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Functional outcome of surgically treated De Quervain's tenosynovitis

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ABSTRACT
Patients with radial wrist pain secondary to de quervains tenosynovitis are commonly seen in any orthopaedic outpatient department. Initially the treatment is conservative, but surgical decompression of the first dorsal compartment is required if conservative treatment fails .We present the functional outcome of 28 patients treated surgically. From June 2014 to Jan 2016, 28 patients treated for DQ were included in the study. There were 28 patients with mean age of 41.2 years (range 31 to 66 years). Surgical decompression of the first dorsal compartment was done under local anaesthesia and the wrist was immobilised for 10 to 12 days post surgery. All the patients had negative finkelsteins test postoperatively and were able to carry out their day to day activities without any pain. There was a significant reduction in post operative DASH score compared to pre operative score. The mean VAS score was reduced from 6.18 preoperatively to 1.18 postoperatively 2 patients had hypaesthesia in the dermatome of sensory radial nerve. Adequate surgical decompression of both the tendons, APL and EPB leads to excellent functional outcome and minimum morbidity.
Keywords: *Stenosing tenosynovitis, Disability evaluation, De Quervain disease, DASH*

INTRODUCTION

De Quervain tenosynovitis was first described in 1895 by Fritz de Quervain. Despite the name Tenosynovitis the histopathological feature of this disorder is not inflammation, but is deposition of mucopolysaachride, myxoid degeneration and neovascularisation as seen in different fibrous metaplasia.[1,2,3]. The condition is caused by impaired and repetitive gliding of the tendons, microtrauma due to overuse of the first dorsal compartment tendons (Abductor pollicis longus and extensor pollicis brevis).in long standing cases of de Quervains tenosynovitis thickening of extensor retinaculum can be seen.[4].Treatment of conservative trial is given to patient for 3 to 6 months with analgesics, rest before any surgical intervention is done. In recent years association between De Quervain tenosynovitis, pregnancy and lactation has been seen[5]. Altough surgical release of first dorsal compartment with a simple incision is considered to be a simple procedure there are complications which include permanent damage to the radial sensory nerve with adhesions and scarring, inadequate decompression and development of complex regional pain syndrome which may trouble the patient more than the primary disease itself.[6] We present results and functional outcome of cases of de Quervains tenosynovitis.

MATERIALS AND METHODS

This study is a retrospective study done at Tertiary care hospital. This study was examined and approved by Hospital ethical committee. We went through the hospital records and found 28 patients who were operated for surgical release of DQ by June 2014 to Jan 2016. The indoor files of the patients were assessed for inclusion and exclusion criteria. Patients operated for previous wrist and elbow surgeries were excluded from the study. There were 19 females and 9 male patients. Three patients were known case of Rheumatoid arthritis on treatment. All the patients had taken minimum of 2 trials of steroid (depomedrol 2ml + 10ml of lignocaine) with 7 patients who had taken3 injections. All the patients were operated under Local anaesthesia under tourniquet control. The sensory radial nerve were identified and protected. Post surgery the wrist was immobilised with thumb in adduction with slab for 10 to 12 days for healing of the tissues. Right wrist were involved in 16 patients and left in 12 patients (Figure 1). The mean age of the study was 41.2 years ranging from 31 to 66 years. All the patients had clinically diagnosed De Quervain's tenosynovitis with positive Finkelstein test.[7]and were managed conservatively with Thumb spica splint and physiotherapy for 4 months or more.

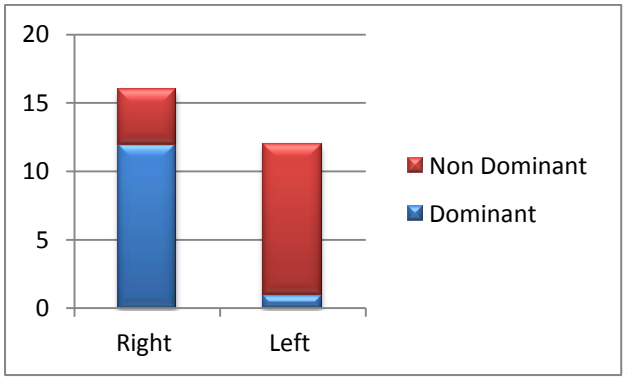

Figure 1: Involvement of Wrist

Results

All the patients were analysed after 2 weeks and 4 weeks of surgery. The mean VAS score was reduced from 6.18 preoperatively to 1.18 postoperatively. All the patients had VAS score less than three at 2 weeks. Finkelstein test was negative in all cases. 2 patients had hypoesthesia in distribution of sensory radial nerve which recovered subsequently. The surgical scar was cosmetically acceptable in all patients. All the patients had complete relief of symptoms and returned to their normal daily activities at three weeks. The preoperative mean DASH score was 17.71 (range 8 to 28) and postoperative was 1.95(range 0 to 4.4) (Figure 2). A successful outcome defined as absence of triggering and pain, both subjectively and on examination, was achieved in all cases

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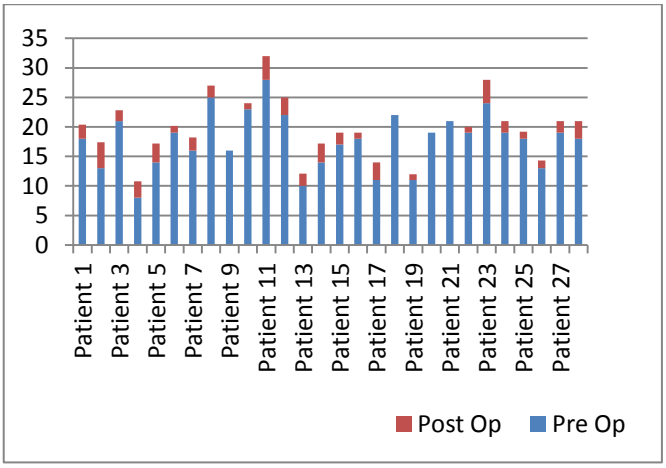

Fig 2: Preoperative and postoperative DASH score.

DISCUSSION

The treatment modality of de Quervains tenosynovitis has been evolved since past few decades. Trials of non-operative treatment which consist of relative rest and activity modification, physiotherapy, thumb splinting and steroid injections in the first dorsal compartment should be given for at least three months before surgical intervension[8]. These nonoperative modalities minimize repetitive loading of the first dorsal compartment Patient with de quervains tenosynovitis often complain of pain at the radial styloid, but this has to be differentiated from many other causes of pain like Wartenburg syndrome, cmc joint arthritis, C6 cervical radiculopathy, intersection syndrome, intercarpal instabilities, scaphoid fracture which all may produce a positive finkelsteins test[9].The injection of steroid with local anaesthetic agent in the tendon sheath of the first dorsal compartment muscles is considered effective.[10] We recommend maximum of 2 trials of

steroid injection in the tendon sheath of both the muscles with the minimum duration of 3 months before proceeding to operative intervention. In 1981, Belsole et al [11] reported complications such as subluxation of tendons in eight, injury to sensory radial nerve in eight and inadequate decompression in seven after the surgical release of first dorsal compartment. In study conducted by Yuasa et al[12] the entrapment of EPB tendon in pathogenesis of de Quervain's tensynovitis was postulated. In cases where a septum between the APL and EPB is present, decompression of only the APL tendon can result in to inadequate decompression and increased chances of recurrence or no relief in symptoms. In our study we did not have any recurrence or volar subluxation of tendons and hence we conclude that adequate decompression, identification and protection of sensory radial nerve results into long term pain relief and least recurrence rate of de Quervain's tensynovitis

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