Lateral talocalcaneal ligament substitution for calcaneofibular ligament deficient chronic ankle lateral instability
Chen Jiao, MD

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Introduction/Purpose: Introduction: Treatment of chronic ankle lateral instability associated with defective calcaneofibular ligament via tendon reconstruction or artificial grafts has several disadvantages. The method of substitution with lateral talocalcaneal ligament has never been reported.

Purpose: To investigate the role of lateral talocalcaneal ligament substitution for the treatment of chronic ankle lateral instability associated with defective calcaneofibular ligament.

Methods: Repair of ankle lateral ligament was performed on 32 patients with chronic ankle instability. The mean age was 26.4±8.7 years. The calcaneofibular ligament was absent in all the patients and was confirmed surgically. The calcaneofibular ligament was repaired via transfer of talar insertion of the lateral talocalcaneal ligament. Patients were followed up for an average of 22.3±4.0 months. AOFAS, Mazur and Tegner scores, objective examinations (anterior drawer test and varus stress test) and re-injury were assessed before and after the operation. The anterior translation distance of the talus and the talar tilt angle were also measured.

Results: In all the patients, postoperative AOFAS, Mazur and Tegner scores were significantly improved. Postoperative evaluation (drawer test and lateral stress test) yielded negative results. The anterior translation distance was reduced from 4.9±1.0 mm to 2.0±0.8 mm. The talar tilt angle was reduced from 12.7º±2.5º to 5.0º±1.4º. The average satisfaction score was 7.4. No subjective instability or re-injury, subtalar joint (tarsal sinus) pain or/and instability occurred.

Conclusion: Lateral talocalcaneal ligament substitution was effective against chronic ankle lateral instability associated with the absence of calcaneofibular ligament, without any significant effect on subtalar joint clinically.

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