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QUERVAIN'S TENOSYNOVITIS, GENERAL DESCRIPTION

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ABSTRACT

INTRODUCTION*: Quervain's tenosynovitis is a condition involving tendon entrapment affecting the first dorsal compartment of the wrist, causing pain that increases with thumb movement and radial and ulnar deviation of the wrist.*

OBJECTIVE*: To detail the current information related to Quervain's tenosynovitis and its management, as well as to analyze the conservative and surgical treatment of this disease.*

METHODOLOGY: *A total of 28 articles were analyzed in this review, including review and original articles, as well as clinical cases, of which 18 bibliographies were used because the other 10 articles were not relevant for this study. The sources of information were PubMed, Google Scholar and Elsevier; the terms used to search for information in Spanish and English were: Quervain's Tenosynovitis, surgical quervain's tenosynovitis. corticosteroids and quervain, non-surgical treatment tenosynovitis.*

RESULTS: *The choice of preferred treatment is subject to the severity of the condition. Oral non-steroidal anti-inflammatory drugs accompanied by immobilization are a good option. Corticosteroid injections are effective for this tenosynovitis, leading to success 73.4% of the time with 2 injections. The use of ultrasound can improve the accuracy of the injections. Surgery is essential in cases that recur and are not relieved by conservative therapies over the course of 3 to 6 months.*

CONCLUSIONS: *De Quervain's tenosynovitis is a pathology based on inflammation of the tendon sheath of the abductor pollicis longus and extensor pollicis brevis in the first extensor compartment of the wrist. Its diagnosis is clinical with a positive Finkelstein's test. Non-surgical measures are preferred for its treatment. The use of splints and corticosteroid injections together provides more benefit than when used individually. And finally surgical treatment is effective and safe but is not without complications.*

KEY WORDS: *Tenosynovitis, Quervain's, inflammation.*

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INTRODUCTION

Quervain's tenosynovitis is a condition that involves tendon entrapment affecting the first dorsal compartment of the wrist. It was first described in 1985 by the Swiss surgeon Fritz de Quervain, after whom it is named (1). To study it, it is necessary to know the wrist, which is a complex structure formed by the radiocarpal, intercarpal and distal radioulnar joints. It has adjacent soft tissues such as the extrinsic ligaments, intrinsic intercarpal ligaments and the triangular fibrocartilage complex, as well as extensors, flexors, arteries, veins and the median, anterior ulnar and posterior interosseous nerves(2).

This tenosynovitis causes pain that increases with thumb movement and radial and ulnar deviation of the wrist, presenting an increase in the thickness of the tendon sheaths near the abductor pollicis longus and extensor pollicis brevis where the tendons pass through the fibro-osseous tunnel located in the extension of the radial styloid at the distal wrist(1).

The most common cause of De Quervain's tenosynovitis is overuse of the thumb musculature, an example of this would be caused by excessive use of text messaging on cell phones(3).

METHODOLOGY

A total of 28 articles were analyzed in this review, including review and original articles, as well as clinical cases, of which 18 bibliographies were used because the other 10 articles were not relevant to this study. The sources of information were PubMed, Google Scholar and Elsevier; the terms used to search for information in Spanish and English were: Quervain's Tenosynovitis, surgical quervain's tenosynovitis, corticosteroids and quervain, non-surgical treatment tenosynovitis.

The choice of literature exposes elements related to Quervain's tenosynovitis in the last 5 years; in addition to this factor, these studies have several important factors related to their different treatments.

DEVELOPMENT

The inflammation of the tendon sheath of the abductor pollicis longus musculus also called abductor pollicis longus of the thumb and the extensor pollicis brevis musculus also called extensor pollicis brevis in the first extensor compartment of the wrist is called Quervain's tenosynovitis. As a consequence of repetitive movements and tendon overload, patients present pain in the radial side of the wrist(4).

At the moment the point cause of Quervain's tenosynovitis is not well defined, but the probable cause is increased vascularization rather than acute inflammation of the synovial lining as well as myxoid degeneration with fibrous tissue deposits. The deposition results in thickening of the tendon sheath, which painfully imprisons the tendons of the abductor pollicis longus and extensor pollicis brevis. Mothers of newborns are frequently affected when performing repeated movements with the thumbs in radial abduction and the wrists in ulnar to radial deviation(1,5).

The relationship between Quervain's tenosynovitis versus pregnancy and the postpartum period currently presents multiple concerns since it could be associated with hormonal causes and its origin is not clear(6).

