

INTERNATIONAL AYURVEDIC MEDICAL JOURNAL



Case Report

ISSN: 2320-5091

Impact Factor: 6.719

AYURVEDIC TREATMENT MODALITIES IN CARPAL TUNNEL SYNDROME: A CASE REPORT

Pretya Juyal¹, Kultar Singh²

¹Assistant professor, Department of Panchakarma, Kunwar Shekhar Vijendra Ayurved Medical College and Research centre, Shobhit University, Gangoh

²Professor and Head, Department of Panchakarma, Kunwar Shekhar Vijendra Ayurved Medical college and Research centre, Shobhit University, Gangoh

Corresponding Author: pretya.juyal@gmail.com

https://doi.org/10.46607/iamj3911042023

(Published Online: April 2023)

Open Access © International Ayurvedic Medical Journal, India 2023 Article Received: 01/03/2023 - Peer Reviewed: 19/03/2023 - Accepted for Publication: 09/04/2023

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ABSTRACT

Carpal Tunnel Syndrome is due to the entrapment of the median nerve within the carpal tunnel in the wrist and is a very common neuropathy, which leads to paraesthesia, tingling sensation, numbness, and muscle weakness. In Ayurveda, it can be compared with dysfunction of *Vyana vayu* (~factor governing peripheral nerve activity) within the median nerve due to *Kupitavata* (*Vitiated Vata Dosha*). We hereby report a case of 62 years old female patient with complaints of pain, tingling sensation, numbness, and weakness in the right thumb, index finger, and wrist which was treated for two 6 months under an allopathic surgeon with no significant relief and advised for surgery. With these complaints, she came to the OPD of the Panchakarma department for further management. The Ayurvedic treatment includes *Snehadhara* with *Kottamchukkadi taila* on the affected area for a period of 15 days followed by *Shashtik shali pinda sweda* for 15 days along with *Shaman chikitsa* (~oral medicines). Significant clinical improvement was reported in pain, numbness, and tingling sensation after treatment. During treatment, the patient got relief from most of the signs and symptoms. Therefore, it can be concluded that the selected treatment modality is beneficial in managing carpal tunnel syndrome and can avoid surgery and other proceeding complications.

Keywords: Carpal tunnel syndrome, *Shashtik shali pinda sweda*, *Snehadhara* INTRODUCTION

Carpal Tunnel Syndrome (CTS) or median neuropathy is due to compression of the median nerve as it travels through the wrist at the carpal tunnel. Most of the cases are idiopathic and are most commonly caused by repetitive, sustained, or forceful motions occurring over time, compromising the integrity or functioning of the soft tissues and producing inflammation of the tendons or compression of the peripheral nerves, or any kind of trauma. Clinically, Carpal Tunnel Syndrome is characterized by multiple alterations, both motor and sensory: nocturnal paraesthesia, numbness, tingling, decreased sensitivity and pain in the territory innervated by the median nerve, decreased grip strength, and atrophy of the thenar eminence.^[1] Symptoms usually start gradually with paraesthesia, numbness, and pain in the thumb, index finger, middle finger, and radial half of ring finger (median nerve distribution), and in advanced stages, it will lead to wasting, and finally, atrophy and muscle weakness may develop. Carpal tunnel syndrome cannot be correlated to a particular disease condition in Ayurveda, but the upper limb pathologies have been described under the category of Vata vyadhi (~diseases of the nervous system) in Ayurveda. According to Acharya Charaka, it is very difficult to give a name to all diseases in Ayurveda. But all the diseases are due to Kupita doshas (~faulty Doshas) and their Sthana samshrav (~localization) in different places.^[2] That's why the diseases should be treated according their Prakruti (~temperament), to Adhisthana (~site), Vyaktasthana (~place where symptoms occur), and Lakshana (~symptoms).^[3] Considering carpal tunnel syndrome as Anukta vyadhi (~diseases that are not mentioned in the text), it should be treated according to the involvement of site, Dosha (~forces which govern the body) involved and symptoms present. It is a disorder of the peripheral nerve and can be understood as a normal function of Vvana vavu (factor governing normal peripheral nerve activity) in Kandara (ligament) helps in proper sensory and motor activity, any type of abnormality or damage in them leads to Vikruta karma

(dysfunction). In modern medicine, it is treated in two ways i.e., both surgical and non-surgical way. Non-surgical treatment includes the use of analgesics, splint, and corticosteroid injections. But this gives temporary relief and has side effects. If a patient didn't respond to non-surgical treatment, then surgery is recommended. But in this study considering the involvement of *Vata dosha* with *Mamsa Kshaya* treatment was planned accordingly.

