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Surgical Management of de Quervain's tenosynovitis

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Abstract

Background: De Quervain's disease is the tenosynovitis of the first dorsal compartment of the wrist between the osteo-fibrous tunnel and the tendons involving the abductor pollicis longus (APL) and extensor pollicis brevis (EPB) sheaths at the radial styloid causing severely painful radial-side wrist pain and diminished function. **Objective:** To review the outcome of surgically managed de Quervain's tenosynovitis and the demography of the patients in a public general hospital. **Materials and Methods:** Retrospectively reviewed the cases of surgically managed de Quervain's tenosynovitis from April 2014 to March 2018. The age, gender, duration of symptoms anyone has, methods of non-surgical applied, time of the surgery, post-surgery wound conditions and status of the wrist after surgery were analyzed. **Results:** A total of 47 unilateral wrists operated and 30 were female and 17 were male with a mean age of 36.36 ± 10.24 years (range 27-71 years). All were initially treated with analgesics, splintage and physiotherapy and 18 cases (38.29%) were also given steroid injections. After surgery, no one had pain in their wrist during their follow-up of three months post-operatively. Two cases developed superficial infections but were managed with oral antibiotics and regular dressing. No cases of tendon injury and superficial radial nerve injury were encountered. **Conclusion:** Surgical management of de Quervain's tenosynovitis is effective when conservative treatment fails.

Keywords: Wrist pain, De Quairvain's disease, Tenosynovitis, First extensor compartment, Steroid injection.

INTRODUCTION

De Quervain's tenosynovitis is one of the most common causes of wrist pain and disabilities and it is characterized by myxoid degeneration, mucopolysaccharide accretion with thickening of tendon sheath resulting in stenosing tenosynovitis of the extensor pollicis brevis (EPB) tendon and abductor pollicis longus (APL) [1,2]. It is more common in women than men [3]. Patients generally present with severe pain at the radial styloid of the wrist, referring to the thumb or the lateral forearm, with hurtful effects on the patient's quality of life [4].

The two standard treatment methods are conservative and operative. Conservative treatment includes non-steroidal anti-inflammatory drugs (NSAIDs), splintage and steroid injections, while operative management is the open release of the first extensor retinaculum after conservative treatment is unsuccessful [5]. Fritz de Quervain was the first to describe surgical treatment of this disease, and various other surgical approaches have been reported since that time [6]. Surgical release of the first compartment is effective, but may lead to complications, especially abductor pollicis longus and extensor pollicis brevis tendon subluxation, superficial radial nerve injury, vein injury and/or hypertrophic scar [7].

The objective of this study was to analyze the results of de Quervain's disease treated surgically in a general public hospital.

MATERIALS AND METHODS

This is an observational retrospective study conducted at the Department of Orthopedics and Trauma Surgery, Suri Seri Begawan Hospital, Kuala Belait, Brunei. All patients who underwent surgical release of De Quairvain's tenosynovitis (from April 2014 to March 2018) were reviewed. The data of the patient were reviewed from the electronic database of Brunei Darussalam Healthcare Information and Management Systems (Bru-HIMS).

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Inclusion criteria were patients who were operated for de Quairvain's tenosynovitis after some time of conservative therapy. Conservative therapy includes analgesics, splintage and steroid injections. Excluded were patients with traumatic injury around the wrist, previous surgery on the wrist due to various reasons, pain on the wrist after a recent fall or injuries, and other pathological conditions of the wrist like Keinbock disease.

The age, gender, duration of symptoms and other illnesses patient were analyzed. Post-surgery hospital complications, post-operative wound status and recovery of the patients were also reviewed.

Statistical analysis was done using Statistical Package for Social Sciences for Windows, version 22. (IBM Corp., Armonk, NY, USA). Quantitative data such as age was expressed as mean \pm SD, while qualitative data such as gender, side involved, presence of other illness, and post-operative status were expressed as a percentage.

RESULTS

A total of 47 wrists were operated and all were unilateral only. There were 30 (63.82%) females and 17(36.18%) male and the mean age was 36.36 \pm 10.24 years (range 27-71 years). All were initially treated with analgesics, splintage and physiotherapy and 18 cases (38.29%) were also given at least the first dose of steroid injection. Twenty-three patients (48.9%) were housewives, housemaid or labourers by profession. The number of lactating mothers was 19(40.42%). The average time of relapse of symptoms after conservative treatment was 3.97 \pm .32 months (range 1-7 months)

After surgery, all cases recovered and had no pain during their follow-up of three months post-operatively. Two cases developed superficial infections but were managed with oral antibiotics and regular dressing. No cases of tendon injury and superficial radial nerve injury were encountered.

DISCUSSION

In 1895, Fritz de Quervain described the stenosing tenosynovitis of the first dorsal compartment and since then, the condition has been named de Quervain's tenosynovitis [7]. The current literature indicates an incidence of de Quervain's tenosynovitis is about 1% to 3% [8].

Many kinds of literature show the higher prevalence of this disease in women than men and pos-partum women are also commonly encountered which is similar to the results [9,10]. In this study the incidence among women is more than 60% which is consistent with the kinds of literature.

In our study, the mean age of the patient was 36.36, which is quite a young group of patients as McDermott et al [11] reported 47 years and Akdag et al. [12] reported 53.1 years of age. The average age of our series was younger than these reported series which could be related to the profession of the patient. Twenty-three patients (48.9%) were housewives, housemaid and labourers by profession. Others also reported more incidences of housewives and labour professionals [13,14]. However some literature reported no relationship between trauma, manual labour and de Quarvain's tenosynovitis [15,16].

Initially, all patients were treated conservatively but the mean relapse of symptoms was 3.97 \pm .32 months. Goel et al. reported the relapse of symptoms after conservative treatment was 2 months and he stated that the relapse of the symptoms depends on the job nature of the patient as well [17].

After surgery, all cases recovered and had no pain during their follow-up of three months post-operatively. No cases of tendon injury, subluxation and superficial radial nerve injury were encountered. Other studies also

reported the complete recovery of the symptoms after the surgery without any complications like nerve tendon injuries and subluxations [13,18].

In this study, two cases developed superficial infections but were managed with oral antibiotics and regular dressing which could be due to the high prevalence of diabetes mellitus. Other studies have not reported the incidence of infection after surgery [13,18].

CONCLUSION

Surgical release of treating de Quairvain's tenosynovitis is effective after the conservative treatment fails. The success of conservative treatment is limited and most of the time need to go for surgical treatment.

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Conflicts of interest

There are no conflicts of interest.

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