

Current Management of Dupuytren's Contracture. A Practical Review

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ABSTRACT

Dupuytren's contracture is a reasonably frequent condition characterized by palmar fascia fibrosis. It is a benign fibroproliferative disease of the palmar fascia that progresses slowly. The treatment aims are to restore finger mobility and to determine if surgery or other procedures are required. The therapy chosen is determined on the severity of the ailment. There are now many approaches for treating individuals with Dupuytren's contracture; each case must be carefully selected to provide the most benefit, limit morbidity, and avoid recurrences.

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INTRODUCTION

A somewhat frequent condition known as Dupuytren's contracture is defined by the palmar fascia's increasing fibrosis. It affects the palmar fascia and is a benign, slowly progressing fibroproliferative disease. Initial fascial thickening often manifests as a nodule in the palm that may be painful or not, passes undetected, and is frequently untreated. Joint stiffness and a lack of complete extension creep up slowly over time, usually decades.¹

Nodules may form longitudinal bands known as cords on the palmar fascia over the course of years as the process progresses, and the finger gradually loses extension due to contractures that pull one or more fingers into flexion at the metacarpophalangeal (MCP) joint, proximal interphalangeal (PIP), or both joints. Due to the fact that the fingers are not always retained in a fixed flexion deformity, this ailment is often referred to as Dupuytren disease (DD).²

TREATMENT

Restoring finger mobility and determining if surgery or other procedures are necessary are the two main objectives of therapy. The recommended treatment relies on how bad the condition is.³

There is not enough evidence to say whether massage, splinting, or exercise will stop the contracture from getting worse. The majority of doctors who treat this ailment think that these treatments don't help to stop the growth of contractures. Theoretically, stretching might aggravate contractures because, according to laboratory research, mechanical strain, which would arise from extending the fingers, would upregulate the activity of fibroblasts and myoblasts.⁴

If local soreness is troublesome (e.g., the patient develops tenosynovitis or the nodule is chronically painful), or if the palmar nodule is expanding quickly, intralesional glucocorticoid injection with triamcinolone acetonide and lidocaine hydrochloride may be useful. Only individuals with nodules are thought to benefit from glucocorticoid injection; cords with or without substantial contracture do not.⁴

Surgery (open fasciectomy), percutaneous or open fasciotomy, or needle fasciotomy are the usual therapies for flexion contractures. Additionally advantageous is clostridial collagenase injection.⁵

When a disease is in its latter stages, if function is compromised, or if a contracture is advancing, surgery has traditionally been the preferred therapy. Currently, the most common procedures involve cutting the cords (fasciotomy) or removing the diseased fascial cords (fasciectomy), with or without removing the skin above. Only when there is a progressive contracture or functional impairment may surgery (limited palmar fasciectomy) be considered.⁶

The precise surgical method used is determined by the patient's unique traits and the surgeon's personal preferences. Limited fasciectomies tend to be superior to more invasive methods like dermofasciectomy or radical fasciectomy.⁷

As a less intrusive method to treat Dupuytren's contracture, percutaneous needle aponeurotomy, formerly known as percutaneous needle fasciotomy, is occasionally used. According to data from one retrospective study, contractures frequently reappear after percutaneous needling of the palmar or digital fascia improves the extension of the MCP or PIP joints implicated.⁸

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Limited evidence suggests that percutaneous needle aponeurotomy is inferior to surgical fasciectomy in terms of overall extension increase, but not in more subjective outcomes like patient satisfaction and self-reported impairment.⁹

Patients who have the same contractures as surgical patients but would rather employ a nonsurgical method might benefit from collagenase treatment. Patients with less severe contractures (50 degree contracture) or with early-stage illness benefit best from collagenase injection treatment. Patients with more severe contractures can benefit from it, although it is less likely to restore complete extension. Its efficacy in treating recurring illness is uncertain.¹⁰

An effective alternative to surgery may be the injection of *Clostridium histolyticum* collagenase into the Dupuytren's lesion, which was successful in two randomized trials and an open label investigation.¹¹

When compared to placebo, patients receiving collagenase injections suffered noticeably higher side effects from the therapy. But the majority of them were local, fleeting reactions. Following collagenase injections, patients experienced upper extremity discomfort (32%), peripheral edema (73%), contusions (51%), injection-site bleeding (37%), and peripheral edema (31 percent). Among the 204 collagenase-treated individuals, there were few severe side effects (two tendon ruptures and one case of complex regional pain syndrome). No changes in flexion or grip strength, systemic allergic responses, or nerve damage were noticed. Although there were no recurrences, there was no information on long-term (six-month) recurrences because the follow-up only lasted 30 days.¹²

