2016 Roger A. Mann Award - Comparison of All-Inside Arthroscopic and Open Techniques in Treatment for Chronic Lateral Ankle Instability: A Prospective Randomized Trial

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Introduction/Purpose: The modified Broström operation (MBO) is frequently used to treat chronic lateral ankle instability. The open MBO is currently the gold standard procedure for treatment of chronic lateral ankle instability. The all-inside arthroscopic MBO has been developed for chronic lateral ankle instability. Clinical outcome of all-inside arthroscopic MBO was reported as good or excellent. Biomechanically, the stiffness, torque to failure, and degree to failure of all-inside arthroscopic MBO and open MBO have the same results. But there were no report about comparison of clinical outcome between all-inside arthroscopic MBO and open MBO for chronic lateral ankle instability. The purpose of this study is to compare the clinical outcomes of the all-inside arthroscopic MBO and open MBO for chronic lateral ankle instability.

Methods: From September 2013 to August 2014, MBO was performed in 87 patients. Of these, 50 consecutive patients were included in terms of inclusion criteria. All patients had giving way, persistent pain and an inability to resume one’s preinjury activity level for more than 6 months. Patients were randomized into 2 groups: all-inside arthroscopic MBO and open MBO using permuted block randomization method. Evaluation was performed preoperatively, at 6 weeks and 6 months postoperatively, and at a final follow-up a minimum of 12 months postoperatively using the Karlsson score, the American Orthopedic Foot and Ankle Society (AOFAS) hindfoot ankle score, pain Visual Analogue Scale (VAS), anterior talar translation, and talar tilt angle.

Results: After randomization, 25 ankles were allocated in the all-inside arthroscopic MBO group, and 25 ankles were placed in the open MBO group. Two ankles in the open MBO group were excluded from analysis due to loss of follow-up. Therefore the evaluation was performed for 25 ankles in the
all-inside arthroscopic MBO group and 23 ankles in the open MBO group. There were no differences in age, sex, symptom duration, preoperative Karlsson, AOFAS, and VAS scores between the 2 groups (P > .05). At final follow-up, the Karlsson, AOFAS, and VAS scores were significantly improved in both groups (P < .001). There were no differences in the Karlsson, AOFAS, VAS scores, anterior talar translation and talar tilt angle between the 2 groups at final follow-up (P > .05).

**Conclusion:** There was no difference in the clinical evaluation and radiologic evaluation between all-inside arthroscopic MBO group and open MBO group at a minimum 12 months follow-up. All-inside arthroscopic MBO should be carefully considered as a reasonable alternative method in patients who have chronic lateral ankle instability.