CASE REPORT

Patient Information:

Chief complaints

A 62-year-old female, with complaints of severe pain with numbness and tingling sensation in the right hand with involvement of wrist, thumb, and index finger for 2years, and for the last 6 months she was experiencing weakness in the right hand.

History of present illness

The patient was asymptomatic 2 years back, gradually she developed severe pain in the thumb and index finger of her right hand and wrist followed by numbness and tingling sensation, she described the pain as "needles and pins". Due to the extreme severity of the pain, she was not able to do her routine work. Her sleep was disturbed since then due to the shooting type of pain that comes in the midst of the night. The pain is aggravated during activities, in a cold climate, especially in the evenings or night hours. There is a loss of delicate movements of the thumb and index finger and the dropping of small objects that started six months ago. There was no obvious history of trauma, except the strenuous occupational work. She consulted an allopathic doctor and was diagnosed with a case of Carpal tunnel syndrome (CTS) and was advised of surgery. The patient was to undergo surgery and took the medicines but got no relief. With these complaints, she came to the OPD of the Panchakarma department for further management.

History of past illness: The patient was having a history of hypertension for four years and diabetes mellitus for 1.5 years.

Treatment History

- She was taking anti- inflammatory and analgesics for the past 6 months.
- She has been on anti-hypertensive and anti- diabetic treatment for the past 1.5 yrs.

General examination: On general examination, the patient was of fair complexion medium a built female. Blood pressure was 140/84 mmHg and pulse was 82/min. On examination of the bulbar conjunctiva, icterus was not present, and central cyanosis, clubbing, and lymphadenopathy, were not present.

Systemic examination: On systemic examination, no circulatory, respiratory, or digestive abnormalities were noticed.

Local examination: On examination, it was elicited that the patient had a positive Tinel's sign. On performing Phalen's test, instructing the patient to bend the wrist forwards completely for 60 seconds, numbness and pain increased. The pain assessment was done by VAS, its score was 8. Based on these simple diagnostic tests and electro-diagnosis (Fig.1), we diagnose this patient with carpel tunnel syndrome.

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Diagnostic assessment: During the total study period (30 days) the patient was assessed before, during, and after treatment. The patient was assessed on the basis of symptoms like pain (VAS score), numbness, tingling sensation,^[4] Tinel's sign, and Phalen's test^[5]. **Therapeutic intervention**

The involvement of Vata was confirmed by the clinical signs and symptoms such as Vedana (~pain), Prasupti, and Bala haani (~loss of immunity). The internal and external medications were prescribed as per the involved Samprapti. The patient's consent was taken before the initiation of treatment.

Panchakarma (Table no. 1)

Therapy	Duration	
Ekanga Snehdhara with Kottamchukkadi taila (45 minutes)	15 days	
Shashtikshali pinda sweda (45minutes)	15 days	

Shamana chikitsa (Table no. 2)

Therapy	Duration	
Yogaraja Guggul (500mg)2tab BD with Lukewarm water after meal		
Maharasnadi Kwatha	<i>Kwatha</i> 20ml BD with water equal amount of water before food	

Rasraja rasa (125mg),	1tab BD after a meal	
Ashwagandha churna	3gm BD with 1cup milk (250ml) after food	

improvement in numbress without any untoward effect. (Table 1)

