

# Integrated Approach of Panchakarma and Viddha karma for the Management of Carpal Tunnel Syndrome: A Case Report

## Case Report

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## Abstract

**Background:** Carpal Tunnel Syndrome (CTS) is a peripheral neuropathy that most commonly impacts the median nerve, characterized by pain, numbness, and tingling along the pathway of the median nerve. The prevalence of CTS is estimated to range between 4% and 5%. As the condition is prone to recurrence, there is a need to adopt management approaches that provides significant results. The clinical features of CTS can be correlated with *Vata vyadhi* in Ayurveda. **Aim & Objective:** To evaluate the efficacy of Panchakarma therapy and Viddha Karma combined with *Yogaraja guggulu*, *Trayodashanga guggulu*, *Asthiposhak vati*, and *Sukhasarak vati* in managing CTS by using Boston Carpal Tunnel Questionnaire (BCTQ) score. **Methodology:** A case report of 52-year-old male patient presented with pain in the right hand, accompanied by numbness, tingling sensations, and difficulty in performing routine activities for 3 months. On examination Tinel's sign, Phalen's maneuver were positive, with high BCTQ score, Visual Analogue Scale scored 7, and was advised to perform nerve conduction study. He was diagnosed with CTS with nerve conduction velocity less than 40 m/s. Panchakarma procedures such as *Sthanik snehan* (localized massage) with Nirgundi Taila, *Shashtikshali pinda swedan* (sudation with medicated cooked bolus of rice) for 15 days and 3 sittings of *viddha karma* (Dry needle puncture) at the interval of 5 days, along with internal Ayurvedic medications as mentioned above were adopted for 21 days. **Results:** Following the treatment, significant improvement was observed in all symptoms, with 67.5% relief in symptoms as reflected by BCTQ scores. **Conclusion:** Panchakarma therapy and Ayurvedic medications are effective in managing CTS.

**Keywords:** *Ayurveda, Carpal Tunnel Syndrome, Panchakarma, Viddha karma, Pain management.*

## Introduction

Carpal tunnel syndrome (CTS) is among frequently occurring compression neuropathy affecting the upper limbs. It represents about 90% of all entrapment neuropathies and occurs due to the compression or squeezing of median nerve within the carpal tunnel at the wrist (1). Repetitive movements of hand, obesity, pregnancy, hereditary predisposition, rheumatoid arthritis, and osteoarthritis contribute to the risk factors of CTS (2). Pain, tingling and numbness of the affected hand are the characteristic clinical features of CTS. The prevalence of CTS is estimated to range between 4% and 5%, with a higher occurrence among individuals aged 40 to 60 (3).

Treatment of CTS varies based on severity of the condition. Mild to moderate cases often benefit from

conventional treatments like splinting, corticosteroids, therapeutic ultrasound, and nerve glide exercises (4). Severe cases or those with nerve injury require surgical decompression, especially if symptoms persist or worsen. Still, there is an 80% probability that patients may experience a recurrence of symptoms within one year (5).

According to Ayurveda, CTS can be correlated with *Vata vyadhi* (diseases caused by vitiated *Vata dosha*) based on its signs and symptoms. *Vata vyadhi* arises when the *Vata Dosha* becomes aggravated due to factors like excessive activity or overexertion, and localizes in the empty channels of the body to manifest symptoms depending upon *Hetu* (causative factor) and *Sthana* (Site of manifestation) (6). The symptoms of *Vata vyadhi* such as *Shoola* (pain), *Sthambh* (numbness), *Kampa* (tremors), and *Akshepana* (tingling sensation), which closely resemble those of Carpal Tunnel Syndrome (7). The line of treatment of *Vatavyadhi* includes *Snehan* (oleation), *Swedana* (sudation), *basti* (therapeutic enema), and *vata* pacifying diet and lifestyle (8). Acharya Sushruta stated *Viddha karma* for the management of Pain due to vitiated vata while explaining indications of *Viddha Karma* (9).

