

Clinical Effectiveness of Splinting After Collagenase Clostridium Histolyticum Injection for Dupuytren Contracture

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INTRODUCTION:

Dupuytren contracture is a fibroproliferative disorder forming fascial cords in the hand. Collagenase clostridium histolyticum (CCH) is an alternative treatment. Current recommendations include extension orthosis after CCH for 4 months at night. Our study purpose is to evaluate the effectiveness of night orthosis following CCH treatment.

METHODS:

Prospective randomized control trial at a single institution. Patients with Dupuytren contracture of 1 or more digits treated with CCH from May 2021-2023 were screened. Seventy-nine patients were enrolled and randomized between groups. Baseline, post-manipulation, 1-month, and 4-month flexion contractures were collected. QuickDASH, splint compliance and satisfaction surveys were collected at 1- and 4-month. Skin tear, and adverse events were recorded. Orthosis group was instructed to wear an extension orthosis nightly until 4-months.

RESULTS: There were 39 orthosis patients and 40 non-orthosis patients who received CCH injection. 119 joints were treated in total, including 66 MCP and 53 PIP joints. 76 and 69 patients completed 1- and 4-month follow up. No significant differences in baseline characteristics, pre- and post-manipulation contractures, or QuickDASH. Baseline flexion contracture for all joints was 48° and 55° for orthosis and non-orthosis respectively. Orthosis group patients had significantly lower residual contracture at 4-months (11° vs 20°). No difference was found at any time for MCP joints. PIP joints in the orthosis group had significantly lower residual contracture at 1- and 4-months (13° vs 28°; 19° vs 36°). Satisfaction was significantly higher in the orthosis group, but this difference persisted only for treated PIP joints when analyzed by joint. Reported compliance with orthosis was “Most of the Time” at 1-month and “Half of the Time” at 4-months.

DISCUSSION AND CONCLUSION:

Our study suggests greater benefit of night orthosis for PIP joint contractures. We recommend night orthosis after CCH treatment of PIP joint contractures and optional use for MCP contractures.