Analysis of Last-line Treatments for Dupuytren’s Contracture

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INTRODUCTION: Dupuytren's is a condition caused by abnormal fibroblast and collagen deposition in the palmar fascia, leading to permanent bending of the fingers toward the palm. The gold standard treatment is surgery.^1 With Dupuytren's disease being incurable, this study defines treatment success if either of the follow definitions are met. A 10 points or more decrease in Disabilities of the Arm, Shoulder, and Hand (DASH) score to meet the definition of minimal clinically important difference (MCID) for upper limb conditions or a total DASH score of 10 or less that reflects minimal to no disability.^2 Last-line treatment is defined as the most recent treatment that the patient has undergone. This study's purpose is to examine the relationship of Dupuytren's treatment success and the last-line treatments of surgery, Xiaflex injection, steroid injection, or radiation to determine which treatment performs better.

METHODS: A retrospective EMR review using 41 pre-identified Dupuytren's patients was conducted. 8 patients were exempted due to not being able to contact for their last treatment DASH scores. For the remaining 33 patients, ages 45 to 85 among the 19 males and ages 55 to 85 for the 14 females. Treatment was chosen based on multiple physicians and specialties' judgement to combat bias. Date, type, and DASH scores of treatments were collected. A Fisher's Exact test comparing last-line treatment choice was performed through the VassarStats website.

RESULTS: A Fisher's Exact test Pa for p-value was 0.5582. The success rate for Xiaflex injection as a last-line treatment was 100.00%, for steroid injection was 66.66%, for surgery was 60.00%, and for radiation was 59.09%.

DISCUSSION AND CONCLUSION: This study did not find evidence of a statistically significant difference (p=0.5582) between last-line treatments on chances of success. Therefore, we fail to reject the null hypothesis that the last-line treatment has no effect on the chances of success. Even though the success rates of surgery and radiation were very similar it must be noted that radiation is completely non-invasive. More research is needed to look for superiority, equivalence, and non-inferiority to determine which alternative last-line treatments can offer the highest chance of improved functional ability.