

OUTCOME OF SURGICAL TREATMENT OF DE-QUERVAINS DISEASE

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ABSTRACT

Background: De Quervains disease causes significant pain among patients. **Objective:** The purpose of this study was to evaluate the outcome of surgical treatment of de-Quervains disease. **Material and Method:** This cross-sectional study was conducted in Sheikh Zayed Medical College/Hospital Rahim Yar Khan from 1st January, 2009 to 31st December 2011. Patients with de-Quervains disease who did not respond to conservative treatment with analgesics, splintage and local steroid injections for four to six months, were operated under local anesthesia. The tendons of abductor pollicis longus and extensor pollicis brevis were released in separate compartments. Patients were followed for a minimum of 4 months to assess the outcome of procedure. The data was analyzed by using SPSS version 15. **Results:** A total of 20 patients were included in study. Female to male ratio was 8:1. All females were house wives, exposed to manual work, four of them had rheumatoid arthritis. The age range was 35-50 years with mean age of 39 years. Results of surgical treatment were excellent with 94% patients being completely relieved of symptoms. **Conclusion:** Surgical release of first dorsal compartment (abductor pollicis longus and extensor pollicis brevis) of wrist has excellent results in patients with resistant De-Quervains disease.

Key words: De-Quervains disease, Surgical Release, Steroids.

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INTRODUCTION

De-Quervains disease is caused by stenosing tenosynovitis of abductor pollicis longus and extensor pollicis brevis in the first dorsal compartment of the wrist. Extensor retinaculum of wrist is divided into six compartments, which transmits the tendons into the hand and fingers lined with synovium. Synovitis can occur idiopathically or be caused by repetitive trauma or overuse. The inflammatory process leads to secondary thickening of tendon sheaths and narrowing of the compartment. Early treatment with NSAIDS, splintage, rest and local steroids may prevent progression of disease in about 75% of the cases.¹ Females are affected more often than males. It commonly affects the patients between 30-50 years of age. Usual complaint is pain and tenderness over the styloid process of radius.² It is clinically confirmed by finkelstein test i.e. by flexing the thumb, fingers are closed over it and wrist is moved to ulnar side. In this way patients feels aggravated pain. Patients who do not respond to conservative treatment usually have anatomical variation in the first dorsal compartment. There may be aberrant or

duplicated tendons or separate compartments for the tendons, in which patient's both compartments need divided individually.^{3,4} Treatment modalities include Pharmacotherapy, immobilization, steroid injection and operation.⁵ However, surgery is the treatment of choice for resistant cases which do not respond to conservative therapy for 4-6 months.⁶ Endoscopic versus open release in patients with De Quervains tenosynovitis is being experimented in the field now a days. This study was carried out to evaluate outcome of surgical treatment of the patients of de-Qervains disease, who do not respond to non operative treatment.

MATERIAL & METHODS

A cross-sectional study was conducted in Sheikh Zayed Medical College/Hospital, Rahim Yar Khan, from 1st January, 2009 to 31st December, 2011. Twenty patients of de-Qervains disease were included in this study. An inclusion criteria for surgery was, diagnosed cases of De-Quervains disease in which conservative treatment was not effective. Patients with other pathologies in the region like skin lesion, cervical radiculopathy, lateral epicondylitis of humerus, rotator cuff lesion, previous fractures or direct trauma as well as those not willing for surgery were excluded from study. Informed consent was obtained from all patients willing for surgery. The demographic data regarding age, sex, site involved, side affected, previous treatment and duration of disease was recorded on a performa. Pre- operative and post- operative

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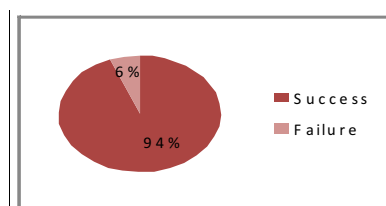
assessment regarding pain, level of job disturbance and Finklestein test was done. Surgery was performed under local anesthesia. An oblique incision was made from dorsal to volar surface parallel with skin crease. The tendons were identified and first dorsal compartment was opened. Tendons released, skin closed and dressing done which was removed after 48 hours, early movement was encouraged. Antibiotics and analgesics were prescribed for 3-5 days. All the patients were followed for six months on biweekly basis for first month then on monthly basis for next five months to assess the results of surgery as mentioned previously. The data was entered and analyzed in SPSS version 15.

RESULTS

A total of 20 patients were included in study. Female to male ratio was 8:1. Most (75%) of the patients were between 30-50 years of age. All the females were house wives. Two patients were having rheumatoid arthritis. In all the patients dominant right hand was involved. None of the patients had bilateral involvement. The three males were also manual workers. On exploration of first dorsal tunnel in one patient there were separate tunnels for abductor pollicis longus and extensor pollicis brevis. In one patient there was duplication of extensor pollicis brevis, there was thickening of tendon sheath in all the patients.

The results of surgery showed that there was complete relief of symptoms in 94% of the patients. (Figure I) Only one patient had persistent pain in the region of anatomical snuffbox. All the patients except one were satisfied with the results of surgery. There were no complications except one patient who had transient parenthesis which relieved spontaneously within three weeks.

Figure I: Outcome of surgery



DISCUSSION

De Quervains tenosynovitis is a work related musculoskeletal disorder, common in manual workers. Release of first dorsal compartment was done in most of our patients. Female to male ratio was 8:1 which is almost the same as reported by other authors.^{7,8} Zarin and Ahmed showed female to male ratio of 9:1.⁹ Bouras Y et al, in 2007 conducted a study which showed that in 89% of cadavers abductor pollicis longus has more than one tendons.¹⁰ Age range of patients was 35-50 years. During surgical procedure it was found that one patient had septum between abductor pollicis longus and extensor pollicis brevis and one had duplication of abductor pollicis longus tendon. Kulthanan and Chareonwat studied and found variations of duplication of tendons of first dorsal compartment in 77% of the patients.¹¹ In follow up period all the patients felt complete relief of pain and Finklestein test was negative except in one patient. Transient local anesthesia was seen in one patient. Complete relief after surgery is possible only if following precautionary measures are observed to avoid recurrence.

1. Superficial branch of the radial nerve should be separated meticulously during surgical exploration and release.¹²
2. The tendon sheath should be released as little as possible to avoid volar subluxation of tendons of first dorsal compartment.¹³
3. Aberrant tendons should be identified during surgery and their sheath should be released in separate compartments.¹⁴
4. Usually transverse incision should be made to avoid hypertrophic scar formation.¹⁵

The significant finding in all the patients was thickening of the tendon sheath. There was no intra operative or immediate post operative complication. The cosmetic results were also satisfactory as an oblique incision was used with less obvious scar formation. Different authors have used different techniques to avoid recurrence.^{16,17} However, in the present study no such technique or fascial flap was used and no case of recurrence was detected. The excellent results of surgery in de-Quervains disease are comparable with previous studies which showed 80-90% relief of pain and patients satisfaction.^{18,19} There was no wound infection and scar was cosmetically acceptable. All

the patients except one were satisfied with the results of surgery.^{20,21}

CONCLUSION

Our study showed that De Quervain's disease is more common in female manual workers and results of surgical release of first dorsal compartment of the wrist are excellent. Surgery should be considered in those patients who do not respond to conservative treatment for four to six months.

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