Role of Contrast Bathing in the Management of Trigger Finger

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Abstract

Trigger finger is commonly encountered inflammatory condition and it is also known as stenosing tenosynovitis. It occurs usually in diabetics and manual workers. The incidence of this condition is higher in women than man. There are both conservative management and surgical correction is being plasticized. Still there is no established treatment for this disease. Conservative management includes anti-inflammatory drugs, local corticosteroid injection, contrast bath etc. Anti-inflammatory drugs (NSAIDS) and local corticosteroid injection have so many adverse effects. Surgical correction is quite effective but this is not a treatment of choice. Contrast bathing is a very cost effective therapy and no special equipment is needed for this. The methods of this therapy are very simple and easily acceptable by patient. So the contrast bathing can be used in cases of trigger finger.

Keywords- Trigger finger, Stenosing tenosynovitis, Contrast bathing etc.

Introduction

Trigger finger is an inflammatory condition also known as stenosing tenosynovitis. It is known as trigger finger because a bent and locked finger opens with a snap, like a trigger on straightening. It is more commonly seen in women than man and in diabetics. Manual workers who are involved in gripping of a hard object are at a greater risk of developing trigger finger. It occur most frequently in people who are between the ages of 40 and 60 years of age. It is caused by a difference in diameters of a flexor tendon and its retinacular sheath due to thickening and narrowing of the sheath [1].

The exact cause of trigger finger is still unknown. The most probable causes are repetitive finger movements and local trauma, prolonged irritation of the tendon sheath etc [2-3].

Pathophysiology of trigger finger

Trigger finger causes inflammation and hypertrophy of the retinacular sheath progressively restricts the motion of the flexor tendon [4,5]. As the sheath gets thickened the canal for the gliding of the tendon narrows and triggering develops.

Symptoms of trigger finger usually start without any injury, although there may be history of heavy hand use. Symptoms include-

- Stiffness
- A tender lump in the palm
- Catching or popping sensation in the finger
- Pain when bending or straightening the finger

Stiffness and catching tend to be worse after inactivity, usually in the morning. In severe cases of trigger finger, the finger cannot be straightened, even when passively assisted.

The condition more commonly affects the
middle or ring finger or thumb. More than one finger may be affected at a time, and both hands might be involved [6].

Diagnosis of trigger finger totally depends on clinical examination. There is no role for imaging in diagnosis.

Complications
Incomplete extension
Bowstringing

Management
Now these days both conservative management and surgical correction is being plasticized. Conservative management includes anti-inflammatory drugs, local corticosteroid injection, contrast bath etc.

Anti-inflammatory drugs (NSAIDS) have not encouraging results in case of trigger finger and also have so many adverse effects like gastric upset, skin rashes, nausea, altered liver and kidney functions.

Local corticosteroid injection is effective in some extent but it also causes dermal atrophy, fat necrosis, and skin hypopigmentation, transient elevation of serum glucose in diabetic patients [7], infection and occasionally tendon rupture.

Surgical correction is quite effective but this is not a treatment of choice. Trigger finger occurs most commonly in diabetics and elderly. Diabetics are most susceptible for infection and elderly patient may have cardiac problem that is contra indication for surgery. Surgical intervention is not cost effective and not suitable for having systemic disease. Many patients don’t show their interest regarding surgical procedure, other than this chances of infection, stiffness, nerve transection, incision pain, flexion deformity, flexor tendon bowstringing, and recurrence cannot be denied [8,9].

Everyone seeks conservative solution for his problem. Contrast bathing may be beneficial in this regarding.

References

Contrast bath therapy, also known as "hot/cold immersion therapy", in which a part of limb is immersed in warm water followed by the immediate immersion of that part in ice water [10]. This procedure is repeated several times, alternating hot and cold. The treatment should always end in the ice water, as heat will induces the body's inflammatory response, while cold helps to decrease inflammation.

Probable Mode of Action of Contrast Bathing
The warm water causes vasodilatation of the blood flow in the limb or body followed by the cold water which causes vasoconstriction, increasing local blood circulation [11].

Additionally, the lymph vessels contract when exposed to cold, and relax in response to heat. The lymph system, unlike the circulatory system, lacks a central pump. Alternating hot and cold, lymph vessels dilate and contract to essentially "pump" and move stagnant fluid out of the area. This positively affects the inflammation process, which is the body's primary mechanism for healing damaged tissue.

Superficial heating decreases sympathetic nerve drive which causes vasodilation of local blood vessels and increases circulation. The increased blood flow allows an increased supply of oxygen, antibodies and the ability to clear metabolites.

Conclusion
Trigger finger or stenosing tenosynovitis is an inflammatory disease of finger. Still there is no established treatment for this disease. Contrast bathing is a very cost effective therapy and no special equipment is needed for this. The method of this therapy is very simple and easily acceptable by patient. So the contrast bathing can be used in cases of trigger finger.


