

A new arthroscopic Broström procedure for chronic lateral ankle instability

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Introduction/Purpose: Chronic lateral ankle instability is usually progressed from previous lateral ankle sprain which is not treated properly. Although patients with acute lateral ankle ligament injury are often managed successfully with conservative treatment, approximately 20%-40% will go on developing symptomatic chronic recurrent lateral ankle instability. Several procedures have been introduced to address these patients including open or arthroscopic techniques, the most common of which is the Broström procedure. The aim of this study was to describe a new outside-in arthroscopic Broström procedure and its results for treating patients with chronic lateral ankle instability.

Methods: Of the 32 patients that were treated, 18 males and 14 females, and aged from 15~57 years (mean 27.8 years). All patients were symptomatic with a combination of recurrent ankle sprains, giving way and avoidance of sports, as well as presented positive anterior drawer test in the physical examination. The history of all patients was over 6 months and conservative treatments were not enough to relieve the symptoms.

Standard anteromedial and anterolateral portal was established. Using a suture anchor (2.9mm Lupine BR, preloaded with double orthocord sutures, DePuy Synthes) and a cannulated needle as a suture passer, anterior talofibular ligament repair was achieved with an outside-in technique. Follow-up was 6~14 months (mean 8.7).

Results: Subjective instability and mechanical instability were all significantly improved. No recurrences of ankle instability were reported. The mean AOFAS Ankle-Hindfoot score increased from 74 preoperatively to 95 at final follow-up. 2 patients reported superficial peroneal nerve (SPN) irritation symptom postoperatively but only 1 persisted. 2 patients complained mild pain anteroinferior to the lateral ankle.

Conclusion: The arthroscopic outside-in Broström procedure with a single suture anchor was a safe, effective and reproducible technique for chronic lateral ankle instability. The ankle stability resumed with high clinical success rate. The main complication of this procedure was injury to SPN, which crossed the area of repair. The transient neurologic symptom may be related to stretch injury when establishing the anterolateral portal, while the persistent one may be due to nerve entrapment.

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