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The patient was treated using Panchakarma procedures, including *Sthanik Snehana* (localized massage) with *Nirgundi* (*Vitex negundo*) *Taila*, *Shashtikshali pinda sweda* (sudation with medicated cooked bolus of rice) and *Viddha Karma* (Dry needle puncture), along with internal Ayurvedic medications such as *Yograj Guggulu*, *Trayodashanga Guggulu*, *Asthiposhak Vati*, and *Sukhsarak Vati*. After three weeks, the patient got relief from the symptoms and able to perform daily activities.

### Patient information

A 52-year-old male visited the outpatient department of Panchakarma complaining of pain in the right arm, along with tingling and numbness affecting the middle, index, and ring fingers for the past 3 months. The patient also experienced difficulty holding or grasping objects with his hand. The patient had no history of diabetes mellitus, hypertension, or any fall or trauma. Additionally, the patient was not on any medication. The patient presents with a history indicative of repetitive strain injury. Pain is exacerbated by repetitive hand movements and prolonged activity. Symptomatic relief is reportedly achieved through conservative measures, including rest, splinting, and pharmacological intervention, pointing towards a likely diagnosis of carpal tunnel syndrome.

### Clinical findings

#### General and Physical Examination -

His vitals were within normal range. There was no pallor, icterus, clubbing, or lymphadenopathy. There was no significant family history, surgical history, or history of previous hospitalizations. He had no history of falls or injuries, and his appetite was good.

On examination-

Blood pressure - 130/80 mmHg; pulse -76 bpm; weight - 63 kg; height - 155 cm.

#### Ashtavidha Pariksha (8 folds of examination):

*Nadi* – *Vatapradhan Pittanubandhi*; *Shabda* - *Spashta* (Clear); *Mala* – *Asamyak* (Constipation); *Sparsha* - *Anushna* (Normal); *Mutra* - *Samyak*; (Clear); *Drik* - *Prakruta* (no pallor no icterus); *Jivha* - *Niraam* (Normal); *Akruti* - *Madhyam* (Moderate)

### Diagnostic assessment

Patient was evaluated by clinical features, Tinel's sign, Phalen's maneuver, Visual Analog Scale (VAS) and the Boston Carpal Tunnel Questionnaire (BCTQ) (10) and NCS study done to confirm the diagnosis as CTS referred to as *Vata vyadhi* in Ayurvedic terms.(10)

### Therapeutic intervention

The treatment protocol involved *Bahya* and *Abhyantar chikitsa*. In *Bahya Chikitsa* *Sthanik Snehana*, *Shashtikshali pinda sweda* and *Viddha karma* (done once in 5 days) for 15 days. [Table 2, 3].

### Timeline

**Table 1: Timeline of the treatment**

Date	Signs and Symptoms	Intervention
November 2022	Pain at right arm region with tingling and numbness in right hand	Consulted General physician NSAIDs were advised for 10 days
2 Feb 23	Pain, tingling sensation, numbness at right arm region started with involvement of middle, index & ring finger	Panchakarma therapy <i>Sthanik snehana</i> , <i>Shashtikshali pinda sweda</i> , <i>Viddha karma</i> , and ayurvedic medicine started
6 Feb 23	The symptoms decreased to some extent	Same treatment continued
15 Feb 23	The symptoms decreased to the extent that the patient was able to do it daily chores	Panchakarma and <i>Viddha Karma</i> treatment were stopped and ayurvedic medicine were continued
16 Feb 23	Significant improvement observed in all symptoms	Only internal medications continued and called for follow-up visit
22 Feb 23	Patient was relieved significantly	

### Viddha karma (Dry needle puncture)

In this study of *Viddha karma* done at 3 points: 2 angula above the Kshipra marma (On dorsum between 1<sup>st</sup> and 2<sup>nd</sup> metacarpal region), Between 2<sup>nd</sup> and 3<sup>rd</sup> metacarpal region, and Between 3<sup>rd</sup> and 4<sup>th</sup> metacarpal region.

