

Surgical Treatment of De Quervain's Tenosynovitis: A Literature Review

Héctor Alan Mendoza Sánchez

Unidad Médica de Alta Especialidad (UMAE) Hospital de Especialidades 25 del Instituto Mexicano del Seguro Social (IMSS) en Monterrey, Nuevo León

ABSTRACT

De Quervain's tenosynovitis is a common condition that affects the tendons of the thumb at the wrist. In this literature review article, a comprehensive overview of the surgical treatment of this disease is presented. Aspects related to epidemiology, clinical significance, definition, diagnosis, surgical techniques and indications, complications are addressed and a discussion on the results and effectiveness of treatment is offered. Based on the available evidence, it is concluded that surgical treatment of De Quervain's tenosynovitis is an effective and safe option in selected cases that do not respond to conservative measures.

KEY WORDS: De Quervain's tenosynovitis, surgical treatment, diagnosis, complications.

ARTICLE DETAILS

Published On:
30 June 2023

Available on:
<https://ijmscr.org/>

INTRODUCTION

De Quervain's tenosynovitis is an inflammatory condition that affects the extensor tendons of the thumb as they pass through the first extensor compartment of the wrist. This pathology is characterized by pain at the base of the thumb, accompanied by inflammation and functional limitation. Despite being a relatively common condition, its proper diagnosis and management are crucial to prevent the progression of symptoms and improve the quality of life of patients.

De Quervain's tenosynovitis mainly affects young and middle-aged adults, with a higher prevalence in women than in men. It is estimated that the incidence of this disease ranges between 0.5% and 2.0% of the general population, making it one of the most common causes of pain in the wrist and hand. An increase in cases has been observed in certain risk groups, such as postpartum women, individuals who perform repetitive hand and wrist movements in work or sports activities, and those with chronic inflammatory diseases such as rheumatoid arthritis.

Understanding the epidemiology of de Quervain's tenosynovitis is essential to identify risk factors, as well as to establish prevention strategies and provide an appropriate therapeutic approach.

The clinical impact of de Quervain's tenosynovitis translates into pain, decreased grip strength and functional limitation. These symptoms can negatively affect patients' quality of life, especially in those whose daily or work activities require repetitive use of the hand and wrist. Simple tasks, such as

grasping objects, turning keys, or lifting weights, can become difficult and painful, limiting the individual's ability to carry out their daily activities efficiently.

In addition, de Quervain's tenosynovitis can generate emotional stress and affect the psychological well-being of patients, as chronic pain and loss of functionality can have a significant impact on their mood, ability to work and participate in social activities.

Early identification, accurate diagnosis, and proper treatment are critical to mitigating symptoms and minimizing the disability associated with this condition. In this context, surgical treatment plays an important role in cases where conservative measures have not been effective or when there are associated complications.

In this literature review, the surgical treatment of de Quervain's tenosynovitis will be explored in detail, focusing on key aspects such as definition, diagnosis, surgical techniques employed, indications, complications and discussion of the results obtained. The available scientific evidence will be analyzed to provide a comprehensive view of this therapeutic modality and its role in the successful management of De Quervain's tenosynovitis. By better understanding this disease and its surgical treatment, healthcare professionals will be able to provide quality care and improve the quality of life of affected patients.

DEFINITION

De Quervain's tenosynovitis, also known as de Quervain's stenosis, is an inflammatory condition that affects the

Surgical Treatment of De Quervain's Tenosynovitis: A Literature Review

extensor tendons of the thumb as they pass through the first extensor compartment of the wrist. This compartment consists of the extensor retinaculum and tendons of the long abductor and the short extensor of the thumb.

Inflammation in this compartment may be due to a combination of mechanical factors, such as repetitive use of the hand and wrist in work or sports activities involving repetitive grasping and twisting movements, and predisposing factors, such as individual anatomy, hormonal changes, and chronic inflammatory diseases.

Characteristic symptoms of de Quervain's tenosynovitis include pain at the base of the thumb, especially when grasping objects or performing pincer movements, localized swelling, tenderness on palpation in the first extensor compartment, and functional limitation of the hand and wrist.

DIAGNOSIS

The diagnosis of de Quervain's tenosynovitis is based primarily on medical history and physical examination. Your doctor will ask detailed questions about your symptoms, their duration, and triggers. During the physical examination, specific tests will be performed, such as the Finkelstein test, in which the thumb is stabilized while the wrist is angrily deviated, causing pain in the case of de Quervain's tenosynovitis.

In addition, complementary imaging tests, such as ultrasound, can be used to confirm the diagnosis and rule out other pathologies, such as arthritis or the presence of free bodies in the joint. Ultrasound may show thickening of tendons, increased synovial fluid, and inflammatory changes in the first extensor compartment.

Surgical treatment: technique and indications

Surgical treatment of de Quervain's tenosynovitis is indicated in those cases where symptoms persist despite an adequate period of conservative treatment, including measures such as immobilization, physical therapy, and nonsteroidal anti-inflammatory drugs.

The most commonly used surgical technique is the release of the first extensor compartment. This release is done through a small incision at the base of the thumb, allowing exposure and section of the extensor retinaculum to relieve stress on the affected tendons. It can be carried out openly or by minimally invasive techniques, such as endoscopic release.

Indications for surgical treatment include the presence of persistent symptoms and significant functional limitation affecting daily and work activities. The presence of associated complications, such as tendon rupture or the formation of tendon adhesions, is also considered.

It is critical that the physician conduct a thorough evaluation of each patient, considering the severity of symptoms, response to conservative measures, and individual factors, before deciding on surgical treatment.

