

### **53. PERCUTANEOUS NEEDLE FASCIOTOMY COMPARED TO COLLAGENASE CLOSTRIDIUM HISTOLYTICUM INJECTIONS IN TREATMENT OF DUPUYTREN'S CONTRACTURE: A LITERATURE REVIEW OF COMPARATIVE STUDIES**

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**Introduction.** Dupuytren's Contracture (DC) is a benign fibroproliferative disease that affects the palmar fascia of the hand and fingers. It appears due to the increased proliferation of the myofibroblasts that leads to the replacement of the normal type I collagen with type III collagen. As a result, firm and painless nodules and, subsequently, chords are developed, which contract and form fixed flexion of the finger. Even though an absolute cure for DC does not exist, several management techniques have been described, including operative and non-operative procedures, some of them being considered as classical methods (limited fasciectomy, dermofasciectomy), and others - modern (percutaneous needle fasciotomy, collagenase injection). Therefore, it is important to assess which of the existing approaches is considered to be currently the best treatment option.

**Aim of study.** The scientific literature describes an increased tendency for the usage of Collagenase Clostridium Histolyticum (CCH) injections and Percutaneous Needle Fasciotomy (PNF) in the treatment of DC over the past several years in patients with a mild and moderate contracture. A reason for these approaches is considered to be the substantially decreased amount of complications and a faster recovery reported post-interventional in the follow-up studies, even though with a higher recurrence rate compared to classical methods. However, the majority of the current studies are comparing the modern techniques (PNF or CCH) with classical ones (limited fasciectomy) and almost no articles compare the efficacy, complications, and recurrences among the modern procedures themselves.

**Methods and materials.** A literature review of articles published on Research4Life, Ovid, and Pubmed databases between 2012 and 2022 has been conducted. Only the studies matching the inclusion criteria, specifically comparing the CCH injections versus NF in terms of efficacy, complications, and recurrence rate, were selected. To identify the relevant articles, the following keywords were used: "Dupuytren", "collagenase", "fasciotomy".

**Results.** As a result, eight studies have been identified (451 CCH patients, 435 NF patients; 518 CCH fingers, 443 NF fingers; 738 males, and 150 females). The follow-up period range was from 6 to 60 months. Two studies reported a better outcome for PNF-treated patients, while the others have shown no significant difference. Four studies provided a higher rate of minor complications in the CCH treatment, while the remaining four demonstrated similar rates of side effects. All of the studies reported similar recurrence rates that are different according to the follow-up period of the study.

**Conclusion.** In the treatment of DC, both PNF and CCH provided similar outcomes, with slightly better results reported in PNF patients. A higher minor complications rate was reported in CCH patients. Further studies are required to investigate the findings as only one study provides a follow-up after 5 years.