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Review Article

Review of De Quervain's tendinopathy

María A. Lastra Santiago*, Gustavo E. Muñoz Delgado

Department of Surgery, Unidad Médica de Alta Especialidad Hospital de Especialidades Centro Médico Nacional de Occidente, Guadalajara, Jalisco, Mexico

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***Correspondence:**
Dr. María A. Lastra Santiago,
E-mail: alejandralastra.s@gmail.com

ABSTRACT

The tendons of the long thumb abductor (APL) and short thumb extensor (EPB), which travel through a fibroosseous tunnel in the styloid process of the radius, are afflicted by De Quervain's tendinopathy. This condition causes the tendons and the tunnel (or sheath) through which they pass to thicken non-inflammatorily. Individuals with this illness report radial side wrist discomfort that gets worse when the wrist and thumb are moved. The radial side of the wrist often has some swelling and discomfort. The physical examination findings, such as sensitivity and enlargement of the radial styloid in the first dorsal compartment and radial styloid pain with active or passive stretching of the thumb tendons over the radial styloids at thumb flexion, are used to make the diagnosis of de Quervain's tendinopathy (Finkelstein manoeuvre or test). The differential diagnosis includes calcified arthritis or tenosynovitis, intersection syndrome, ganglia, radial sensory nerve entrapment in the forearm, and osteoarthritis of the trapeziometacarpal joint (TMC). De Quervain's tendinopathy typically responds well to self-limiting therapies that alleviate symptoms. The patient's unique values and preferences have a significant role in the therapeutic decision. Nonsteroidal anti-inflammatory medicines (NSAIDs) for pain management, a forearm-based thumb splint, glucocorticoid injections, and surgery are all possible treatments. A forearm-based thumb splint with a free interphalangeal joint and a simultaneous NSAID pain reduction test are advised for individuals with de Quervain's tendinopathy. Patients with chronic pain and edema despite non-surgical therapy with splints and NSAIDs are advised to have glucocorticoid injections. Those who continue to experience symptoms despite nonsurgical treatment and glucocorticoid injection are typically the only ones who need surgery. De Quervain's tendinopathy is benign and self-limiting, therefore most patients are aware of this.

Keywords: De Quervain's tendinopathy, Plastic surgery, Hand

INTRODUCTION

A frequent ailment that affects the tendons on the thumb side of the wrist is Quervain's tendinopathy, commonly referred to as De Quervain's tenosynovitis. It results in discomfort, swelling, and trouble moving the wrist and thumb because the tendons that regulate the mobility of the thumb are inflamed and irritated.[1]

Women between the ages of 30 and 50 who constantly use their thumbs and wrists, such as moms who hold and carry their infants or people who frequently use their cellphones or laptops, are more likely to develop this illness. Early detection and treatment of this ailment can lead to a full recovery and return to regular activities, despite the fact that it can be painful and restricting.[2]

ETIOLOGY

De Quervain's tendinopathy is a disorder that affects the tendons in charge of the action known as radial abduction, which pulls the thumb away from the hand when it is flat in the plane of the palm. From the forearm to the hand, the APL and BPE travel via a fibroosseous tunnel known as the first dorsal compartment. In de

Quervain's tendinopathy instances, the tendons at this location thicken and the tunnel becomes inflamed.[3]

While the exact etiology of this syndrome is unknown, it has frequently been linked to repetitive actions that require keeping the thumb extended and in an abducted position, such as those carried out in some jobs or by new mothers raising and holding their infants. Although the evidence for these ideas is sparse and mostly observational, other potential reasons for the emergence of this syndrome include hormonal factors and fluid retention.[4]

De Quervain's tendinopathy, despite its unknown cause, is a painful ailment that can seriously hinder a person's capacity to carry out daily activities. Most often, patients complain of discomfort on the radial side of the wrist, which is most pronounced when the wrist and thumb are moved. Moreover, some patients may have swelling and soreness on the radial side of the wrist, and pain is frequently felt when gripping or using the afflicted hand to grasp items. Even basic actions become uncomfortable and difficult because of the discomfort, which may even radiate to the thumb or forearm.[5]

It is significant to highlight that de Quervain's tendinopathy may even be bilateral and can impact either hand, whether it is the dominant or non-dominant hand. In individuals with this condition, X-rays are frequently normal, making diagnosis difficult. However, a thorough examination by a medical expert and imaging tests like an MRI or ultrasound can support the diagnosis and direct therapy.[6]