COMPLICATIONS

Although surgical treatment of de Quervain's tenosynovitis is generally safe and effective, there are potential complications that need to be taken into account. Some of these complications include surgical wound infection, injury to nearby nerve structures, abnormal scarring, and recurrence of symptoms.

Surgical wound infection can occur in rare cases and is managed with hygiene measures and, in some cases, antibiotics. Nerve injuries are rare, but may occur during surgical release and result in numbness, weakness or altered sensation in the affected area. Abnormal scarring can lead to persistent pain and functional limitation.

Recurrence of symptoms is another potential complication, especially if there are underlying predisposing factors or if surgical technique is not performed properly. However, with proper surgical technique and adequate postoperative rehabilitation, recurrence is uncommon.

It is important that patients are informed about possible complications before undergoing surgical treatment, and that the doctor takes all necessary measures to minimize risks and optimize results.

In conclusion, surgical treatment of de Quervain's tenosynovitis is an effective and safe option in selected cases that do not respond to conservative measures. Surgical release of the first extensor compartment has been shown to be successful in relieving symptoms and improving the functionality of the hand and wrist. However, careful evaluation of each patient, considering symptoms, response to conservative measures, and individual factors, is required before opting for this treatment modality. Knowledge of proper surgical techniques, precise indications and possible complications will allow healthcare professionals to provide quality care and improve the quality of life of patients affected by de Quervain's tenosynovitis.

DISCUSSION

De Quervain's tenosynovitis is a common condition that affects the extensor tendons of the thumb at the wrist. Although conservative treatment, which includes measures such as immobilization, physical therapy, and nonsteroidal anti-inflammatory drugs, is the first line of focus, in some cases surgical treatment becomes necessary. In this discussion, we will explore in greater detail the key aspects related to the surgical treatment of de Quervain's tenosynovitis.

The efficacy of surgical treatment has been the subject of debate in the medical literature. However, recent studies have consistently shown favorable results in terms of pain relief, functional improvement, and patient satisfaction. Surgical release of the first extensor compartment, either by open or endoscopic technique, has been shown to be effective in relieving symptoms and restoring functionality of the hand and wrist.

Surgical Treatment of De Quervain's Tenosynovitis: A Literature Review

The choice of surgical technique should be based on the experience and preference of the surgeon, as well as the individual characteristics of the patient. Both techniques have proven to be effective, and the decision should take into consideration the experience of the surgeon, the availability of resources and access to the specific technique.

In addition to the choice of surgical technique, it is essential to properly identify patients who will benefit from surgical treatment. Persistence of symptoms despite conservative treatment and significant functional limitation are clear indications for surgical treatment. However, careful selection of patients is essential to avoid unnecessary interventions and ensure satisfactory outcomes.

Importantly, while surgical treatment of de Quervain's tenosynovitis has proven effective, it is not without potential complications. Surgical wound infection, nerve injury, and recurrence of symptoms are some of the potential complications that have been reported in the literature. However, the incidence of complications is generally low, especially when the procedure is performed by experienced hands and proper surgical practices are followed.

It is essential that patients are properly informed about the risks and benefits of surgical treatment, as well as possible complications. In addition, appropriate postoperative care, including rehabilitation and long-term follow-up, should be provided to ensure optimal recovery and prevent recurrence of symptoms.

CONCLUSION

Surgical treatment of de Quervain's tenosynovitis is an effective option in selected cases that do not respond to conservative treatment. Surgical techniques, whether open or endoscopic, have been shown to be effective in pain relief and functional improvement. However, proper selection of patients and proper management of possible complications are key aspects to achieve satisfactory results. The

multidisciplinary approach, which includes collaboration between physicians, surgeons and therapists, is critical to comprehensive and successful management of this condition.

REFERENCES

- I. Fakoya, A. O., Tarzian, M., Sabater, E. L., Burgos, D. M., & Marty, G. I. M. (2023). De Quervain's Disease: A Discourse on Etiology, Diagnosis, and Treatment. *Cureus*, 15(4).
- II. Bhat, A. K., Vyas, R., Acharya, A. M., & Rajagopal, K. V. (2023). De Quervain's tenosynovitis: a non-randomized two-armed study comparing ultrasound-guided steroid injection with surgical release. *Musculoskeletal surgery*, 107(1), 105-114.
- III. Akar, B., & Yücel, M. O. (2023). Preferred treatment approach to De Quervain Tenosynovitis in nursing women: conservative management or surgery?. *Eur Rev Med Pharmacol Sci*, 27(6), 2619-2623.
- IV. Morshed, T., & Ferdous, Z. (2020). Outcome of surgical resection of de quervain's stenosing tenosynovitis. *Clin Pract*, 17, 1482-1485.
- V. Mangukiya, H. J., Kale, A., Mahajan, N. P., Ramteke, U., & Manna, J. (2019). Functional outcome of De Quervain's tenosynovitis with longitudinal incision in surgically treated patients. *Musculoskeletal surgery*, 103, 269-273.
- VI. Ditsios, K., Kostretzis, L., & Pinto, I. (2020). Dorsal tendon dislocation after de Quervain's release and its surgical management: a case report. *Journal of Hand Surgery (European Volume)*, 45(1), 92-93.
- VII. Mazrou, I., Ramadan, M., Atef, A., & El Elemetry, A. (2022). Local steroid injection versus surgical release for treatment of persistent De Quervain's stenosing tenosynovitis (DQST): a prospective comparative study. *Current Orthopaedic Practice*, 33(1), 27-31.