In individuals with mild to severe flexion deformities, prophylactic external beam radiation treatment can halt development and help with symptoms, although no controlled trials have been released. Other treatments, such as dimethyl sulfoxide, vitamin E, allopurinol, physical therapy, ultrasound therapy, glucocorticoid injections, interferon, constant slow skeletal traction, and splinting, have typically not proven effective.¹³

CONCLUSION

Currently there are different strategies for the approach of patients with Dupuytren's contracture, each case must be carefully selected, to offer the maximum benefit, reduce morbidity and prevent recurrences

REFERENCES

- I. Mella, J. R., Guo, L., & Hung, V. (2018). Dupuytren's contracture: An evidence based review. *Annals of Plastic Surgery*, 81(6S), S97-S101.
- II. Nayar, S. K., Pfisterer, D., & Ingari, J. V. (2019). Collagenase clostridium histolyticum injection for Dupuytren contracture: 2-year follow-up. *Clinics in orthopedic surgery*, 11(3), 332-336.
- III. Aglen, T., Matre, K. H., Lind, C., Selles, R. W., Aßmus, J., & Taule, T. (2019). Hand therapy or not following collagenase treatment for Dupuytren's contracture? Protocol for a randomised controlled trial. *BMC Musculoskeletal Disorders*, 20(1), 1-14.
- IV. Dutta, A., Jayasinghe, G., Deore, S., Wahed, K., Bhan, K., Bakti, N., & Singh, B. (2020). Dupuytren's contracture—current concepts. *Journal of Clinical Orthopaedics and Trauma*, 11(4), 590-596.
- V. Patel, M. I., & Patel, I. A. (2021). Versatility of percutaneous needle fasciotomy for Dupuytren's disease across a spectrum of disease severity: A single-surgeon experience of 118 rays. *JPRAS open*, 27, 80-89.
- VI. Kitridis, D., Karamitsou, P., Giannaros, I., Papadakis, N., Sinopidis, C., & Givissis, P. (2019). Dupuytren's disease: limited fasciectomy, night splinting, and hand exercises—long-term results. *European Journal of Orthopaedic Surgery & Traumatology*, 29(2), 349-355.
- VII. Ruettermann, M., Hermann, R. M., Khatib-Chahidi, K., & Werker, P. M. (2021). Dupuytren's Disease—Etiology and Treatment. *Deutsches Ärzteblatt International*, 118(46), 781.
- VIII. Moog, P., Buchner, L., Cerny, M. K., Schmauss, D., Megerle, K., & Erne, H. (2019). Analysis of recurrence and complications after percutaneous needle fasciotomy in Dupuytren's disease. *Archives of Orthopaedic and Trauma Surgery*, 139(10), 1471-1477.
- IX. Selles, R. W., Zhou, C., Kan, H. J., Wouters, R. M., van Nieuwenhoven, C. A., & Hovius, S. E. (2018). Percutaneous aponeurotomy and lipofilling versus limited fasciectomy for Dupuytren's contracture: 5-year results from a randomized clinical trial. *Plastic and Reconstructive Surgery*, 142(6), 1523-1531.
- X. Nayar, S. K., Pfisterer, D., & Ingari, J. V. (2019). Collagenase clostridium histolyticum injection for Dupuytren contracture: 2-year follow-up. *Clinics in orthopedic surgery*, 11(3), 332-336.
- XI. Boe, C., Blazar, P., & Iannuzzi, N. (2021). Dupuytren contractures: an update of recent literature. *The Journal of Hand Surgery*, 46(10), 896-906.
- XII. Kaufman-Janette, J., Joseph, J. H., Kaminer, M. S., Clark, J., Fabi, S. G., Gold, M. H., ... & Bass, L. S. (2021). Collagenase clostridium histolyticum-aes for the treatment of cellulite in women: results from two phase 3 randomized, placebo-controlled trials. *Dermatologic Surgery*, 47(5), 649.
- XIII. DiFrancesco, T., Khanna, A., & Stubblefield, M. D. (2020, February). Clinical evaluation and management of cancer survivors with radiation fibrosis syndrome. In *Seminars in Oncology Nursing* (Vol. 36, No. 1, p. 150982). WB Saunders.