



Ultrasound guided local anaesthetic with steroid injection for de-quervain tenosynovitis – a report of two cases

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ABSTRACT

De-quervain’s disease is a term used for stenosing tenosynovitis of the dorsal compartment of the wrist. This produces chronic pain and debilitation. We report two cases of such illness with failed oral steroid therapy. Ultrasound guided injection of a combination of steroid and local anaesthetic was very effective in decreasing pain and improving movements in both the patients. There were no untoward side effects. We theorize that ultrasound detects the precise location of injection which may contribute to effective analgesia in such refractory cases.

Keywords: pain,tenosynovitis, wrist, steroid, ultrasound

INTRODUCTION

De-quervain’s disease is a term used for stenosing tenosynovitis of the dorsal compartment of the wrist, caused by defective gliding of the abductor pollicis longus (APL) and extensor pollicis brevis (EPB) tendons. The underlying cause is the thickening of ligamentous structures covering the described tendons.(1) The APL and EPB tendons are tightly attached against the radial styloid. This is done by the overlying extensor retinaculum which thereby creates a fibro-osseous tunnel. Thickening of the retinaculum and tendons due to repetitive trauma prevents and decreases normal gliding within the sheath. This causes an initiation of inflammation and further edematous thickening of the tendon thus causing a stenosing effect. It is characterized by pain or tenderness at the radial side of the wrist. The definite cause or etiology is still unknown. Even though there are many treatment options, we gave local steroid and report its success. (2,3)

CASE REPORT:

Case 1: A 40 years old female patient came with the complaints of pain and swelling in the base of the thumb and while moving the thumb region for past 4 months duration. The pain is associated with difficulty in grasping and holding the objects. VAS score was found to be 9/10. On examination patient had positive finklestiens test - exacerbation of pain when the thumb is grasped within the palm and wrist bent to the side. The cardiorespiratory systems and central nervous system were found to be normal. Investigations were found to be within normal limits. Analgesics combined with oral steroids are not of much value. Ultrasound examination of the snuff box region showed signs of inflammation with thickening of tendon sheath of APL and EPB at the level of styloid process with thickening of overlying retinaculum and synovial sheath and also peritendinous subcutaneous edema was noted when

compared with the opposite side. After getting a written informed consent, under ultrasound guidance with one-inch High Frequency Linear (HFL) probe and strict aseptic precautions 1ml(40 mg) of methyl prednisolone with 1ml of bupivacaine 0.5% is injected into the snuffbox region and the drug spread was confirmed by ultrasound (figure 1). Vitals were stable throughout the procedure and it was uneventful. There was significant improvement in pain score with VAS decreasing to 3/10 and improved movement of the thumb was also noted. On a 3 month follow up of the patient, it was found that there was no significant requirement of further analgesics for the same complaints.

Case 2: A fifty-five-year-old male with similar complaints and diagnosed to have De-quervain's disease presented to us with symptoms of four-month duration. He was a controlled diabetic patient and given analgesics and systemic steroids. The VAS remained between 7-8 / 10 and he was not able to do his routine work. After getting a written informed consent, under ultrasound guidance with one-inch High Frequency Linear (HFL) probe and strict aseptic precautions 1ml (40 mg) of methyl prednisolone with 1ml of bupivacaine 0.5% was injected into the snuffbox region as was the previous case. The recovery of pain was significant with reduction of VAS score to 2-3/10.there were no complications. A four month follow up the patient maintained a VAS score around 3/10.

DISCUSSION:

The etiology of de Quervain's tenosynovitis (DQT) is not well understood. In the past, it was frequently attributed to occupational or repetitive activities involving postures that maintain the thumb in extension and abduction. Treatment options include adequate rest , using of anti-inflammatory medications, splint, and use of steroid injections and surgical corrections. It is commonly treated non surgically with corticosteroid.(4) Mardani-Kivi *et al.* also studied the efficacy of corticosteroid injection alone when compared to corticosteroid injection (methylprednisolone) with thumb spica casting and reported that a combination of both were better than injection alone as regards treatment success and functional outcomes, citing success rates of 69% and 93% respectively.(5) Hajder *et al.* studied the efficacy of ultrasound guided injection of

triamcinolone citing a success rate of 91% after up to two injections, highlighting the potential role of ultrasound in increasing injection accuracy.(6)

Similarly Jeyapalan and Choudhary also reported significant symptomatic relief (93.75%) with ultrasound-guided intrasynovial injection in de Quervain's disease. They concluded that ultrasound-guided injection of triamcinolone and bupivacaine is safe and useful in controlling symptoms of De Quervain's disease. (7) In our cases, we had failure of systemic steroids but adequate analgesia with local steroids. This can be attributed to the exact anatomical position of the injection which is possible with ultrasound. Local administration of combined steroid and local anaesthetic is found to be useful in many inflammatory conditions. (8) We did not have any complications. The relief was also long term which suggests a significant role of such modality of treatment in this condition.

CONCLUSION:

Ultrasound-guided injection of combined methylprednisolone and bupivacaine is safe and useful in controlling symptoms of De Quervain's disease. Correct needle placement with ultrasound guidance avoids intratendinous injection as well as local complications like fat atrophy and depigmentation.

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Figure 1 showing ultrasound picture of injection surrounding the tendon

