A Hypertrophic Distal Fascicle of the Anterior TibioFibular Ligament is Associated with a High Rate of Osteochondral Lesions of the Talus

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INTRODUCTION: A hypertrophic distal fascicle of the anterior tibiofibular ligament (ATiFLdf) is commonly encountered in patients with anterior ankle impingement. Repetitive snapping of the hypertrophic ATiFLdf has the potential to create osteochondral lesions (OCLs) at the lateral talar dome. However, the clinical manifestations of these OCLs in the setting of a hypertrophic ATiFLdf has not been described to date. The purpose of this retrospective review was to determine the prevalence of OCLs of the lateral talar dome in patients with anterior ankle impingement with an associated hypertrophic ATiFLdf. In addition, we sought to evaluate the anatomy of the ATiFL to fully elucidate its role in creating chondral wear of the talus.

METHODS: Retrospective chart review identified 40 patients who underwent arthroscopy of the anterior ankle joint for the management of anterior ankle impingement. Pre-operative magnetic resonance imaging (MRI) scans were obtained and correlated with intra-operative arthroscopic findings. Clinical outcomes assessed included: pre- and post-operative foot and ankle outcome score (FAOS), visual analog scale (VAS), complications, failures, secondary surgical procedures, return to work data and return to sport data.

RESULTS: Thirty-two patients with a mean follow-up time of 29.3±10.4 months were included. The ATiFLdf was hypertrophic in 29 patients (90.6%), the mean thickness of which was 2.5±0.4 mm. There were 22 OCLs of the lateral talar dome (75.9%) with an associated hypertrophic ATiFLdf visualized during arthroscopy. The international cartilage repair society gradings of the lesions included: 3 (13.6%) grade I lesions, 15 (68.1%) grade II lesions, 3 (13.6%) grade III lesions, and 1 (4.6%) grade IV lesion. There was a statistically significant improvement in mean FAOS and VAS scores from pre-operative to post-operative ($p < 0.001$). No cases of syndesmotic instability were observed following resection of ATiFLdf. The mean post-operative Likert score was 4.1±0.4. There were 5 failures (15.6%) at a mean time of 9.0±4.7 months.

DISCUSSION AND CONCLUSION: This retrospective case series demonstrated that a hypertrophic ATiFLdf was closely associated with the development of an OCL of the lateral talar dome identified during arthroscopic evaluation. In addition, pre-operative MRI proved to demonstrate poor sensitivity for the detection of these OCLs. Suspicion should be raised for potential lateral talar dome OCLs in patients presenting with anterolateral ankle impingement with a hypertrophic ATiFLdf.