibility, 60 patients were randomized and 54 provided data for the study: 19 in the group assigned treatment based on CARTA, 17 in the group assigned non-surgical treatment, and 18 in the group assigned surgical treatment. No statistically significant differences were found between the intervention group and the two control groups regarding muscle volume and tendon length. Also, no statistically significant differences were found between patients treated surgically and patients treated non-surgically. Comparison between the affected and the unaffected limb showed statistically significant muscle atrophy (25%-30%) and tendon elongation (Soleus 59%-76%, Gastrocnemius 8%-14%) in the affected limb in all three groups. Conclusion: No indication was found that treatment selection by use of CARTA in the treatment of acute ATR reduced calf muscle atrophy or tendon elongation when compared to surgical and non-surgical treatment. No indication was found that surgical treatment reduced calf muscle atrophy or tendon elongation. Clinical relevance: The results are directly adaptable in the treatment of acute Achilles tendon rupture as they question the advantages of surgical treatment. What is known about the subject: It is claimed that surgical treatment of acute Achilles tendon rupture reduces calf atrophy and tendon elongation. The Copenhagen Achilles Rupture Treatment Algorithm (CARTA) has been developed but needs adequate testing. What this study adds to existing knowledge: The study questions whether surgical treatment of acute Achilles tendon rupture actually does reduce calf atrophy and tendon elongation. The same accounts for CARTA.

Category: Ankle/Foot/Calf
MRI Findings of the Foot and Ankle in Asymptomatic Professional Ballet Dancers

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Summary:
Bilateral foot and ankle MRIs of 31 professional ballet dancers were reviewed and a high prevalence of bone marrow oedema in the talus and the metatarsals were found.

Data:
Background: The use of Magnetic Resonance Imaging (MRI) is considered the gold standard assessment tool for the most common injuries that are sustained in the elite ballet foot and ankle, namely, posterior ankle impingement, ligament injury, bone stress reaction and tendon injury. However, it is sometimes difficult to evaluate the foot and ankle MRIs in dancers since some of the signal changes seen on MRI scans are secondary to the repetitive high loads to which dancers are exposed during training and they may not be pathological or in any way related.