

De Quervain Syndrome: Conservative Care

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Abstract

It is also known as Black Berry thumb, texting thumb, gamer's thumb, washer woman's sprain, radial styloid tenosynovitis, de Quervain disease, de Quervain's tenosynovitis, de Quervain's stenosing tenosynovitis, mother's wrist, or mommy thumb), is a tenosynovitis of the sheath or tunnel that surrounds two tendons that control movement of the thumb. In de Quervain syndrome, the tunnel where the tendons run narrows due to the thickening of the soft tissues that make up the tunnel. Hand and thumb motion cause pain, especially with forceful grasping or twisting. Women are affected more often than men. The cause of de Quervain's disease is not established. Occupational risk factors are debated. Repetitive hand or wrist movements can make the condition worse. Treatment is generally successful when begun early.

Keywords: De Quervain Syndrome; Thumb.

Definition

De Quervain's disease is a painful inflammation of tendons in the thumb that extend to the wrist (tenosynovitis). The swollen tendons and their coverings rub against the narrow tunnel through which they pass. The result is pain at the base of the thumb and extending into the lower arm [1,2].

Incidence

Women are affected more often than men. The syndrome commonly occurs during and after pregnancy. More than 1 million cases per year (India).

Causes

- The cause of de Quervain's disease is not established.
- Evidence regarding a possible relation with:

Occupational risk factors are debated.

- Personal and work-related factors
- Wrist bending and movements associated with the twisting or driving of screws were the most significant of the work-related factors.
- Where the thumb is held in abduction and extension
- Workers who perform rapid repetitive activities involving pinching, grasping, pulling or pushing have been considered at increased risk
- Specific activities that have been postulated as potential risk factors include intensive mouse/trackball use- and typing, as well as some pastimes, including bowling, golf and fly-fishing, piano-playing, and sewing and knitting.
- Contributory factors may include hormonal changes, fluid retention and – more debatably – lifting.

Pathophysiology

De Quervain syndrome involves non-inflammatory thickening of the tendons and the synovial sheaths that the tendons run through. The two tendons concerned are those of the extensor pollicis brevis and abductor pollicis longus muscles. These two muscles run side by side and function to bring the thumb away from the hand; the extensor

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pollicis brevis brings the thumb outwards radially, and the abductor pollicis longus brings the thumb forward away from the palm. De Quervain tendinopathy affects the tendons of these muscles as they pass from the forearm into the hand via a fibro-osseous tunnel (the first dorsal compartment). Evaluation of histopathological specimens shows a thickening and myxoid degeneration consistent with a chronic degenerative process, as opposed to inflammation.

Signs & Symptoms

- Pain at the radial side of the wrist.
- Pain is made worse by movement of the thumb and wrist, and may radiate to the thumb or the forearm.
- Spasms
- Tenderness
- Occasional burning sensation in the hand.
- Swelling over the thumb side of the wrist.
- Difficulty in gripping with the affected side of the hand.
- The onset is often gradual.

Diagnosis

- Therapist will perform a physical exam that will include feeling for tender spots, measuring the flexibility and range of motion of the thumb and wrist, and testing the strength of the thumb muscles and grip.
- Physical therapist will also perform a Finkelstein test: In this therapist Curl the fingers over patients thumb (make a fist with your thumb inside your fingers) and bend wrist towards little finger. If this causes pain at the wrist below thumb, patient may have De Quervain's tenosynovitis [5].

Treatment: Medical Treatment

- Palliative treatments include a splint that immobilized the wrist and the thumb joint.
- Ultrasound therapy may be applied to improve pain. This treatment uses ultrasonic sound waves applied over the involved area to improve circulation, reduce swelling, and aide healing of the tissues and tendons.
- Iontophoresis is another option to reduce swelling and pain. Iontophoresis is a type of

electrical stimulation that is used to administer medication to the problem area through your skin.

- Ice or heat may be recommended for short term pain relief. Your therapist will advise you for what is best for your condition.
- Anti-inflammatory medication or acetaminophen.
- Injection of corticosteroid into the sheath of the first dorsal compartment reduces tendon thickening and inflammation. A dose of 0.5 ml of 1% plain lidocaine and 0.5 ml of a long-acting corticosteroid preparation can be injected either sequentially or simultaneously.
- Physical/Occupational therapy can suggest activities to avoid based on the theory that certain activities might exacerbate one's condition, as well as instruct on strengthening exercises based on the theory that this will contribute to better form and use of other muscle groups, which might limit irritation of the tendons.
- Some physical and occupational therapists use other treatments based on the rationale that they reduce inflammation and pain and promote healing, such as deep heat treatments, as well as TENS, dry needling, or infrared light therapy, and cold laser treatments.

Surgical Therapy

- If injection therapy fails, surgical release of the first dorsal compartment to relieve pain.
- Surgical release of de Quervain tenosynovitis is an outpatient procedure. The operation can be performed under local or regional anesthesia, depending on surgeon preference. Use of a tourniquet precludes intra operative bleeding and facilitates the identification of structures [1,2].

Operative Details

A 3-cm incision is placed over the prominent thickening of the first dorsal compartment. A transverse skin incision is preferred because it provides better appearance of the scar in this highly visible area. Once the skin is incised, only longitudinal, blunt dissection is used until the first dorsal compartment is exposed. This minimizes the risk of sharp injury to the superficial radial nerve, which runs superficial to the first dorsal compartment. Along its dorsal margin, the first dorsal compartment is sharply opened longitudinally for

approximately 2 cm.

The tendon(s) are inspected to ensure that the abductor pollicis longus and the extensor pollicis brevis are released. If present, a septum separating the two motor units can be deceiving. Gently moving the patient's thumb distinguishes one tendon from the other. If a tendon glides with metacarpophalangeal (MCP) joint motion, it belongs to the extensor pollicis brevis. If a septum between the abductor pollicis longus and the extensor pollicis brevis is identified, it also is released.

Surgeons have personal preferences regarding the management of the sheath. Some excise a portion and others make a step-cut and then suture a strip of sheath back loosely over the exposed tendons. The author obtains good results without sheath excision or reconstruction by releasing just the thickened portion of the first dorsal compartment and leaving in place the transparent fascia overlying the tendons proximal and distal to the first dorsal compartment.

The skin is sutured. Patients generally appreciate the diminished disfigurement from the placement of a subcuticular skin closure. A soft, dry, circumferential wrist dressing is placed for a week. The suture is removed approximately 10 days after surgery. Thereafter, patients may rapidly resume full activities. Some surgical-site tenderness is expected for several months [3].

Conclusion

De Quervain's disease is a painful inflammation of tendons in the thumb that extend to the wrist (tenosynovitis). Women's are affected more often than men. As a woman, your health concerns are as unique as your body. How you take care of yourself has a huge impact on your future, affecting everything from your ability to have children to your risk of heart disease. There's no substitute for good health, and when it's gone, it's often gone for good. Prevention is always better than cure. Treatment is generally successful when begun early.

References

1. <http://www.assh.org/>.
2. <http://webcache.googleusercontent.com/>.
3. www.webmd.com/rheumatoid-arthritis/de-quervains-disease.
4. <http://www.moveforwardpt.com/>.
5. http://www.lifescrpt.com/health/centers/pain/related_conditions/de_quervains_tenosynovitis.aspx.