



**ORIGINAL RESEARCH PAPER**

**Orthopaedics**

**THE ROLE OF PLASTER IMMOBILISATION WITH LOCAL ULTRASOUND IN THE TREATMENT OF DE QUERVAIN'S DISEASE OF WRIST**

**KEY WORDS:** de Quervain, Abductor Pollicis Longus, Extensor Pollicis Brevis, Knuckle, Carpo-metacarpal

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**ABSTRACT**

An alternative method of treatment in the case of de Quervain's disease has been studied by plaster immobilisation of the wrist along with local ultrasound therapy at the region of the radial styloid process through a window in the plaster. The procedure is safe for all types of cases including patients suffering from diabetes and gastroduodenal ulcers without the use of any parenteral or oral drugs.

**INTRODUCTION**

The de Quervain's Disease of the wrist is a painful inflammatory condition due to stenosis of the common sheath of abductor pollicis longus & extensor pollicis Brevis at the region of the styloid process of the radius. This condition was first described by de Quervain in 1895. He pointed out that repeated and excessive movements of the thumb amongst the workers were responding to such a disabled condition. Later, his theory was appreciated in stenosing tenosynovitis of peroneus longus and in trigger fingers.

**MATERIAL AND METHODS**

In the present series, the method of treatment is based on complete rest to the part by plaster immobilisation and application of local ultrasound over the common sheath for abductor pollicis longus and radius extensor Pollicis brevis at the styloid process of radius through a window in the plaster.

50 cases of de Quervain's disease irrespective of sex were collected from out patients department of PMR, K.G.M.U University Lucknow. All of them were clinically examined and investigated to exclude other pathological conditions before the actual treatment was started. Later, each of them was treated with plaster immobilisation of the part and the local application of ultrasound simultaneously. Ultrasound was given 8 minutes daily for three weeks with a frequency of 0.3 to 0.5 (pulsed wave) watts per sq. cm. After 3 weeks, the plaster was removed without withdrawing the ultrasound therapy for 3 to 4 days more to ease the wrist and the thumb from stiffness due to immobilisation. Later each patient was re-examined to compare the findings with those of before treatment.

**Material Of Plaster Immobilisation**

Below the elbow complete plaster was done including the wrist and thumb. Proximally it was extended from mid-forearm and distally up to proximal to knuckle – more or less similar to the plaster as done in Colles' fracture after manipulation. The forearm was kept in full pronation wrist being in a neutral position but with full adduction (ulnar deviation). The thumb was kept in full abduction with flexion at CMC (carpometacarpal) joint and MCP (metacarpophalangeal) joint. Dorsally the plaster was extended up to midway between the wrist and knuckle and anteriorly up to the mid palm so that patients can do full grip. The plaster was kept slightly loose to allow some active movements of the thumb inside to avoid adhesion of the tendons with surrounding soft tissue. Lastly, a window was made to expose about 7cm x 7cm area around the radial styloid to accommodate the 'Sonar head' of the ultrasound machine for local treatment from 3rd day of immobilisation when the plaster was fully dry.

**OBSERVATIONS**

50 patients were treated and a clinical assessment was done to

see the effect of therapy. (Table - 01)

**Table Showing The Clinical Assessment And Results**

Clinical assessment	Results			
	Excellent	Good	Fair	Poor
Active abduction in extension	Painless	Painless	Painless	Painful
Forced adduction of wrist & thumb (ulnar deviation)	Painless	Painless	Painful	Painful
Local tenderness	Nil	Present	Present	Present
Total No. of cases	38	6	2	4

It was observed that 88% (excellent 76% and good 12%) of the satisfactory result was noted in the present series.

**DISCUSSION**

The standard treatment of de Quervain's disease of the wrist by infiltration of the common sheath of abductor pollicis longus & extensor pollicis brevis with local hydrocortisone and decompression operation of the sheath are universally accepted. Anti-inflammatory drugs have also some role to relieve the patient from pain.

Because the chance of local infection in diabetic patients infiltration with hydrocortisone is contraindicated. Similarly, operative treatment is better to be avoided unless diabetes is controlled. Lastly, infiltration of the sheath is not an easy procedure. Unless the solution is pushed into the space between the sheath and the tendons, even repeated injections will end in failure.

Rest' to the part has a definite role in the treatment of tenosynovitis. In view of the above facts without defying the above procedures, the author in the present series finds out an alternative treatment suitable to all types of cases including patients suffering from diabetes and gastroduodenal problems with a high percentage of success. This combined procedure without any oral anti-inflammatory drugs was not well documented in past in the treatment of de Quervain's disease of the wrist.

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