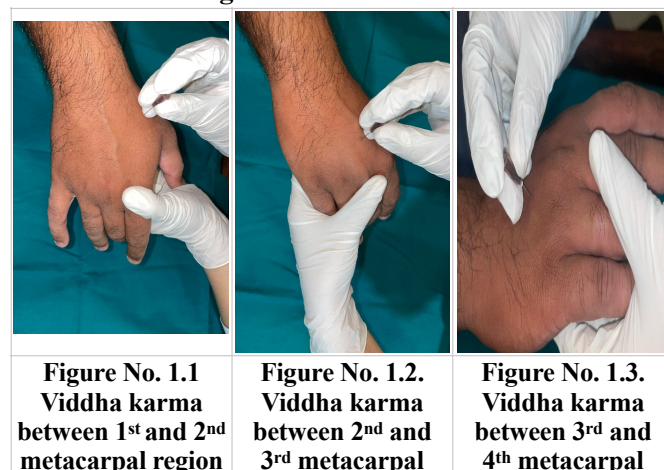
### Procedure of Viddha karma

**Purva Karma** - Informed written consent was taken for *Viddha Karma*, Investigations such as Bleeding time and Clotting time done. Started with *Sthanik Snehana* and *Shashtikshali pinda sweda*. 3 selected points were marked and made clean.

**Pradhan karma** - Using sterile needle No. 26. *Viddha karma* was done at spotted points by piercing needle in depth 6-8mm.

**Paschat karma**- The area cleaned again with dry gauze piece. Needles were discarded.

**Figure 1: Viddha Karma**



**Table 2: Bahya Chikitsa (External treatment)**

SN.	Intervention	Frequency	Duration
1	Viddha karma (Dry needle puncture)	Once in 5 days	15 days (3 sittings)
2	Sthanik snehana (Local therapeutic oil Massage) with Nirgundi Taila from right wrist to fingers of right hand for 20 minutes.	Daily	15 days
3	Sthanik Shashtikshali pinda sweda (Local sudation) with from wrist to fingers of right hand. For 15 minutes.	Daily	15 days

**Figure 2: Shashtikshali pinda sweda**


Figure No. 2.1 Shashtikshali pinda sweda at wrist

Figure No. 2.2. Shashtikshali pinda sweda at fingers

Internal medicines *Yograj Guggulu*, *Trayodashanga Guggulu*, *Astiposhak Vati*, *Sukhsarak Vati* were given for 21 days. [Table 3]

**Table 3: Abhyantar Chikitsa (Internal treatment)**

SN.	Internal medication	Matra (Dose)	Freq- uency	Anupana (Adjuvant)	Kala (Duration)
1	* <i>Yograj Guggulu</i> (Shri Dhootapapesh war Ltd)	250mg	TDS	<i>Koshna jala</i> (warm water)	15 days
2	** <i>Trayodasha nga Guggulu</i> (Shri Dhootapapesh war Ltd)	250mg	TDS	<i>Koshna jala</i>	15 days
3	*** <i>Astiposhak Vati</i> (Shri Dhootapapesh war Ltd)	250mg	TDS	<i>Koshna jala</i>	15 days
4	**** <i>Sukhsara k Vati</i> (Sharangdhar pharmacy)	500mg	HS	<i>Koshna jala</i>	15 days

[TDS – Three times a day]; [HS - Bedtime]

