A Prospective Study Evaluating Intra-Articular Hyaluronic Acid (1ml) for Ankle Osteoarthritis
Alastair Younger, MB ChB,ChM,FRCSC, Kevin Wing, MD,FRCS(C), Andrea Veljkovic, MD,FRCS(C), Murray Penner, MD,FRCS(C)

Category: Ankle Arthritis

Keywords: ankle arthritis hyaluroic acid injection

Introduction/Purpose: Early ankle arthritis can result in disabling symptoms and loss of function. However the degree of arthritis may not be severe enough or the symptoms severe enough to merit a fusion or replacement. For other patients they may wish to delay surgery to avoid financial issues with recovery time. Many of these patients have also been treated with NSAIDs, physiotherapy and bracing with variable effect. Stabilized long chain Hyaluronic acid (NASHA) has been used successfully in the knee, and has given a longer duration of effect compared to steroid injection. The purpose of this study was to determine the effect of hyaluronic acid in the ankle for sustainable symptom relief.

Methods: A power analysis determined that a minimum of 29 patients would be required to appropriately power the study. A total of 37 adult patients with KL grade II and III ankle arthritis were enrolled in the study at a single institution. Patients recruited via a newspaper advertisement and from the surgical clinics and and screened for standard inclusion and exclusion criteria. The VAS pain preoperatively had to be greater than 30 / 100 mm. Outcomes were recorded at baseline, weeks 6, 12 and 26. The injection was performed after the baseline assessment using 1 ml of Hyaluronic acid NASHA (Q-Med AB, Uppsala, Sweden; DUROLANE 10 mg / mL) with or without local anesthetic to the skin. Outcomes included a VAS from the AOS scale for pain and disability, review of adverse events, physical exam, and use of rescue medication.

Results: 35 of 37 patients completed the study. At baseline the VAS pain was 7.2 (SD +/-1.8). At 6 weeks the pain score was 5.4 (+/-2.5) improving by 1.8 points with a 26% improvement. At 12 weeks the pain score was 5.3 (+/-2.7) for a 29% improvement. At week 26 the pain score was 5 (+/- 2.7) for a 32% improvement. 4 adverse events were recorded – one patient reported increased pain after injection. One reported pain and swelling, one reported inflammation, and one pain after injection.

Conclusion: This prospective cohort study shows promise for the use of Hyaluronic acid for the treatment of ankle arthritis with relief of symptoms up to 26 weeks after injection. The injection was safe for all 37 patients, although one patient reported pain and dropped out of the study. We would support the use of Hyaluronic acid for the treatment for moderate ankle arthritis. An RCT would be merited based on this study to compare results with placebo or cortisone injection.