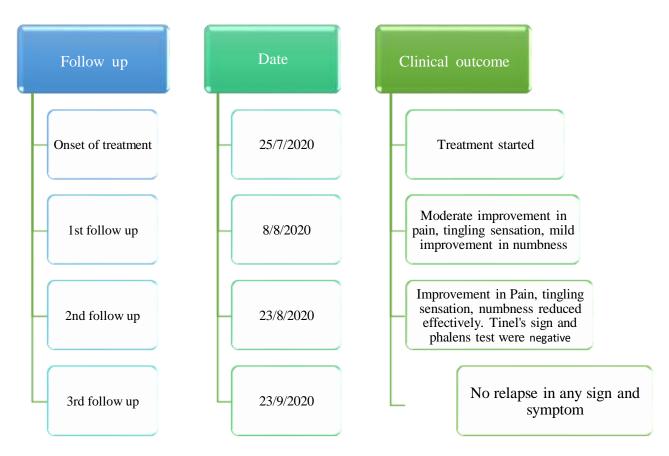
FOLLOW-UP AND OUTCOME

With these 30 days of treatment, the patient got tremendous relief in a tingling sensation, pain, and mild

Table 1: Outcome of the treatment (Table no. 3)

Symptoms	Before treatment	After treatment
Pain	VAS score- 8	VAS score- 2
Numbness	Present	Marked improvement
Tingling sensation	Present	Marked improvement
Tinel's sign	Positive	Negative
Phalen's test	Positive	Negative

Figure 2: Follow- up.



DISCUSSION

Carpal Tunnel Syndrome (CTS) is a common medical condition, which causes pain, numbness, and tingling in the hand and arm of the affected individual. CTS occurs when the median nerve is squeezed or compressed as it travels through the wrist. Risk factors for CTS include obesity, monotonous wrist activity, pregnancy, genetic heredity, and rheumatoid inflammation.^[10] As this disease cannot be directly corelated to any condition in Ayurveda. Hence, considering the symptoms manifested, site of involvement and *Dosha* involved the pathogenesis can be formulated as Acharya Charaka has described that the aggravated *Vayu* produces various diseases depending upon the *Hetu vishesha* and *Sthana vishesha*^{11]}.

So, the pathogenesis of CTS in Avurveda parlance can be a Vata vyadhi (~disease due to Vata) and hence it's understood that the Vata dosha with its potent Gunas (~qualities) like Rooksha (~dryness), Sheeta (~cold), Vishada (~clear) and Laghu (~light) initiates the pathology. Sheeta guna of Vata dosha interacts with the Kandara (~ligament) and results in Vyana vayu dysfunction resulting in Margavrodha (~obstruction of the route) and causes Prasupti (~numbness), Shosham (~wasting).^[12] Prasupti's predominant phase of carpal tunnel syndrome can be understood as Sheeta guna in which there is the dominance of Vata. Rooksha guna of Vata source from Vayu mahabhuta, cause reduced nourishment to Kandara and Vimarga gamana (~false passage) of Vyana vayu and leads to neuritis, demyelination, and axonal loss. ^[13] Carpal tunnel syndrome mainly involves the wrist, which is the place of Manibandh (~a type of *Rujakara marma*) so produces pain. As there is a loss of function it means Mamsa kshaya is involved. So, we can conclude that there is the involvement of Vata with Mamsa kshaya.

Vata dosha is the deranged *Dosha* in this particular condition and *Alpa balatvam* (~inability to perform daily chores) is a property of vitiated *Vata*.^[14] *Snehadhara* improves motor and sensory systems resulting in improved function of the hand and forearm. *Shashtika shali pinda sweda* which works as *Balya* (~herbs which increase strength and are tonifying) for *Mamsa* (~muscle) and *Asthidhatu* (~One of the seven "*Dhatus*" or tissues; consists of bones, nails, teeth, hair). *Snehadhara* is a treatment in which medicated oil is poured over the desired part or full body. Contents of *Kottamchukkadi taila*^[15] are *Kushtha* (*Saussurea lappa* Clarke),^[16] *Shunthi* (*Zingiber*

