

Raktamokshana - A Customary Perspective to alleviate De Quervain's Tenosynovitis w.s.r. to Vatarakta - A Rare Case Study

Case report

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Abstract

The discovery of De Quervain's Tenosynovitis was much acknowledged in classical books in terms of symptoms that could be associated to *Vatarakta* (Gout), but the disease's nomenclature was only identified in the later period of global modernization. This case study describes a young woman who was pre-diagnosed with De Quervain's condition and treated using the *Vatarakta* paradigm of treatment protocols, principally *raktamokshana* (Blood-letting). *Raktamokshana* with the advent of *jalauka* (leech) is taken into consideration in the study because *Vata* and *Rakta* (blood) are vitiated, which furthers the disease. *Raktamokshana* is an excellent treatment option for De Quervain's Tenosynovitis due to its efficiency, simplicity of administration, and safe therapy regimen. With outstanding results for pain management and the restoration of the functioning of the wrist joint, this therapy modality can therefore be recommended for the condition. Need of study: To evaluate the new conceptual idea for treating De Quervain's Tenosynovitis that is non-invasive and helps to restoring the normal function of corresponding hand and wrist movements. Methodology: Current case report presents a 34-year-old woman with a right-hand dominant job whose primary complaints were pain, morning stiffness, localized burning sensation and swelling at the radial styloid process on the right hand at the base of the thumb for the past two months, who was diagnosed as De Quervain's Tenosynovitis and was treated with *Raktamokshana* with *Jalauka* with two sittings. Conclusion: After first sitting she had 80% relief from symptoms and was totally symptomless after second sitting of *Raktamokshana*, helping new therapeutic regimen to treat the disease.

Key Words: De Quervain's Tenosynovitis, *Vatarakta*, *Raktamokshana*, *Jalauka*.

Introduction

Fritz De Quervain, a Swiss surgeon, noticed that a 35-year-old woman had suddenly had significant discomfort in the area of the thumb extensor on December 18, 1894, in La Chaux-de-Fonds (a Swiss city, in the canton of Neuchatel). Because of the acute onsets, rapid resolution of acute symptoms, and lack of palpable alterations despite an 8-month onset of symptoms, he then ruled out tuberculosis as a diagnosis. Consequently, stenosing tenosynovitis at the radial styloid process was diagnosed. It is a condition when a tendon becomes entrapped and affects the wrist's first dorsal compartment (2). Extensor pollicis brevis and abductor pollicis longus tendon sheaths thicken. In this state, they go along the radial styloid at the distal wrist, traversing through the fibro-osseous tunnel (2). The wrist's radial and ulnar deviation, as well as thumb movement, aggravates the pain(3). Subcutaneous

atrophy, hypopigmentation, localized soft tissue infection, wound dehiscence, damage to the radial nerve, etc. are all negative consequences of these therapy regimens.

Therefore, for such an affliction, Ayurveda has an astounding treatment plan and non-invasive remedy. Given that they both exhibit similar indications and symptoms, De Quervain's disease and the Ayurveda *Vatarakta* disease can be compared.

According to pathophysiology based on Ayurveda, *vata dosha* and *rakta* get vitiated as a result of dietary behaviour like repetitive hand motions or long-distance travel. After passing through all of the body parts, these two eventually lodge in various body joints, primarily the base of the thumb (1).

The signs and symptoms described by Acharya Charak include *kandu* (itching), *daha* (burning), *rugayam* (pain after stress on a part), *sphuran* (tingling), *kunchan* (contracture), and *shyavaraktata* (dark or reddish brown coloured) skin discoloration (1). These are all replicas of those described in De Quervain's disease.

Additionally, Acharya noted that *vatarakta* with pain and burning has a very good prognosis for the sickness when *raktamokshan* is done with the aid of a leech, or *Jalauka* (1). Bloodletting is known as *raktamokshana*, and it has the ability to effectively cure

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inflammatory, ischemic, and infectious disorders. Arthritis, vascular illnesses, venous obstruction, abscesses, ischemic heart diseases, and several skin conditions are all treated with *jalaukavacharan*.

Case Presentation

A 34-year-old woman with a right-hand dominant job fixing bearings on machines in a small-scale factory, as well as housework like cooking indian bread and mopping the floor. The patient's primary complaints at the time of presentation were pain, morning stiffness, a localized burning sensation, and swelling at the radial styloid process on the right hand at the base of the thumb for the past two months. The thumb she had to adduct for her job causes pain to worsen. Her family doctor had advised her to use a thumb splint and oral and topical analgesics, but she had not experienced any improvement in her symptoms.

