

Open syndesmotic repair for open-book type syndesmotic injury

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Category: Trauma

Keywords: Ankle, Syndesmosis, Open repair

Introduction/Purpose: Although there are several approaches to the treatment of syndesmosis injury, there is no gold standard technique. Syndesmotic screw fixation is one of commonly used treatment options but there remains debate topics such as implant breakage and the need for device removal. The purpose of this study was to evaluate the clinical, radiologic and arthroscopic outcomes of open syndesmotic repair for open-book type syndesmotic injury as a new treatment option.

Methods: We reviewed the clinical, radiographic and arthroscopic results of 20 patients with traumatic injuries to the distal tibiofibular syndesmosis who were treated with open syndesmotic repair. Arthroscopic evaluations including cotton test were performed at the primary and second-look operation. The American Orthopaedic Foot & Ankle Society (AOFAS) ankle–hindfoot score and visual analog scale (VAS) score were used to evaluate clinical outcomes. The measurement of the tibiofibular clear space and tibiofibular overlap were used to evaluate radiologic outcomes. Both Clinical and radiologic outcome evaluations were performed preoperatively, at 6 weeks and 6 months postoperatively, and at a final follow-up at a minimum 12 months postoperatively. The average follow-up period was 15.3 months.

Results: The average AOFAS score improved from 45.4 (range 30-68) preoperatively to 94.12 (range 83-100) at the last follow-up ($P < .001$). The radiologic parameters of the syndesmosis returned to normal range since the first postoperative follow-up. At second-look arthroscopy, all the patients showed negative cotton test results and the gap of distal tibiofibular joint was remained less than 2mm in all patients.

Conclusion: We had excellent clinical, radiologic and arthroscopic results and there is no major complication. Open syndesmotic repair for open-book type syndesmotic injury is effective in healing and maintaining the injured joint. Therefore this procedure could be a reasonable alternative treatment for traumatic syndesmosis injury of the ankle.

Foot & Ankle Orthopaedics, 3(3)
DOI: 10.1177/2473011418S00316
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