

Clinical Effectiveness of *Attai Vidal* (Leech Therapy) in De Quervain's Disease: A Case Report

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ABSTRACT:

De Quervain's tenosynovitis is an inflammatory condition affecting the tendons in the first dorsal compartment of the wrist, often resulting in significant pain, swelling, and functional impairment. It predominantly affects women aged 30 to 50 who engage in repetitive wrist or thumb movements. While conventional treatments, such as nonsteroidal anti-inflammatory drugs (NSAIDs), corticosteroid injections, and surgical interventions, are widely used. There is growing interest in exploring traditional and alternative treatment with fewer adverse effects. Siddha medicine, a traditional system of medicine originating in South India, incorporates *Attai Vidal* (Leech therapy) as a therapeutic modality for inflammatory conditions. This case report presents a 43-year-old female tailor with complaints of pain and swelling in radial aspect of right wrist and painful right thumb movements. She was diagnosed with De Quervain's Tenosynovitis and was treated with two sessions of Leech therapy during which two leeches were used. The treatment resulted in marked pain reduction (VAS score from 8/10 to 2/10), resolution of swelling, and improved wrist mobility without adverse events. The findings suggest that *Attai Vidal* (Leech therapy) may serve as an effective, non-invasive treatment for the management of De Quervain's disease. Further clinical studies are warranted to validate these outcomes and develop standardized treatment protocols.

KEYWORDS: Attai vidai, De Quervain's disease, Leech therapy, Siddha medicine, Tenosynovitis.

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INTRODUCTION:

De Quervain's tenosynovitis, named after Swiss surgeon Fritz de Quervain, is a condition which involves tendon entrapment affecting the first dorsal compartment of the wrist. This condition involves thickening and myxoid degeneration of the tendon sheaths around the abductor pollicis longus and extensor pollicis brevis as they pass through the fibro-osseous tunnel over the radial styloid at the distal wrist. It is estimated that the prevalence of De Quervain's tenosynovitis is 0.5% in men and 1.3% in women, with peak prevalence among those in their forties and fifties. It is associated with repetitive wrist movements, specifically requiring thumb radial abduction, simultaneous extension, and radial wrist deviation. The condition can significantly affect daily functioning and quality of life (QoL)^[1].

Conventional treatment modalities for De Quervain's tenosynovitis include nonsteroidal anti-inflammatory drugs (NSAIDs), corticosteroid injections, splinting, and surgical intervention in advanced cases. While these interventions are often effective, they may be associated with adverse effects or provide only temporary relief. Consequently, there is an increasing demand for alternative treatment that offer symptom management with a reduced risk profile.

The Siddha system of medicine, one of the oldest traditional systems in India, has significantly contributed to public health through its holistic and time-

tested therapeutic principles. Among its various treatment modalities, 32 types of *Puramaruthugal* (External medicines) are described and categorized into three groups: *Aruvai* (Surgical and Para Surgical procedures), *Akkini* (Thermal therapies), and *Kaaram* (Chemical cautery). *Attai Vidal*, or Leech therapy, falls under the *Aruvai* category and is traditionally used for managing inflammatory and circulatory disorders [2].

Leech therapy involves the application of medicinal Leeches, whose saliva contains a complex array of bioactive substances such as hirudin and calin [3]. These compounds exhibit anticoagulant, anti-inflammatory, and analgesic properties, rendering Leech therapy a potentially effective intervention for inflammatory musculoskeletal conditions. The present case documents *Attai Vidal* (Leech therapy) as a Siddha therapeutic intervention for De Quervain's disease. This case demonstrates the clinical effectiveness of Siddha-based leech therapy in reducing pain, swelling, and painful thumb and wrist movements, thereby highlighting its potential as a minimally invasive, non-surgical treatment for tenosynovitis.

CASE REPORT:

A 43-year-old female tailor presented with a six-month history of progressive pain and swelling in her right wrist. The condition significantly impaired her ability to perform daily and occupational activities, including lifting, gripping, and writing. She had

previously sought allopathic treatment like Non-steroidal anti-inflammatory drugs (NSAID) but reported no significant improvement in her symptoms. Subsequently, she presented to the National Institute of Siddha (NIS) Puramaruthuvam outpatient department for further evaluation and management. Her medical history included hypothyroidism, for which she was on regular medication i.e. Levothyroxine 25mcg - 1 year. There was no history of trauma, previous wrist injuries, or similar episodes.

Clinical Findings

a. Subjective criteria

1. Pain-Visual Analog Scale Score: 8/10

b. Objective criteria

1. Swelling: Localized over the first dorsal compartment
2. Tenderness: Grade 3 (Severe) on a 4-point scale
3. Positive Finkelstein's test: Sharp pain upon ulnar deviation of the wrist with thumb flexion
4. Positive Eichhoff test: Sharp shooting pain over the radial aspect of the wrist on ulnar deviation, with clenching the thumb with other fingers.

Investigations

Baseline haematological and serological investigations were performed prior to therapy (Table-1).

THERAPEUTIC INTERVENTION:

The patient underwent two sessions of Leech therapy at ten days interval at the *Attai Vidal* Unit, National Institute of Siddha.

Pre-Treatment:

Leech Purification:

- Leeches were placed in turmeric water for 5–10 minutes and then in clean water.

Patient Preparation:

- Informed written consent was obtained.
- Vital signs including BP, PR, HR, Temperature and SPO2 were recorded.

Treatment Procedure:

- The patient was positioned in a clean, sterile therapy area.
- The affected wrist was cleansed with normal saline.
- Two medicinal Leeches were applied over the right wrist and the area was covered with a moistened cloth.
- Duration of the treatment ranged from 45–60 minutes.
- Leeches detached spontaneously or were gently removed using turmeric powder.
- Two leeches were used in one sitting and approximately 5-10 ml blood has been removed.