Patient has no known history of another serious ailment and was analyzed systemically which was normal. An evaluation of the body revealed Regular 74 beats per minute with normal blood pressure of 128/70 mm hg.

Local Evaluation of Right Wrist & Radial Styloid Process:

On Inspection: Swelling noted at Radial styloid process.
No erythema noted.

Assessment Criteria

Subjective Criteria

Swelling, Tenderness, Tingling sensation, Burning sensation, Morning stiffness, Eichhoff's Test, Finkelstein Test (3).

Objective Criteria

AROM (Active Range of Motion) of wrist.

On Examination

Table 1: Assessment of right wrist (Before treatment)

Sr. No.	Parameter	Findings
1	Swelling	Grade 1
2	Tenderness	Grade 2
3	Tingling sensation	Grade 0
4	Burning sensation	Grade 1
5	Morning stiffness	Grade 2

Therapeutic Focus

Patient diagnosed as De Quervain's Tenosynovitis (*Vatarakta*) has volunteered for the trial and was dealt with *raktamokshana* with the help of *jalauka* and some internal medications.

Methodology

Table 4: Therapeutic regimen (Internal and external therapy)

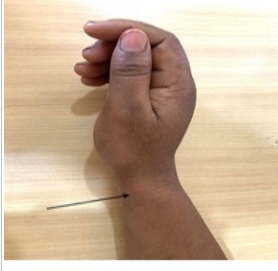




Sr.No.	Therapeutic regimen	Dosage
1	Tab. Kaishore guggul 500mg orally (Internal medication)	1 Tablet thrice a day for 10 days.
2	Raktamokshan with Jalauka (external therapy)	2 sittings on 0 th and 7 th day.

Table 2: Assessment parameters used for examination of patient

Parameter	Gradation	Observation
Swelling	Grade 0	Swelling absent
	Grade 1	Swelling present
Tenderness	Grade 0	No tenderness
	Grade 1	Tenderness to palpation without grimace
	Grade 2	Tenderness to palpation with grimace
	Grade 3	Tenderness with withdrawal
	Grade 4	Withdrawal to noxious stimuli
Tingling sensation	Grade 0	Tingling sensation absent
	Grade 1	Tingling sensation present
Burning sensation	Grade 0	Burning sensation absent
	Grade 1	Burning sensation present
Morning stiffness	Grade 0	No stiffness
	Grade 1	Stiffness persisting for less than 30 minutes
	Grade 2	Stiffness persisting for up to 30 minutes to 1 hour
	Grade 3	Stiffness persisting for more than 1 hour

Table 3: Clinical Examination Findings (Before treatment)

Sr. No.	Test's	Finding's	
1	Eichhoff's Test (Patient was asked to make a fist with the thumb inside the fingers. The examiner stabilized the forearm and did ulnar deviation. Positive result- Increased pain at radial distal styloid process at abductor pollicis longus and Extensor pollicis brevis tendons.)	Positive (Increase in pain)	
2	Finkelstein Test (Patient was asked to do gentle passive wrist ulnar deviation. Then the examiner applied gentle passive wrist ulnar deviation. After this the examiner distracts the thumb and applied flexion force. Positive result - Increased pain at radial distal styloid process at abductor pollicis longus and Extensor pollicis brevis tendons.)	Positive (Increase in pain)	
3	AROM (Active Range of Motion) (Measured by Goniometer)	Thumb Flexion	0°-10°
		Thumb Extension	0°-10°
		Thumb Abduction	0°-55°
		Thumb Adduction	0°-20°
		Opposition of Thumb and Little finger	Negative
VAS Scale (Before treatment): 7/10			

Figure 1: Swelling at Radial styloid process	Figure 2: Eichhoff's Test	Figure 3: Finkelstein Test	Figure 4: AROM of wrist joint by Goniometer	Figure 5: Jaluka (Leech) application
				

Bahya Chikitsa (External Therapy)

The procedure of *Raktamokshan* with *Jalauka* was carried out in following stages(4):

Purva Karma (Pre-operative Procedure)

- Informed consent in writing with explanation of entire procedure to the patient.
- Patient was instructed not to use any lotion or wash her right hand with soap the previous day.
- The patient was instructed to sit calmly with their right hand on the table.
- Leech purification involved soaking the leech in water and *haridra* powder (turmeric) for 10 minutes.

Pradhan Karma (Operative Procedure):

- Leech was picked up and compelled to bite the area designated as being most tender, which was close to the right radial styloid process, after being informed that it is incapable of becoming tired.
- After the catch, the leech's mouth was smoothed and moistened with a drop of water and the leech was covered with a white damp cotton wool.
- The leech's mouth resembled a horse's hoof and elevated the host's neck in an apparent attempt to suck the host's dirty blood.
- A small wound appeared on the patient's hand after the leech had sucked all the blood it could hold before falling off.
- The wound was cleaned up and a tight bandage was applied.

