



## Surgical treatment of Dupuytren's contracture: Results and complications of surgery

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### Abstract

**Aim:** The aim of the study was to analyse the outcome of surgical treatment of Dupuytren's contracture.

**Material and Method:** The study period was from 2018 July-2019 September and evaluation was performed on 25 patients. Limited fasciectomy was performed in all patients. In regard to contractures, all the patients in our study had involvement of metacarpophalangeal joints. In regional fasciectomies radial, ulnar and median nerve blocks were used at wrist. Patients were routinely put on plaster of paris volar slabs at the end of Surgery and were advised to keep it for 1 day and were discharged the same day with the advice to keep the hand elevated for 2 days. Patients were advised to use the hand for light activities by 1 week and routine activity as soon as the sutures are out. All the patients were followed up regularly for the assessment of results of treatment and development of complications like post-operative haematoma, wound infection, post-operative edema or stiffness, recurrence of disease etc.

**Results:** In our study excellent results were observed in 23 patients (76.66%), good results in 6 patients (20%) and fair results in 1 patient (3.33%).

**Conclusion:** The results and complications of surgical correction as were observed in our study, emphasizes that correct surgical technique and meticulous post-operative care is needed to achieve higher rates of correction and to limit the complication and recurrence.

The data generated from the present study concludes that NAC improves the clinical features, biochemical markers of insulin resistance, hormonal levels, anovulation and consequently the long-term health status of women with PCOS through inhibition of oxidative stress and improvement of peripheral insulin more effectively when compared with metformin. Due to the lack of adverse effects, NAC can be regarded as an appropriate substitute for insulin-reducing medications in the treatment of PCOS patients.

**Keywords:** Dupuytren's contracture, joint, surgery, complications

### Introduction

Dupuytren's disease is one of fibroproliferative conditions affecting palmar and digital fascia. Both hands are involved with equal frequency and is one hand is usually more severe. Most frequently ring finger is involved, followed by little finger. The disease has been treated by them for at least 200 years [1, 4]. Plater (1614) is credited with first account of the condition and Cline (1777) and Sir Astley Cooper described the contracture of fingers and suggested treatment by subcutaneous fasciotomy. However, it remind for Dupuytren in 1831 to suggest treatment by open fasciotomy and to describe the anatomy and to establish clearly that disease was located in palmar fascia [5, 7].

Dupuytren's disease is very common in Northern Europe and also in countries inhabited by immigrants from Northern Europe, notably Australia and East coast of North America. It is said to be rare in black and oriental cases [8, 10]. Treatment options can be categorized under four main sections: conservative approaches, collagenase, needle aponeurotomy and fasciectomy [11]. Fixed- Flexion contractures are usually treated with surgical methods. Surgical management is recommended for cases with contracture in PIP joint or contracture over 30 degrees in metacarpophalangeal Joint, with limited palmar fasciectomy method the most popular and recognized option [12, 13].

Treatment goals include removing or releasing fibrotic and to allow extension of affected finger and restoration of hand function.

### Material and Methods

The study period was from 2018 July-2019 September and evaluation was performed on 25 patients. Limited fasciectomy was performed in all patients. Using the following criterias, patients was categorized in to differed stages

Stage-I: Presence of a thickened nodule and band in palmar aponeurosis, often associated with skin puckering.

Stage-II: Stage-I plus limitation of extension.

Stage-III: Stage II plus flexion contracture

In regard to contractures, all the patients in our study had involvement of metacarpophalangeal joints. The following Surgical procedures were performed. In all of these procedures local Anesthesia was used. In regional fasciectomies radial, ulnar and median nerve blocks were used at wrist.

**Regional Fasciectomy:** In this procedure only diseased fascia is removed. In the palm, this involves excision of the diseased pretendinous cards and parts of natatory ligament. In the finger, only those fascial cards that are obviously diseased are removed (fig.1, 2, 3 and 4).



**Fig 1:** Demonstrating Dupuytren's contracture in little finger left hand



**Fig 2:** Demonstrating incision of Z Plasty



**Fig 3:** Excised Dupuytren's band and nodule



**Fig 4:** Release of contracture following excision of band

Patients were routinely put on plaster of paris volar slabs at the end of Surgery and were advised to keep it for 1 day and were discharged the same day with the advice to keep the hand elevated for 2 days. Patients were advised to use the hand for light activities by 1 week and routine activity as

soon as the sutures are out.

All the patients were followed up regularly for the assessment of results of treatment and development of complications like post-operative haematoma, wound infection, post-operative edema or stiffness, recurrence of disease etc.

Patients were followed up for 5 years. The results were assessed by one observer and each of the patients was reviewed individually. The results of Surgical treatment were categorized in to excellent (i.e. full flexion and extension of fingers, full function and no recurrence), good (slight limitation of flexion or extension of fingers that is too slight to interfere with normal activity). Fair (limitation of flexion or extension with joint stiffness, recurrence or extension limiting function slightly) and poor (no improvement in initial contracture or function, recurrence or extension causing serious loss of function). Method of wound closure was primary closure.

**Results**

In our study excellent results were observed in 23 patients (76.66%), good results in 6 patients (20%) and fair results in 1 patient (3.33%) as shown in table 1 and 2.

**Table 1:** Outcome of the treatment

Result of treatment	No. of patients
Excellent	20
Good	3
Fair	2

**Table 2:** Complications of Surgery

Complications	Male	Female	Total
None	19	1	20
Haematoma	1	-	1
Infection (Post-op)	-	1	1
Recurrence	1	-	1
Post-op Edema & stiffness	2	-	2
Total	23	2	25

**Discussion**

The procedure used in our series was regional fasciectomy. Excellent results were observed in 80%, good results in 12% and fair results in 8% of the cases. Post-operative haematoma was observed in 4% of cases, wound infection in 4% and recurrence in 4% of cases. Post-operative edema and stiffness was observed in 8% of cases. The results and complications of surgical correction as were observed in our study, emphasizes that correct surgical technique and meticulous post-operative care is needed to achieve higher rates of correction and to limit the complication and recurrence.

**Preoperative Evaluation**

1. Personal Information such as age and gender.
2. History of presenting complaints including onset of Symptoms, course of disease and duration of symptoms.
3. Past medical and surgical history, to rule out diabetes mellitus, alcobiolism, and any previous trauma or surgery.
4. Daily Dressing done to remove all the unhealthy tissue till the granulation erences:tissue appeared.
5. Routine preoperative investigation.

Postoperative Care: IV Antibiotics were given for 5 days followed by oral antibiotics for 7 days.

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