## Ingredients of Internal Medicine

• **Yograj Guggulu** – *Chitrak* (*Plumbago zeylanica* L.), *Pippalimula* (*Piper longum* Linn.), *Shunthi* (*Zingiber officinale* Rosc.), *Patha* (*Cissampelos pareira* Linn.), *Pippali* (*Piper longum* Linn.), *Vidanga* (*Embelia ribes* Burm.F.), *Katuki* (*Picorhiza kurroo* Royle ex. Benth), *Gajapippali* (*Scindapsus officinalis* Schott.), *Hingu* (*Ferula assa-foetida* Linn.), *Ajamoda* (*Apium graveolens* Linn.), *Ativisha* (*Aconitum heterophyllum* Wall), *Chavya* (*Piper retrofractum* Vahl.), *Bharangi* (*Clerodendron serratum* Linn.), *Vacha* (*Acorus calamus* Linn.), *Sarshapa* (*Brassica juncea*), *Murva* (*Sansevieria roxburghiana* Schult.), *Shweta jeeraka* (*Cuminum cyminum* Linn), *Krishna Jeeraka* (*Carum carvi* L.), *Haritaki* (*Terminalia chebula* Retz.), *Bibhitaki* (*Terminalia bellirica* Gaertn.), *Amalaki* (*Emblia officinalis* Gaertn.), *Renuka beeja* (*Vitex agnus-castus*), *Indrayava* (*Holarrhena antidysentrica* wall), *Dashamula vishesh shodhita guggulu* (*Commiphora wightii*).

• **Trayodashanga Guggulu** – *Babhooltwak* (*Acacia nilotica* Willd.), *Ashwagandha* (*Withania somnifera* Dunal), *Hapusha* (*Juniperus communis* L.), *Guduchi* (*Tinospora cardifolia* Willd.), *Shatavari* (*Asparagus racemosus*), *Gokshur* (*Tribulus terrestris* Linn.), *Vruddhadaru* (*Argyrea speciosa* Linn.), *Rasna* (*Pluchea lanceolata* C. B. Clarke), *Shatavha* (*Anethum graveolens*), *Shunthi* (*Zingiber officinale* Rosc.), *Shuddha guggulu* (*Commiphora mukul*), *Bala* (*Sida cardifolia* L.), and *Babboola Kwath* (*Acacia nilotica*).

• **Astiposhak Vati** - *Kukkutandatvak Bhasma* ( $\text{CaCO}_3$ ), *Asthisamhruta*, *Arjuna* (*Terminalia arjuna*), *Shuddha Laksha* (*Laccifer lacca*), *Amalaki* (*Emblia officinalis* Gaertn.), *Ashwagandha* (*Withania somnifera* Dunal), *Guduchi* (*Tinospora cardifolia* Willd.), *Shuddha Guggul* (*Commiphora mukul*), *Bala* (*Sida cardifolia* L.), and *Babboola Kwath* (*Acacia nilotica*).

• **Sukhsarak Vati** - *Indravaruni* (*Citrullus colocynthis* L.), *Haritaki* (*Terminalia chebula* Retz.), *Shuddha gandhak choorna* (*Sulfur*), *Binders and Excipients*.

## Follow-up and outcome

Significant reduction is noted in VAS Score, with negative Tinel's sign and Phalen's maneuver [Table 4]. Grades of BCTQ [Table 5] and Functional Status Scale [Table 6] reduced markedly after treatment, and the patient was able to perform routine activities. [Graph 1]

**Table 4: Follow-up wise assessment of outcome**

Assessment Criteria	Before treatment	After treatment	Follow up Assessment on 21 <sup>th</sup> day
Pain	7	3	3
Tinel's Sign	Positive	Negative	Negative
Phalen's maneuver	Positive	Negative	Negative



### Effect of therapy on Boston's Questionnaire:

- Grade 1: Normal
- Grade 2: Slight
- Grade 3: Medium
- Grade 4: Severe
- Grade 5: Very serious

**Table 5: Follow-up wise assessment of Boston's Questionnaire**

Sr. No.	Question	BT	AT	Follow up on 21 <sup>st</sup> day
1	How severe is the hand or wrist pain that you have at night?	3	1	1
2	How often did hand or wrist pain wake you up during a typical night in the past two weeks?	3	1	1
3	Do you typically have pain in your hand or wrist during the daytime?	4	2	2
4	How often do you have hand or wrist pain during daytime?	3	1	1
5	How long on average does an episode of pain last during the daytime?	5	1	1
6	Do you have numbness (loss of sensation) in your hand?	4	2	2
7	Do you have weakness in your hand or wrist?	5	1	1
8	Do you have tingling sensations in your hand?	5	1	1
9	How severe is numbness (loss of sensation) or tingling at night?	3	1	1
10	How often did hand numbness or tingling wake you up during a typical night during the past two weeks?	2	1	1
11	Do you have difficulty with the grasping and use of small objects such as keys or pens?	3	1	1

