Repair of the Deltoid Ligament Complex Rupture Associated with Ankle Fractures
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Introduction/Purpose: It is controversial for operative repair of deltoid ligament in acute ankle fractures. To investigate the indication for surgical interference and the clinical outcome about repair whole deltoid ligament rupture associating with ankle fractures.

Methods: We performed multiple-center study in 4 clinical centers in 4 cities of China. From January 2006 to December 2011, of 1533 ankle fractures operated, 131 deltoid ligament rupture were identified and repaired operatively. They were 74 males and 57 females with a mean age of 37.2 years (range, 15-83 years). Clinical examination, radiographs, AOFAS ankle-hindfoot scores and visual analogue scale were used for outcome measurement.

Results: All incision healed primarily. 106 patients were followed up for 12 to 72 months, with the mean follow-up of 27 months. The mean time of fracture union was 14.5 weeks (range, 9-16 weeks). The mean AOFAS ankle-hindfoot score at last follow-up was 91.4 points (range, 83-100 points). The mean score of VAS was 1.2 points (range, 0-6 points). The mean score of SF-36 was 91.2 points (range, 80-96 points). There was no ankle instability and post-trauma osteoarthritis.

Conclusion: This multiple-center study demonstrated that deltoid ligament repair can benefit patients with unstable ankle after fracture fixation. A reasonable clinical evaluation and surgical repair could be done, choosing an appropriate repair technique according to the site of deltoid ligament rupture.