Short-term outcome of Lisfranc injuries treated with single dorsal plate fixation

Sangho Chun, MD, Kyoung min Lee, MD, PhD, Moon Seok Park, MD, Ki Hyuk Sung, MD, Seungbum Koo, PhD, Sung Jin Kim, MD, Hyun Choi, MD, Shin Sangyeop, MD, Seung Yeol Lee, MD

Category: Ankle, Trauma

Keywords: lisfranc injury, single dorsal plating, AOFAS score

Introduction/Purpose: Several methods like cortical screw, Kirschner (K) wire have been used for stabilizing the Lisfranc joint. We performed this study to assess whether single dorsal plating can be used as an alternative treatment method for a Lisfranc injury.

Methods: Patients were followed up for more than 1 year after the initial surgery. Following open reduction of the joint with a bone reduction clamp, a single dorsal plate was used to perform Lisfranc joint fixation. The plate was fixed with 2.7-mm locking screws on the first metatarsal, second metatarsal, medial cuneiform, and intermediate cuneiform. Three weeks postoperatively, the cast was removed, and patients progressively advanced to full weight bearing while wearing a postoperative shoe. The plate was removed 3 months postoperatively. One year postoperatively, weight-bearing foot radiographs and the American Orthopedic Foot and Ankle Society (AOFAS) ankle-hindfoot scale score were obtained.

Results: Eighteen patients with a Lisfranc injury who were treated with open reduction and internal fixation using a single dorsal plate were included. The average AOFAS midfoot score for pain was 35, and the total score was 80.8 (range, 67–95). Six patients (33.3%) had an excellent outcome (score = 90); eight (44.4%) had a good outcome (90 > score = 75); and four (22.2%) had a fair outcome (75 > score = 50). Radiographs during the follow-up period showed no loss of reduction or arthritic change. Screw breakage occurred in 3 cases. But the injury ultimately healed anatomically.

Conclusion: Single dorsal plating can be an alternative treatment method for a Lisfranc injury, as it provides a good short-term outcome without causing further joint injury.

Foot & Ankle Orthopaedics, 2(3)
DOI: 10.1177/2473011417S000143
©The Author(s) 2017

This open-access article is published and distributed under the Creative Commons Attribution-NonCommercial 3.0 License (http://www.creativecommons.org/licenses/by-nc/3.0/) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (https://us.sagepub.com/en-us/nam/open-access-at-sage).