There is No Difference in Post-operative Complication Rates between Single and Multiple Incision Approaches to Lateral Ligament Repair for Chronic Ankle Instability

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Introduction/Purpose: Ankle sprains are common orthopaedic injuries. Some patients may develop chronic instability, requiring ligament reconstruction surgery. While laxity of the lateral ankle ligaments most commonly contributes to ankle instability, there may be other associated factors such as peroneal pathology or misalignment of the hindfoot that must be addressed. Classically, a small curvilinear incision is made to access the lateral ankle ligaments, and separate incisions are made to address the peroneals, or to perform a calcaneal osteotomy if needed. A more recent method involves making a single longitudinal incision that allows access the lateral ankle ligaments, the peroneals and calcaneus without the need for further incisions. This study evaluates the post-operative complication rates between the single and multiple incision approach for patients undergoing lateral ligament repair.

Methods: This is a retrospective review of patients who underwent ligament reconstruction for lateral ankle instability from 2011 to 2015. A total of 231 patient records were reviewed. Records with insufficient data, patients with history of prior ligament repair and insufficient follow-up (< 1 year) were excluded. A total of 187 patients met inclusion criteria. Complications including chronic pain, sural neuritis, and skin infections were recorded during the follow up period. Demographic data and complication rates between the two groups were compared using chi-squared test.

Results: Of the 187 patients, 160 were in the single incision group and 27 in the multiple incision group. Women comprised 69.0 (90/148) percent of the total patient population. There was no significant difference in demographic data between the two groups. There was also no significant difference in the rate of complications between the single incision and multiple incision groups (p = 0.808). The single incision group had a complication rate of 24% (39/160), while the multiple incision group had a complication rate of 22% (6/27). The most frequent complication in both groups was sural neuritis with it comprising 31% (12/39) and 50% (3/6) of the complications in the single and multiple incision groups respectively.

Conclusion: Performing a single longitudinal incision for lateral ligament repair, as well as access to the peroneal tendons and calcaneus does not have increased rates of post-operative complications compared to a multiple incision approach. A longitudinal single incision may be performed without concern for increased rates of post-operative complications in lateral ligament repair surgery for chronic ankle instability.

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