

Dupuytren's Contracture, When Not Everything is Surgery



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Abbreviations: MCP: Metacarpophalangeal; PIP: Proximal Interphalangeal; CCH: Collagenase Clostridium Histolyticum

Introduction

Dupuytren contracture is a common connective tissue disorder that can affect and interfere with daily activities. Palmar nodules can progress to form cords and extend into fingers causing permanent flexion of the same [1-3]. Metacarpophalangeal (MCP) joint and proximal interphalangeal (PIP) joint may be affected. Traditionally, four goals of Dupuytren's disease treatment have been proposed [4]: to correct deformity, avoid complications, shorten postoperative recovery and prevent recurrences. Surgery follow by hand recovery therapy used to be standard treatment. The risk of recurrence is a critical value in the evaluation of any treatments. Recurrence rates differ from 12 to 73% for fasciectomy/aponeurotomy and from 33% to 100% for open or needle fasciotomy/aponeurotomy depending on the series [5]. Collagenase clostridium histolyticum (CCH) has been approved as a pharmacological option for treating Dupuytren contracture with a palpable cord. About 47% of recurrence have been reported in the literature with low risk of complication [6]. We report our results from 2 years' experience with CCH.

Material and Methods

Study Design

This 2-year prospective, open label, study was conducted from November 2016 through November 2018, in the city of Madrid, Spain. The study protocol was approved by local ethics committees. All participants provided written informed consent before the initiation of treatment and were free to leave at any time of follow-up.

Patients

Eligible patients were men or women 18 years old or older with Dupuytren disease who had flexion contractures of 10-100° in MCP and/or PIP finger joints that were caused by palpable cords. Patients

excluded were those who were pregnant or in breastfeeding period; those with coagulation disorder or in treatment with anticoagulants (except aspirin <150mg/day); received treatment with tetracycline and fluoroquinolones, neuromuscular disorders or allergy to any of the components of collagenase. The study enrolled 62 Patients with 102 Joints treated. 48 were men and 14 women. The average age at the time of treatment was 62 years. Sixty-one patients complete the study, only one was lost to follow-up because died for another cause without relation with this treatment. Joints treated included MCP and PIP, 64 and 38 respectively. 52 suffered Dupuytren disease in the right hand and 12 in the left hand. In relation to the affected finger, 6 had contracture in flexion in the third finger, 30 in the fourth and 40 in the fifth. Of the total of patients, ten had contralateral hand surgery of Dupuytren disease (standard fasciectomy).

Treatment and Study Visits

The joints to be treated were identified at the screening visit. On day one, we realized the injection of 0.58mg of collagenase per palpable cord. Within each hand, the affected finger in the most ulnar aspect of the hand was injected first, within each finger the affected joint in the most proximal aspect of the finger, was injected first. We made an average of 1.02 injections per joint. Later the patient was cited in 7 days for the revision and traction of the treated finger under local anesthesia. Finally, the measurement of the degree of contracture in each joint was made on day 1 and day 30 and the patient filled out a satisfaction survey, whose value is reflected in percent (%).

Results

In terms of efficacy, considering for it, the degrees of basal contraction in flexion, with respect to the evaluation on day 30. We have that in the case of MCP and PIP joints, we start from a value of

30,16° and 52,37° respectively, resulting in a residual contraction of 1.41° in MCF joints, and 5° in PIP joints. In general, we have as a result that on average we started with a flexion contracture of 38° and improving up to 2,74°. To be able to consider the application of collagenase, as successful, we define that the degree of residual contraction must be less than 5 degrees. In the studied sample, we obtained that 81% of the MCF joints (52/64) and 53% of the PIP joints (20/38) could be considered as successful. Having a global success rate of 70%. Regarding patient satisfaction, we have that of 61 patients surveyed, 95% reported feeling satisfied or very satisfied. Also 91% referred a complete or almost complete correction of their functional limitation. At the time of making a subjective comparison of patients who had been previously treated with surgery in the contralateral hand (10 patients), we obtained that 80% preferred the treatment with collagenase over standard fasciectomy. Of which 80% considered it more effective, 90% less painful and 100% faster.

Discussion

Advanced Dupuytren's disease can considerably affect hand function, difficulting several activities of daily living such as shaving, tooth brushing or using the mobile phone among others. Although open fasciectomy is still considered the gold standard of Dupuytren's disease treatment, it is not free of complications such as nerve and digital artery injury, tendon rupture, infection, loss of grip strength or skin necrosis [7-8]. In this context, collagenase clostridium histolyticum is emerging as an effective alternative to surgery in patients with mild and severe Dupuytren's contracture. This procedure has been proved to have lower rates of severe complications than open fasciectomy while maintaining a similar risk of tendon rupture [9]. Furthermore, recovery from this procedure is faster than from the standard surgical treatment and there is no need for intensive hand therapy [10]. This study concludes that injectable collagenase clostridium histolyticum is an effective treatment for Dupuytren's disease, achieving a good

deformity correction and hand function recovery. Although mild adverse events of injectable collagenase clostridium histolyticum such as pain, swelling or bruising are common findings in the first week after the procedure, no tendon rupture, nerve injury or grip strength loss have been reported in this study. Moreover, as described in previous studies [10], our findings support that early intervention of metacarpophalangeal and proximal interphalangeal joints may lead to a better functional result.

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