

Treatment Methods for Posttraumatic Elbow Stiffness Caused by Heterotopic Ossification

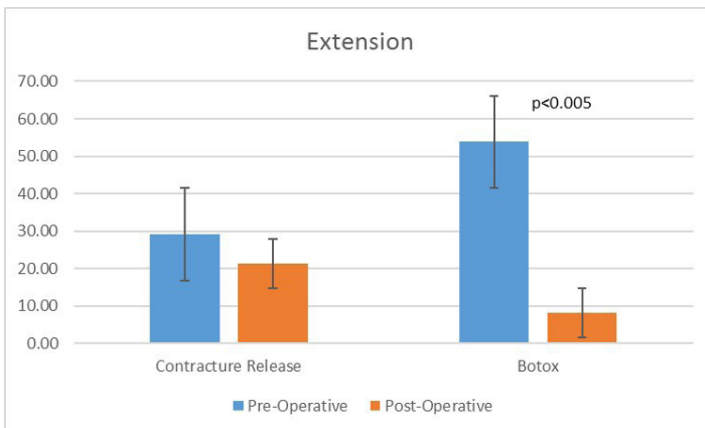
*Christina Freibott, BA; Henrik Constatin Backer; Samuel Galle, MD; Seth Shoap, BA, BS; Melvin Paul Rosenwasser, MD
Columbia University Medical Center, New York, NY, United States*

Purpose: Heterotopic ossification (HO) is a common complication of surgically treated elbow fractures, which can inhibit range of motion (ROM) and impair quality of life. While there are many treatment methods for HO, there is a lack of consensus as to the best option. We hypothesized that contracture release combined with Botox injection leads to improved functional outcome scores when compared to current treatment methods.

Methods: A retrospective review was conducted of patients who presented to a single surgeon with HO secondary to elbow fracture between 2005 and 2018. 59 patients were identified who met inclusion criteria. Data were classified into 3 groups: contracture release (control – CR), Botox injection with contracture release (Botox + CR), and radiation therapy (RT). ROM measurements were obtained, including flexion, extension, pronation, and supination.

Results: Of the 59 patients, 30 (50.8%) received CR, 23 (40.0%) underwent CR and Botox injection, and 6 (9.2%) were treated with RT. Patients in the Botox + CR group had a significantly worse ($P < 0.01$) preoperative ROM than the CR group. There was a significant difference for all groups in pre- and postoperative ROM, with Botox + CR and RT patients having the most significant difference ($P < 0.005$) (Figs. 1 and 2). The CR group had significantly better postoperative pronation-supination motion ($P < 0.01$), whereas the Botox + CR and RT groups did not.

Conclusion: Botox injection with contracture release is an effective method to treat posttraumatic elbow stiffness secondary to HO. The Botox + CR group had a significantly worse ($P < 0.01$) preoperative ROM, but their postoperative flexion-extension arc of motion was better than contracture release alone ($P < 0.01$). Further investigation is necessary to compare the efficacy of CR, Botox + CR, and RT, in groups with more similar preoperative ROM measurements.



See the meeting app for complete listing of authors' disclosure information.

POSTER ABSTRACTS