officinale Roscoe),^[17] Vacha (Acorus calamus Linn.), ^[18] Shigru (Moringa oleifera Lam.), ^[19] Lashuna (Allium sativum Linn.), ^[20] Hinsra (Capparis seperia Linn.), ^[21] Devdaru (Cedrus deodara Roxb.), ^[22] Sarshapa (Brassica campestris Var.),^[23] Rasna (Pluchea lanceolata Oliver & Hiern), ^[24] Tila taila (Sesamum indicum Linn.), ^[25] Dadhi, Chincha rasa (Tamarindus indicus Linn.) ^[26] Kottamchukkadi taila by virtue of its properties like Kapha- Vata hara and Ushna veerya (~hot potency), removes the Margavrodha caused by Kapha and simultaneously pacify Vata due to its Snigdha (~oily) and Ushna veerya guna, which helps in the relief of pain and numbness.^[27] Kottamchukkadi taila has Dravya with Lekhaniya (~herbs which reduce fatty tissue and support weight loss), Shoolhara (~anti-spasmodic), and Shophahara (~anti-inflammatory) properties.^[28] Kushtha (Saussurea lappa Clarke) and Vacha (Acorus calamus Linn.) are Lekhaniya^[29], Shigru (Moringa oleifera Lam.).^[30] Lashuna (Allium sativum Linn.), ^[31] Devdaru (Cedrus deodara Roxb.),^[32] Hinsra (Capparis seperia Linn.),^[33] are Shophahara,^[34] Shunthi (Zingiber officinale Roscoe),^[35] Shigru (Moringa oleifera Lam.), ^[36] Hinsra (Capparis seperia Linn.), ^[37] are having *Shoolprashman* (~pain reliever) properties. All drugs are having Ushna veerya and Katu vipaka (~pungent post-digestive effect). In modern parlance Lashun, Chincha has been reported as analgesic, on the other hand, Kushtha,^[38] Vacha^[39], and *Chincha*^[40] are reported as having anti-inflammatory properties. On performing Snehadhara with Kottamchukkadi taila due to the properties of Taila like Teekshana (~irritant), Sukshma (~small), Sara (~mobility), and *Vyavayi* (~herbs that act rapidly)^[41] it will facilitate the transport of these drugs to Madhyam rogamarga and helps in pacifying Vata. It results in mild improvement of the motor and sensory system resulting in improved function of the hand and forearm. After 15 days, Shashtika shali pinda sweda was done for 15 days. Shashtika shali^[42] refers to the rice that grows on the 60th day, *Pinda* (~bolus) and Sweda means fomentation or Sudation. It is a kind of Sankara Sweda ^[43] with Snigdha Dravya (~) such as Ksheera (~milk) and Shali Dhanya, which

comes under the category of *Saagni Sweda*.^[44] This is popularly known as *Navarakizhi*. It is *Bala vardhak* (~increases immunity), *and Deha dadyakar* (~makes the body strong). In this procedure, the bolus is dipped in *Balamula kwatha* with *Godugdha*, in this way heat is provided which increases blood flow locally and helps in inducing nerve stimulation and muscle relaxation. *Bala* is *Balya* for *Mamsa* and *Asthi dhatu*.

Shamana chikitsa

Yograja guggul is a combination of drugs having properties like *Ushna*, *Amapachana*, (~digestion of poorly digested food), *Shothaghna*, *Vatahara*, and *Shoolaghna* (~relieves pain).^[45] *Rasraja rasa* is *Tridoshaghna* (~alleviated all three *Doshas*) and *Balya*.^[46] *Maharasnadi Kwatha* reduces pain and inflammation,^[47] *Ashwagandha churna* was given as *Balya* and it has a rejuvenating effect and it also pacifies *Vata dosha*.^[48]

CONCLUSION

Carpal tunnel syndrome is a disease with a poor prognosis and is very difficult to treat without surgery. With this case we can say that in Ayurveda there is hope for such kind of disease, the success in the present case has given encouraging results for future practice. It can be concluded that *Snehadhara* and *Shastika shali pinda sweda* along with oral Ayurvedic formulations are very effective treatment modalities in carpal tunnel syndrome and can be used effectively in the management of carpal tunnel syndrome.

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Source of Support: Nil Conflict of Interest: None Declared

How to cite this URL: Pretya Juyal & Kultar Singh: Ayurvedic Treatment Modalities in Carpal Tunnel Syndrome: A Case Report. International Ayurvedic Medical Journal {online} 2023 {cited April 2023} Available from: http://www.iamj.in/posts/images/upload/989_996.pdf