

Treatment Modalities for Stenosing Tenosynovitis; a Systematic Review and Meta-analysis

Ali Izadpanah, MDCM, MSc, Jonathan Kanevsky, BSc, Arash Izadpanah, MDCM, Valerie Shafran, Abdulwaheb Shararah, MD, Mario Luc, MD, MSc, FRCSC, Teanoosh Zadeh, MD, FRCSC

Background

Stenosing tenosynovitis, frequently referred to as trigger finger, is a common condition characterized by decreased mobility of the tendon in the tendon sheath. The current standard therapy is corticosteroid injection or open surgical release. Percutaneous release is an emerging therapy of trigger finger. The purpose of this study is to evaluate the efficacy and complications of percutaneous release compared to steroid and surgical therapy.

Method

A Medline search was performed for all relevant articles describing the use of corticosteroid, surgical, or percutaneous therapy of trigger finger. This study includes all published data of trigger finger treatment from 1965 to 2010. The PubMed database of the National Center for Biotechnology Information, National Library of Medicine (Bethesda, Md), Medline, Cochrane review database, and Google Scholar were used to collect reports using the key words “trigger finger”, “corticosteroid”, “percutaneous release”, “surgical release”. All articles were reviewed for reports of clinical cases, complications, doses, number of digits and patients, previous therapy, operation time, outcome measure, success, follow-up, and study design. The difference of success rates between steroid injection, open surgical release, and percutaneous release were described using contingency tables and chi-square tests.

Results

A total of 3,155 trigger-digits were reviewed. Seven studies comprising 790 digits treated with steroid injection, 8 studies comprising 1,056 digits treated by open surgical release, and 11 studies comprising 1,309 digits treated by percutaneous release were reviewed. The most common complications encountered across all three procedures were recurrence (0.3%) and infection (0.1%). Percutaneous release had a 5% complication rate while surgical release has a 10% complication rate. Procedure time ranged from 2-7 minutes for surgical release and less than 5 minutes for percutaneous release. There was a statistically significant difference in rate of success following three different modalities; steroid injection (68.7%) versus open release (94.2%) versus (91.9%); $p < 0.0001$.

Conclusion

Percutaneous release as a treatment of trigger finger has similar efficacy to open surgical release and is superior to steroid injection. It is associated with a decreased operating time and fewer complications.

Disclosure/Financial Support

None

None of the authors has a financial interest in any of the products, devices, or drugs mentioned in this manuscript.