INTRA SHEATH STEROID INJECTIONS IN MANAGEMENT OF DE QUERVAIN'S TENOSYNOVITIS

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ABSTRACT

INTRODUCTION
De Quervain's tenosynovitis is a painful and often disabling condition that is mainly observed in workers who perform repetitive manual tasks, wrestlers and bowlers.

MATERIALS AND METHODS
A Retrospective study was done in orthopaedic department at tertiary care hospital for one year from June 2013 to May 2014. 60 patients were included in the present study.

RESULTS
Out of 60 patients diagnosed with De Quervain's tenosynovitis 54(90%) were treated conservatively and surgical management was done in 9(10%) cases.

CONCLUSION
Conservative treatment of De Quervain's tenosynovitis with steroid injections is a preferable method of treatment. Surgical release should be confined to patients resistant to conservative treatment.

KEYWORDS
De Quervain's Tenosynovitis, Intrasheath Injection, Steroid Injection.

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INTRODUCTION: De Quervain's tenosynovitis is a painful and often disabling condition that is mainly observed in workers who perform repetitive manual tasks, wrestlers and bowlers.(1) In 1985, Fritz de Quervain, a Swiss surgeon first described tenosynovitis of the first dorsal compartment.(2) Injection of steroids in De Quervain's tenosynovitis is a simple, inexpensive procedure and if proven satisfactory, it must be preferable to surgery as the initial treatment.(3) Surgical release of stenosing sheath is a good option in resistant De Quervain's cases. Although performed as a day case, it requires about two weeks for complete recovery, besides it is much costly and associated with a number of complications.(4)

MATERIALS AND METHODS: A Retrospective study was done in orthopaedic department at tertiary care hospital for one year from June 2013 to May 2014. 60 patients were included in the present study. Diagnostic criteria were history of pain over the radial aspect of the wrist, aggravated by the use of thumb and a positive Finkelstein's test. Patients with history of rheumatoid arthritis, trauma or local infection were excluded in the present study. All the patients were treated with steroids injected in to the first extensor compartment. Maximum of 3 injections were given at interval of 2 weeks. Second and third injections were given in cases where pain did not subside with first or second injection. Methyl Prednisolone 40 mg mixed with one ml of 2% Lignocaine taken in 5 cc syringe was injected in to the 1st dorsal compartment of the wrist keeping the wrist in slight ulnar deviation. Correct intra-sheath status of the needle was confirmed by the absence of resistance, and absence of swelling in the subcutaneous tissue.Patients were followed up to 6 months.

Surgical release was performed in resistant cases with persistent pain. The procedure involved release under local anaesthesia with adrenaline by infiltration of 3 ml around the radial styloid process with an arm tourniquet (with a pressure 1.5 times the systolic pressure). A one and a half centimetre transverse incision was made centring on the radial styloid process. Once the subdermal fat was exposed further dissection involved blunt separation of longitudinal structures such as cephalic vein and superficial branch of radial nerve using curved mosquito forceps.

After encountering the sheath of the first compartment, the sheath was opened vertically on the radial side of the compartment. The tendons and sub-septum were released.

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Tourniquet was released and Finkelestein test was done on table for confirming the adequacy of release. Wound was closed using 4-0 Ethilon and compression bandage was applied.

RESULTS: Out of the 60 patients in the present study, 42 were female and 18 were male patients. Age of presentation ranged from 20-75 years with a median age of 47.5 years. Right hand was involved in 48 patients and left hand in 12 patients. Onset of pain ranged from 7 days to 5 months. First dose of steroid injection was given in 60 (100%) patients. 2nd injection was given in 15 (28%) patients and 3rd injection was done in 04 (7%) patients because of persistence of pain and positive Finkelstein test. Surgery was performed in 6 (10%) cases with failure of conservative treatment. De-pigmentation at the injection site was seen in 4 cases and atrophy of fat in subcutaneous tissue at injection site was seen in 2 cases. No tendon rupture, infection or injury to radial nerve was reported in present study. However, in all cases where the treatment was terminated after just one steroid injection will be followed up for recurrences as the recurrence rates are high in this group and tendon rupture is a real threat if steroid injections are started within 6 months from abandonment of the previous injection course.

DISCUSSION: Leao first began using steroid injection in De Quervain's patients in 1953. Christie in 1955 claimed 70% cure rate in 20 cases injected with steroids and local anaesthetics.[3] The Bringham and women's Hospital guidelines for treatment of De Quervain's tenosynovitis, states that corticosteroid injection may be very helpful and they should be considered if symptoms persist beyond 6 weeks of conservative treatment.[5] According to Brinker MR corticosteroid injections are recommended for De Quervain's tenosynovitis after 2 weeks of failure of conservative treatment.[6] In the present study corticosteroid injections were recommended after 2 weeks of treatment failure. According to studies comprising of 459 wrists, 83% cure was obtained with steroid injection and 30 of these patients needed second injection. 61% of those treated with injection and splint were cured. [7] In present study of 60 patients, corticosteroid injections were given in 100 % cases with a cure rate of 90%. In a study by Harvey et al [3] a cure rate of 80% was obtained with steroid injections. To make the steroids more effective, injection needs to be properly placed in the tendon compartment i.e., sheath. [8] The efficacy can be enhanced and the complication rate reduced to almost nil by ultrasound guided injections of steroids. Into tendon sheath.[9] Surgical release was done in present study in 10% cases with thickening of sheath and not responding to conservative treatment. Patients with surgical release were relieved of pain as compared to the study by Scheller et al[10] in which patients treated by surgical release had good long term relief. Surgical release is not a bad option in De Quervain's disease but it is not fair to choose an option which is invasive, costly and not without some serious complications, particularly when a simple injection of steroids can cure almost 80-90% cases. [11]

CONCLUSION: Conservative treatment of De Quervain's disease with steroid injections is a preferable method of treatment. It is simple and non-expensive giving long lasting relief. Surgical release should be confined to patients resistant to conservative treatment.

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