Post Treatment:

Leech handling and disposal

- Post-detachment, Leeches were induced to expel blood using turmeric powder and subsequently placed in clean water.
- Leeches were used exclusively for the patient and discarded after completion of treatment (after 2 sessions).

Wound management

- The bite site was cleansed, allowed to bleed briefly, then

dressed with aloe vera & turmeric powder.

Patient monitoring:

- Post-procedure vital signs (BP, HR, PR, TPR, SpO₂) were reassessed.
- The patient was observed for one hour to monitor for any immediate adverse effects.

RESULTS:

After two sessions of Leech therapy, significant improvements on pain,

swelling and thumb movements were observed as mentioned in Table-2. The pre- and post-treatment assessment of symptoms and thumb function has been presented in Table 3.

No adverse effects (infection, allergic reactions, or excessive bleeding) were observed after the treatment and in the follow-up period. The patient reported improved hand function and was able to perform daily activities after treatment.

Table 1: Pre-treatment laboratory investigations

Parameter	Normal values	Results
Hb	11-16 gm/dl	12.9gm/dl
T.RBC	3.8-5.0 million cells/cu.mm	4.57 million cells/cu.mm
T.WBC	4000-11000 cells/cu.mm	7449 cells/cu.mm
ESR	1-20 mm/hr	35 mm/hr
BT	1-3 min	1 min 20 sec
CT	3-8 min	4 min 40 sec
FBS	70-110 mg/dl	106 mg/dl
PPBS	80-140 mg/dl	148 mg/dl
VDRL	Non- reactive	Non- reactive
HBsAg	Negative	Negative
HIV I & II	Negative	Negative
Anti- HCV	Negative	Negative

Table 2: Clinical outcomes monitored at weekly intervals on Leech therapy

Clinical features Day	0	7	14	28
Pain (VAS score)	8	5	2	0
Swelling	3	2	0	0
Movements of the thumb	Affected	Slightly improved	Improved well	Normal

Table 3: Pre and post-treatment assessment of symptoms and thumb function

Parameter	Pre-Treatment	Post-Treatment
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Pain (VAS Score)	8/10	2/10
Swelling	Severe	Nil
Tenderness Grade	Grade 3 (Severe)	Grade 0
Range of Motion		
Flexion (MCP+IP)	0°- 45°, 0°- 30°	0°- 75°, 0°- 75°
Extension (IP)	0°-5°	0°-15°
Abduction (CMC)	0°- 30°	0°- 65°
Adduction	Partial	Full
Opposition	Incomplete	Complete
Grip strength	Weak, painful	Restored, pain reduced



Figure 1: Before treatment



Figure 2: Leech therapy



Figure 3: 1 day after therapy



Figure 4: 10 days after 2nd session of Leech therapy

DISCUSSION:

Leech therapy (*Attai Vidal*) has long been practiced in Siddha medicine and is recognized for its anti-inflammatory, analgesic, and anticoagulant properties.

Leech therapy has been used to treat a variety of diseases, particularly those associated with vitiated *Pitham*, due to the Leech's *Thatpa gunam* (Cold potency) [2]. Its therapeutic efficacy in

managing conditions such as De Quervain's tenosynovitis is primarily attributed to the presence of bioactive compounds in Leech saliva, including hirudin, calin, and hyaluronidase. These substances exhibit synergistic effects that contribute to the reduction of inflammation, pain, and enhancement of local blood circulation, thereby enhancing the therapeutic response in the affected area [3].

De Quervain's tenosynovitis is frequently observed among individuals engaged in repetitive wrist activities and manual labor, as seen in this case involving a tailor. The condition is characterized by pain, swelling, and affected thumb movements, often impacting the patient's quality of life and occupational performance. Although conventional treatments—such as nonsteroidal anti-inflammatory drugs (NSAIDs), corticosteroid injections, and wrist splinting—are widely adopted in the disease management, often result in symptomatic improvement and may be associated with adverse effects and high rate of symptom recurrence.

In the present case, the patient had previously undergone modern medicine treatment with minimal improvement. Following two sessions of Leech therapy administered at ten-day intervals, the patient demonstrated significant clinical improvement, characterized by marked reduction in pain and swelling and restoration of wrist function. Pain and swelling reduction following Leech therapy may be attributed to the anti-inflammatory, analgesic, anticoagulant, and vasodilatory bioactive substances present in Leech saliva, which improve

local circulation and reduce tissue inflammation. The patient was followed up for one and a half months, and no recurrence of symptoms was noted during the follow-up period. This outcome highlights the potential of *Attai Vidal* (Leech therapy) as a viable, non-invasive therapeutic option for De Quervain's tenosynovitis.

While the findings from this single case are suggestive of clinical value, further research—including large-scale studies and randomized controlled trials—is necessary to validate the efficacy of Leech therapy and to establish standardized treatment guidelines.

CONCLUSION:

Attai Vidal (Leech Therapy) demonstrated significant therapeutic effectiveness in reducing pain, inflammation, and improving functional impairment in a patient diagnosed with De Quervain's tenosynovitis. Given its non-invasive nature, minimal adverse effects, and therapeutic potential, Leech therapy may offer a valuable alternative to conventional treatments. However, comprehensive clinical studies are required to validate these findings and support their integration into mainstream clinical protocols.

Informed Written Consent:

Written informed consent was obtained from the patient for publication of this case report and accompanying clinical details/images.

Limitation of Study:

This report is limited to a single case observation; therefore, the findings

cannot be generalized without further clinical studies.

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