Determining Risk Factors and Rate of Surgery after Collagenase Injections for Dupuytren’s Contracture

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INTRODUCTION: Collagenase injections are a first-line treatment for Dupuytren's contracture, but their long-term effectiveness in preventing surgery remains unclear. This study aimed to evaluate the rate of surgical intervention following collagenase treatment and identify whether specific risk factors increase the likelihood of future surgical correction.

METHODS: This retrospective cohort study utilized the TriNetX US Collaborative network to identify patients diagnosed with Dupuytren's contracture between January 2007 and September 2024. Patients initially treated with collagenase injections were identified using relevant Current Procedural Terminology (CPT) codes. Procedure-specific CPT codes were then used to determine which patients underwent a subsequent fasciectomy or fasciotomy within five years of their initial injection. Risk factors, including smoking, diabetes, alcohol abuse, epilepsy, and vascular disease, were identified by ICD-10 codes. Statistical analysis was performed to evaluate the association between these risk factors and the likelihood of requiring surgical correction.

RESULTS: Among 6,917 patients treated with collagenase, 715 (10.2%) required surgical correction within five years. Tobacco use was associated with a significantly higher rate of surgery (12.98%, $p = .03$) compared to non-smokers (10.1%). Similarly, patients with alcohol use disorder had a higher surgical correction rate (16.3%, $p < .0001$) compared to those without (9.8%).

DISCUSSION AND CONCLUSION: Approximately 10% of patients treated with collagenase injections for Dupuytren's contracture required surgery within five years. Smoking and alcohol use significantly increased the likelihood of surgical correction, underscoring the need to address these risk factors during initial treatment. Further research is warranted to explore mechanisms underlying recurrence and prevention strategies.