BT: Before treatment; AT: After treatment

### Effect of therapy on Functional Status scale

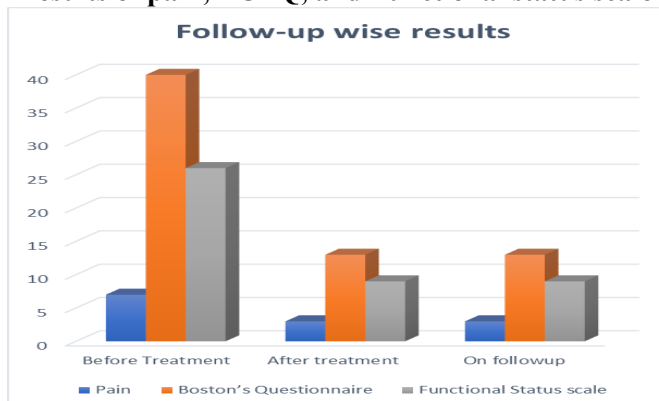
- Grade 1: No Difficulty
- Grade 2: Little Difficulty
- Grade 3: Moderate Difficulty
- Grade 4: Intense Difficulty
- Grade 5: Unable to perform activity

**Table 6: Follow-up wise assessment of Functional Status scale**

No .	Functional Status	BT	AT	Follow up on 21 <sup>st</sup> day
1	Writing	5	2	2
2	Buttoning of cloths	2	1	1
3	Holding a book while reading	2	1	1
4	Gripping of a cell phone	3	1	1
5	Opening jars	4	1	1
6	Household chores	3	1	1
7	Carrying grocery bags	4	1	1
8	Bathing and dressing	3	1	1

BT: Before treatment; AT: After treatment

**Graph 1: Graphical representation of follow-up wise results of pain, BCTQ, and Functional status scale**



## Discussion

CTS is a common form of entrapment neuropathy (1). Research suggests that although surgery provides rapid pain relief, its superiority is not sustained over conservative approaches. Since it is correlated with *Vata vyadhi* (a condition dominated by *Vata Dosha*), a *Vatahara* (Vata-pacifying) approach was adopted for treatment in this case. The treatment protocol included Ayurvedic medications and Panchakarma therapies.

*Sthanika Snehana* (Localised massage) with *Nirgundi* (*Vitex negundo*) *taila* helps to reduce *Vata dosha* due to its *Vata shamaka* properties. It also possesses analgesic, anti-inflammatory and anti-oxidant properties due to the presence of natural poly phenols and 3,4,9-trimethyl-7-propyldecanoic acid (11,12). The massage increases the blood circulation to the affected part and provides strength and flexibility to the muscles and joints. It also improves the absorption of the medicinal ingredients through skin.

*Sthanika Shashtikshali pinda sweda* (Fomentation with herbal rice bolus) is a special type of *Swedana* (fomentation) procedure executed by *Shashtikshali*, *Balamoola kwath*, and *Ksheera* mainly indicated in *Vataj shoola* (pain), *Stambha* (stiffness) *Akshepa* (tingling) (13). Because of *Bruhana*, *Vatahara*, and *Balya* properties it provides nourishment to bones, muscles, and nervous system, by decreasing fasciculation, inflammation, and peripheral neuropathy (14) It helps to transmit nerve impulses by channels of nerve conduction and remyelination (15).