DIAGNOSIS

The patient's history of radial wrist atraumatic pain and physical examination findings, such as tenderness and enlargement in the first dorsal compartment over the radial styloid and radial styloid pain with active or passive stretching of the thumb tendons over the radial styloids in thumb flexion, are used to make the diagnosis of de Quervain's tendinopathy (Finkelstein maneuver or test). Ultrasound findings may reveal a thickened extensor retinaculum, hypervascularization on Doppler ultrasound, thickening of the APL and BPS tendons, and partial thinning of the EPB tendon due to a thickened extensor retinaculum stenosis. Imaging is not required for diagnosis, and X-rays are expected to be normal.[7]

De Quervain's tendinopathy can have a variety of differential diagnoses, such as osteoarthritis of the TMC, intersection syndrome, ganglia, radial sensory nerve entrapment in the forearm, crystal-induced arthritis, or tenosynovitis. The thumb grinding test and local anesthetic injection can be used to distinguish TMC osteoarthritis from de Quervain's tendinopathy. Both conditions present with discomfort and tenderness near the base of the thumb, distal to the radial styloid. In contrast to de Quervain's tendinopathy, intersection syndrome is accompanied with swelling and pain more dorsally and proximally to the first dorsal compartment, as well as frequent crepitus with wrist movement. While they may cause wrist discomfort during extension loading, ganglia are cystic inflammations that develop from an arctic capsule or tendon sheath. They are often harmless. In contrast to de Quervain's tendinopathy, entrapment of the superficial radial nerve results in scorching pain and paresthesias in the wrist, thumb, index finger, and middle fingers. Gout and pseudogout, as well as calcium hydroxyapatite, are crystal-induced arthropathies that can produce considerable erythema, tumefaction, and acute pain and inflammation in the wrist, notably the radial side of the wrist.[8]

TREATMENT

A forearm-based thumb splint with a free interphalangeal joint, NSAIDs, and ice therapy are examples of conservative therapeutic strategies. Surgery is a possibility for patients who do not respond to conservative therapy or have severe symptoms, and glucocorticoid injection may be tried for chronic symptoms.[9]

Splints and NSAIDs can relieve pain in people with mild to moderate symptoms, but effectiveness of these treatments declines in patients with moderate to severe symptoms. Most patients have pain reduction after glucocorticoid injections, and effects last for full year after treatment. Nevertheless, uncommon side effects include fat shrinkage and hypopigmentation are hazards associated with injections. Surgery is helpful in alleviating symptoms, there is chance of consequences, including infection, partial release, superficial radial sensory nerve damage, and unattractive scarring.[10]

Generally, surgery is not usually indicated for people with De Quervain's tendinopathy; instead, they can be treated conservatively, with the option of glucocorticoid injections if necessary. Splints and activity modification are other services that occupational therapists can offer to help with symptom relief.[11]

DISCUSSION

The tendons on the thumb side of the wrist are impacted by De Quervain's tendinopathy, sometimes referred to as De Quervain's tenosynovitis. The tendons in charge of regulating the mobility of the thumb become inflamed and irritated, resulting in this disorder. While the exact etiology of this syndrome is unknown, it has frequently been linked to repetitive actions that require keeping the thumb extended and in an abducted position, such as those carried out in several professions or by new mothers lifting and holding their infants.[1]

Most often, patients complain of discomfort on the radial side of the wrist, which is most pronounced when the wrist and thumb are moved. The physical examination

findings of tenderness and enlargement in the first dorsal compartment over the radial styloid, radial styloid pain with active or passive stretching of the thumb tendons over the radial styloids in thumb flexion, and the patient's history of radial wrist atraumatic pain are used to make the diagnosis of this condition (Finkelstein maneuver or test). A forearm-based thumb splint with a free interphalangeal joint, NSAIDs, and ice therapy are examples of conservative therapeutic strategies. Surgery is a possibility for patients who do not respond to conservative therapy or have severe symptoms, and glucocorticoid injection may be tried for chronic symptoms. With early diagnosis and treatment, the majority of people with De Quervain's tendinopathy will recover totally and resume their usual activities.[3-5]

CONCLUSION

De Quervain's tendinopathy is a painful and restrictive disorder that can considerably impair a person's capacity to carry out daily chores, to sum up. While its cause is unknown, it is sometimes related to repetitive tasks that require keeping the thumb extended and abducted, such as those carried out in several professions or by new mothers lifting and carrying their infants. For a complete recovery and return to regular activities, early diagnosis and treatment are crucial. For mild to moderate symptoms, conservative treatments including splints, NSAIDs, and cold application are also a possibility. For severe symptoms, glucocorticoid injections and surgery are also alternatives. To administer the proper treatment, it is important to distinguish this ailment from other comparable disorders. Nonetheless, with early diagnosis and treatment, the majority of people with De Quervain's tendinopathy will recover totally and resume regular activity.

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