The diagnosis of Quervain's tenosynovitis is clinical, but radiographs can be used to rule out other possible causes of radial wrist pain, such as osteoarthritis of the carpometacarpal joint of the thumb (7,8).

On physical examination, the Finkelstein test can be performed, which consists of flexing the thumb on the palm of the hand, wrapping the thumb with the fingers, and performing an ulnar deviation of the wrist. In case of being positive, it will cause acute pain of the radial wrist in the first dorsal compartment, it can also be accompanied by pain on palpation over the radial styloid and a fusiform swelling can be observed in the region(1).

Among its main differential diagnoses are acute compartment syndrome, carpal tunnel syndrome, cellulitis, bursitis, fractures, osteoarthritis, rheumatoid arthritis and others(1).

Non-surgical treatment of Quervain's disease is a good option, in which oral non-steroidal anti-inflammatory drugs can be given, accompanied by immobilization and, if necessary, corticosteroid injections. Treatment with the latter has been very successful with rates of 61 to 83 percent(9).

The choice of preferred treatment for de Quervain's tenosynovitis is subject to the severity of the condition, however non-surgical treatment with anti-inflammatory drugs, immobilization and recovery is preferred(10,11).

Corticosteroid injections are effective for this tenosynovitis, leading to success 73.4% of the time with 2 injections. In addition, one study suggests that BMI > 30 and female sex are associated with lower treatment success(12).

Corticosteroids may have benefits but should be used with caution as they may have negative effects. Multi-point injection procedures and multiple injections prior to surgical resolution usually provide greater benefit compared to a single point injection technique or a single injection prior to surgery. Also the use of splints and corticosteroid injections together as a treatment often provides more benefit than when used individually(9).

The use of corticosteroids as a treatment for de Quervain's tenosynovitis is positive in both diabetics and healthy people, however it is less effective in diabetics(13).

Ultrasound-guided injections into the compartment are more accurate and provide better results(9).

Patients who show progressive disease despite conservative therapy and those who do not respond to non-invasive therapy are candidates for surgical treatment, which is effective and safe(14).

Even knowing that surgery could provide conclusive treatment for de Quervain's tenosynovitis, conservative therapy may be preferable(12).

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However, corticosteroid infiltrations are associated with recurrence in 75% with a recurrence rate of 32.14% per year(15).

Surgery is essential in recurrent cases that are not relieved by conservative therapies within 3 to 6 months. The existence of a septum and tendon movements contribute to the failure of non-surgical treatment. Surgical techniques require decompression of the first dorsal compartment, with reconstruction of the compartment if necessary to prevent possible tendon subluxation(11,16).

The open release made by means of a longitudinal incision provides a better image of the underlying anatomy, causing less lesions in the underlying structures and a lower incidence of hypertrophic scarring in contrast to a transverse incision; however, endoscopic release can generate faster improvement of symptoms, lower incidence of lesion of the radial sensory nerve and a superior appearance of the scar (17).

A randomized clinical trial evaluating treatment with triamcinolone acetonide injection versus surgical decompression showed supremacy of the surgical technique, providing symptomatic improvement at 6 weeks among all patients, absence of complications and no recurrence(15).

The WALANT technique, which consists of injecting a solution of lidocaine 1%, adrenaline (1:100,000) and sodium bicarbonate (10:1) in the area to be incised, in an awake patient and without tourniquet, has shown that the release of the first dorsal compartment can be done effectively and safely, and even has the potential to save prices without risking the quality or comfort of the patient(17,18).

Surgical complications are infrequent, but local soft tissue infection and wound dehiscence are the most common. In addition, lesion of the superficial radial nerve can be observed, which can generate extreme sensitivity, pain and/or paresthesia, as well as trapping of the abductor pollicis longus and extensor pollicis brevis and tendon subluxation(1).

CONCLUSIONS

De Quervain's tenosynovitis is a pathology based on inflammation of the tendon sheath of the abductor pollicis longus and extensor pollicis brevis in the first extensor compartment of the wrist. Its diagnosis is clinical with a positive Finkelstein's test. The preferred choice of treatment is subject to the severity of the condition. Non-surgical measures are preferred. Oral non-steroidal anti-inflammatory drugs accompanied by immobilization are a good option. Corticosteroid injections are effective for this tenosynovitis, leading to success 73.4% of the time with 2 injections. The use of ultrasound can improve the accuracy of injections. The use of splints and corticosteroid injections together provides more benefit than when used individually. Surgery is essential in cases that recur and are not relieved by conservative therapies over the course of 3 to 6 months. And finally, surgical treatment is effective and safe but is not without complications.

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