Skin is the primary site of *Vata dosha* (16) The application of heat on skin increases metabolism by vasodilatation that recovers vascular insufficiency and thereby achieve transdermal drug absorption. It also induces lymph and venous drainage. The combined effect of *Snehana* and *Swedana* stimulates nerve endings, relaxes muscles and relieves pain and numbness (17). As pain in CTS is primarily attributed to the vitiation of *vata dosha* *Sthanik snehana* with *Nirgundi taila* and *Sthanika Shashtikshali pinda sweda* helps to reduce pain.

*Yogaraja guggulu* contains a total 29 herbs is specifically indicated in *Vata vyadhi* having *Deepana* and *Vatahara* properties which helps in *agnideepana* and *Vedanashaman* (18). It has anti-inflammatory, anti-

oxidant and analgesic properties(19) that makes it effective in reducing pain, and numbness associated with CTS.

*Trayodashanga guggulu* is prepared with combination 13 herbs with majority of drugs having *ushnavirya* (hot potency) and *vatahara* properties. It is a well-known formulation used in the treatment of *Vata vyadhi* for *Shoola* (pain) and *Stabdghata* (numbness)(20) (21). Acharya Bhavamishra has recommended it for the treatment of *Vata vyadhi* and conditions related to *Asthi-Majja-Sandhi* (Bone, bone marrow and joints). Main ingredients such as *Shatavari*, *Ashwagandha*, *Guduchi* including *Guggulu* and *Ghruta* are recognized for their rejuvenating quality and nourishment. It acts as analgesic and anti-inflammatory due to the presence of phenolics and Phyto steroids as major constituents (22).

*Asthiposhak Vati* is a herbomineral proprietary medicine that does *Brumhana* (Nourishment) which is crucial in treatment of *Vata vyadhi*. It has an anti-inflammatory properties and is also a rich source of natural calcium. It is proven effective in the management of *Asthi-kshaya* (Osteopenia) symptoms such as Pain, stiffness related to bone and joints (23).

*Sukhasarak vati* acts as a *Vatanulomaka* beneficial in the treatment of *vata vyadhi*. Its ingredients exhibit laxative properties that regulates bowel movements (24).

*Viddha Karma* is a specialized therapy originated from *Sira Vedhana*. This therapy resembles with counter irritation techniques like application of local pressure, and acupuncture. The central nerve fibres are primarily responsible for transmitting pain signals. By stimulating these points, *Viddha Karma* potentially disrupts the pain pathway, leading to symptomatic relief. *Viddha karma* causes release the obstruction of *Vata* by *Rakta* (Vitiated blood) and initiates pain reduction(25).

The case highlights the effective management of Carpal Tunnel Syndrome (CTS) using a combination of Panchakarma therapy and Ayurvedic medications. The therapeutic approach, including localized massage with *Nirgundi Taila*, *Shashtikshali Pinda Sweda*, and *Viddha Karma*, along with internal medications, significantly alleviated symptoms. The 67.5% improvement in BCTQ scores suggests that this integrative approach addresses both symptomatic relief and functional recovery. These findings indicate that Ayurveda, through a holistic regimen, can offer good results in managing CTS and reducing recurrence. Further studies with larger sample sizes are needed to validate these outcomes.

In this case, the combination of Panchakarma, with internal Ayurvedic medications focused on pacifying *Vata Dosha*, is attributed to the *Vata-shamana*. This approach contributed to the patient's recovery from carpal tunnel syndrome symptoms.

## Conclusion

It is concluded that combined approach of Panchakarma therapy, and internal medications are effective in the management of carpal tunnel syndrome. 67.5% relief was observed in symptoms in BCTQ

scores. The treatment approach is safe and effective with no adverse effects. The significant improvements in symptoms underscores the efficacy of this Ayurvedic management protocol.

## Patient consent declaration

The authors confirm that they have obtained a patient consent form in which the patient or caregiver has provided consent for the case, along with images and clinical information, to be reported in the journal. The patient or caregiver understands that their name and initials will not be published, and all reasonable efforts will be made to protect their identity. However, complete anonymity cannot be guaranteed.

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**Conflict of interest** - There are no conflicts of interest to disclose.

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