Comparison of Clinical Outcomes after Modified Broström Procedure with or without Calcaneofibular Ligament Repair for Chronic Lateral Ankle Instability: A Prospective Randomized Control Study

Ki Sun Sung, MD, PhD, Hyun Seok Yim, MD

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Introduction/Purpose: Modified Brostrom procedure has been the choice of treatment for chronic lateral ankle instability (LAI). However, there is a controversy about the necessity for repair of calcaneofibular ligament (CFL). Thus, we designed a prospective randomized control study to investigate if there is any difference according to calcaneofibular repair.

Methods: Between June 2012 and September 2015, 48 patients with chronic LAI were enrolled in this study after our IRB (file No. 2012-02-046-035) approved it. They were divided into two groups (24 for each) by a random manner. Inclusion criteria are as following: age of 20 to 60 and chronic mechanical LAI who had failed in conservative treatment for more than 6 months. Patients with inflammatory diseases and history of previous surgery for the same ankle were excluded. Modified Brostrom procedure was done for the patients with informed consent. For group A we repaired both ATFL and CFL, and for group B only ATFL was repaired. Postoperative rehabilitation protocol was the same after 2 week period of immobilization. For clinical and functional outcome, Karlsson-Petersson score was measured pre and post operatively. Stress radiographs were checked to evaluate objective stability. Isokinetic strength test was also recorded.

Results: There was no difference in age, gender, BMI, and the number of combined intraarticular pathology between two groups. Forty three patients (22 in group A, 21 in group B) were followed up for more than 1 year after the index surgery. Karlsson score was improved from 55.8 (17-80) to 78.4 (32-100) in group A, from 56.4 (37-82) to 83.6 (49-100) without any statistical difference between 2 groups. Anterior drawer and talar tilt in stress radiographs showed a significant improvement in both groups still without any difference between 2 groups. Similar result was found in isokinetic strength test.

Conclusion: There was no clinical, radiographical and physical difference regardless of CFL repair in modified Brostrom procedure for chronic LAI. However, we cannot conclude that CFL repair is not necessary for chronic LAI. Further studies of high level of evidences with more patients and longer term follow-up are mandatory.

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