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Topical Application of Etamsylate for the Treatment of de Quervain Tenosynovitis

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Abstract

Individuals with de Quervain disease often report a gradual onset of pain or tenderness at the radial styloid that may be accompanied by swelling. The objectives of study was to evaluate efficacy of topical glycerin etamsylate solution applied twice a day in five male patients (pain VAS = 7.20/10) suffering from de Quervain tenosynovitis. We found that this treatment leads to significant pain reduction (VAS = 1.60/10, $p < 0.001$) and functional improvement after two weeks of therapy.

Keywords: *De Quervain tenosynovitis; Fibroblast growth factor; Etamsylate; Glycerin solution; Topical application*

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Introduction

de Quervain disease is an entrapment of the extensor pollicis brevis and abductor pollicis tendons in the first compartment. This condition is a common cause of wrist and hand pain. This disease was first described by Fritz de Quervain, a Suisse physician, who reported five cases in 1895 [1]. It occurs typically in adults and women are three times more frequently affected than men [2]. Conservative treatment is the standard of care for these patients. Surgery is reserved only for those with intensive chronic pain unresponsive to conservative treatment. The purpose of this study was to assess the effects of etamsylate (topical glycerin etamsylate solution) applied locally in patients suffering from de Quervain tenosynovitis.

Patients and Treatment

Five male patients reported radial wrist pain over two months, limiting activities of daily living. Diagnosis of de Quervain disease was based on three clinical findings, including:

1. Pain at the radial wrist with resisted extension on abduction of the thumb,
2. Tenderness at the first dorsal compartment over the styloid process of the radius, and
3. A positive Finkelstein test.

The visual analog scale (VAS) was used for evaluation of pain (0 = no pain, 10 = most severe pain) [3,4]. The outcome was assessed also in term of pain, tenderness over the radial styloid and Finkelstein test. Quantitative statistical analysis of VAS scores was performed using a paired t-test. Patients were given explanation of the nature of the disease and plan of self-administration treatment twice a day for two weeks. Patients signed an informed consent. Etamsylate (OM Pharma Switzerland) was prepared at 12.5% in glycerin.

Results and Discussion

Topical application of glycerin etamsylate for two weeks improved the clinical findings in all patients. We found that the average VAS pain score significantly decreased from 7.20/10 at baseline to 1.60/10 at the final follow-up ($p < 0.001$).

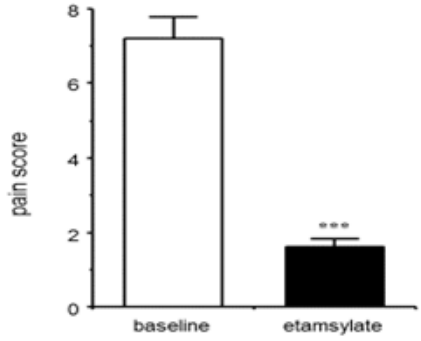

Figure 1: *Effect of two weeks' treatment with etamsylate (12.5% in glycerin) in de Quervain disease. Application of etamsylate improved pain in patients. Data on visual analog scale pain scores from the five patients are expressed as mean ± SEM. *** $p < 0.001$ vs baseline by paired t-test.*

Patients did not refer any adverse effect related to etamsylate treatment. No recurrence of symptomatology was reported one month after treatment.

De Quervain disease shows histopathological and clinical characteristics similar to other tendinopathies, in which inflammation and angiogenesis play a pathophysiological role [5]. Currently, intra-sheath corticosteroid injections are proposed for the management of de Quervain tenosynovitis. However, the effectiveness of these injections is controversial [6]. Furthermore, several potential complications have been reported following steroid injections including local infection, skin depigmentation, atrophy of the subcutaneous tissue and less frequently, tendon rupture [7]. These findings support the search for a new safe no-surgical treatment for patients with de Quervain disease.

In this context, we have used local application of etamsylate, a potent anti-inflammatory drug [8,9] for this condition. Fibroblast growth factor (FGF) is nowadays considered a pro-inflammatory and proangiogenic protein [10,11]. FGF can be inhibited with etamsylate [12]. Recently, it has been reported that FGF is a nociceptive modulator [13]. Thus, the analgesic effects of etamsylate, experience by de Quervain disease patients could be related by their inhibition of FGF.

This study demonstrates the short-term efficacy of etamsylate in patients with de Quervain tenosynovitis. It seems obvious that its anti-inflammatory and analgesic activities may contribute to the relief of tenosynovitis symptoms. Further studies are required to evaluate short and long-term benefits in a large number of patients.

Conclusions

We report clinical improvements in patients with de Quervain disease who received local administration of etamsylate. Additional studies are needed to confirm the efficacy of this treatment.

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