Paschat karma (After procedure)

- After the leech detached itself from the host, rice flour was sprinkled over the leech body and turmeric powder was placed in her mouth. The leech was then lifted up by the left thumb and fingers, kneaded slowly downward with the right thumb and fingers, and forced to vomit all the blood it had consumed.
- Leech was transferred to an earthen pot until it had finished vomiting. When placed inside the water vessel, it quickly went back and forth in quest of food.
- The patient was informed not to worry and to change the dressing right away if blood was oozing from a wound, because anti-coagulant ingredients from the leech causes bleeding.

Result

Initial assessment - 1st day (12/04/2022): As mentioned in table 1 and table 2.

Final assessment - 10th day (22/04/2022): Totally symptomless.

Discussion

Vatarakta and De Quervain's Tenosynovitis have been implicated. It is generally known that *rakta* and *vata* play key roles in the development of *Vatarakta*. The *Ayurvedic classical samhitas* mention a therapy called *jalaukavacharan*, often known as bloodletting, for the treatment of *Vatarakta*. The idea behind *jalaukavacharan* in treating this sickness is that it purges the body of the vitiated *rakta* and blocked *vata*, which aids in treating the symptoms (1). *Jalaukavacharan* relieves the symptoms of De Quervain's Tenosynovitis because the traits of the leech, which dwell in cold water and are *madhura rasatmak* (sweet taste), are opposite to those of the condition (5). Leech salivary gland secretion, according to contemporary researchers, contains more than 100 bioactive substances and has anti-edematous, bacteriostatic, analgesic, and resolving actions. It also eliminates microcirculation disorders, restores damaged vascular permeability of tissues and organs, eliminates hypoxia (oxygen starvation), and detoxifies the part. As a result, it plays a crucially beneficial role in the treatment of De Quervain's tenosynovitis. Kaishore guggul – Vatahara and raktaprasadan^[6].

With the aforementioned idea in mind, we performed a case study and used *Jaluka* on the area that was the sorest, which was close to the right radial styloid process. We obtained complete relief from the symptoms of pain and localized burning by the second sitting after 10 days. Assisting a novel conceptual process based on Ayurvedic ideas.

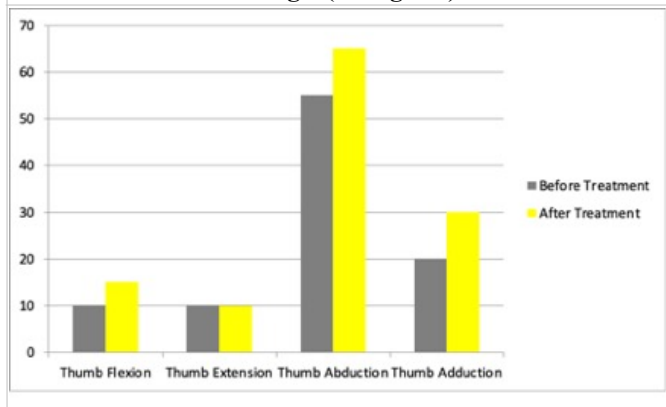
Conclusion

The Ayurvedic description of *Raktamokshan* with *Jalauka* predates the modern-era scientist's discovery of it. The fundamentals of Ayurveda remain unchanged and indispensable despite the fact that techniques and equipment have improved and become complex. As a result, the aforementioned therapy option can be used as a clinical process due to its efficacy and secure therapeutic plan for De Quervain's Tenosynovitis.

Table 5: Observation Table Chronology In Observation

Parameter's	Before Treatment Finding's		After Treatment Finding's	
Swelling	Grade 1		Grade 0	
Tenderness	Grade 2		Grade 0	
Tingling sensation	Grade 0		Grade 0	
Burning sensation	Grade 1		Grade 0	
Morning stiffness	Grade 2		Grade 0	
Eichhoff's Test	Positive (Increase in pain)		Negative	
Finkelstein Test	Positive (Increase in pain)		Negative	
Pain (VAS Scale)	7/10		1/10	
AROM (Active Range of Motion)	Thumb Flexion	0°-10°	Thumb Flexion	0°-15°
	Thumb Extension	0°-10°	Thumb Extension	0°-10°
	Thumb Abduction	0°-55°	Thumb Abduction	0°-65°
	Thumb Adduction	0°-20°	Thumb Adduction	0°-30°
	Opposition of Thumb and Little finger	Negative	Opposition of Thumb and Little finger	Positive

Graph 1: A graphical representation of observation finding's (in degrees)



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