



ISSN 2456-3110

Vol 5 · Issue 5

Sept-Oct 2020

Journal of  
**Ayurveda and Integrated  
Medical Sciences**

*www.jaims.in*

# JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences



**Charaka**  
Publications

Indexed

# Single case evaluation of the effect of *Saindhavaadi Taila Abhyanga* in Carpal Tunnel Syndrome

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## ABSTRACT

In the present case study, a 38 years old obese female patient approached OPD of Panchakarma Department, Rishikul Campus, Haridwar in Feb 2019 with the complaints of numbness, tingling, swelling and pain in right hand and arm since last two weeks. As she entered the OPD room, she was trying to relieve the symptoms by "shaking out" her right hand (flick sign). She complained of an electric shock like sensation in thumb, index finger and middle finger which travelled from wrist upto the arm and sometimes wake her from sleep. Proper history revealed that she was involved in playing and teaching the folk instrument *Dholaka* since last 1.5 years. Relevant investigations and examinations were done to exclude out other causes of similar neuropathic pain like rheumatoid arthritis, cervical (C7) radiculopathy and co-existing diseases such as diabetes mellitus, thyroid disorders, kidney failure, amyloidosis and lymphedema. The case was diagnosed as Carpal Tunnel Syndrome (*Ekanga Vata*) on the basis of clinical observation of characteristic symptoms and positive Tinel's sign, median nerve compression test and Phalen's test through physical examination. Carpal tunnel syndrome is a median compression neuropathy that causes pain, numbness, tingling and weakness in the hand and wrist. This single clinical case study was aimed at assessing the efficacy of *Sthanika Abhyanga* with *Saindhavaadi Taila* in a patient with CTS. *Ushna*, *Tiksna*, *Sukshma*, *Snigdha* properties of *Taila* would have pacified *Vata* thereby reducing weakness of hands and enhancing proper movements of wrist joint. To evaluate the effect of therapy, post treatment assessment was done using Boston Carpal Tunnel Syndrome Questionnaire (BCTQ). The results showed 54.74% relief in symptoms and thus the patient responded favorably to the treatment.

**Key words:** Pain, Median Nerve, Carpal Tunnel Syndrome, Vata, Abhyanga.

## INTRODUCTION

Carpal Tunnel Syndrome is the most common nerve compression neuropathy that accounts for almost 90% of all neuropathies. Median nerve, also called "labourer's nerve", is the major peripheral nerve of the upper limb. Through its palmar digital cutaneous

branch, it innervates the palmar surface and fingertips of the lateral three and half digits. Any repetitive movements that cause significant swelling, thickening or irritation of membranes around the tendons in the carpal tunnel can result in pressure on the median nerve, disrupting transmission of sensations from the hand up to the arm and to the central nervous system.<sup>[1]</sup> Median nerve gets compressed at the wrist, where it passes through the carpal tunnel due to repeated overextension of the wrist. This results in hand and wrist pain, a burning sensation in the middle and index fingers, thumb and finger numbness, an electric shock like sensation through the wrist and hand. The basic pathology that started at the wrist level has an impact on the whole length of the neurons i.e. from finger tips to the dorsal root ganglia and spinal cord level. In 56.8% of cases, concomitant diseases or conditions are present; the most common

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Submission Date: 19/09/2020

Accepted Date: 24/10/2020

### Access this article online

#### Quick Response Code



Website: [www.jaims.in](http://www.jaims.in)

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are hormonal disorders (6.1%), diabetes (6.1%), pregnancy (4.6%) and thyroid disorders (1.4%).<sup>[2]</sup> It remains idiopathic in majority of cases. It also affects professional artists (sculptors, printmakers, violinists) or any task that involve long-term repetitive movement of the wrist.

*Vata* in normal state allows unimpeded movements of body and sustains a longer life devoid of any disorders.<sup>[3]</sup> This is attained when all five types of *Vayu* viz., *Prana*, *Udana*, *Samana*, *Vyana*, *Apana* work in equilibrium located at their places and function normally. Excessive movements cause aggravation of *Vata* which fills up the vacant channels in the body producing disorders either in one part or entire body.<sup>[4]</sup> As in case of CTS, the median nerve is compressed by the swollen transverse carpal ligament (TCL) because of the vitiated *Vata* located in *Snayu* that produces generalized or localized disorders.<sup>[5]</sup> Vitiating *Vata* lodged in *Meda Dhatu* create heaviness in body organs, severe piercing pain, distress and excessive fatigue similar to what happens in CTS.<sup>[6]</sup> Being the *Updhatu* of *Meda*, *Snayu* (TCL and other intercarpal ligaments) forming the boundaries of carpal tunnel and *Sandhi* are eventually affected.<sup>[7]</sup> This aggravated *Vata* located in *Sandhi* cause swelling and pain during contraction and extension of limbs.<sup>[8]</sup> The symptoms occurring in CTS resemble with *Ekangaroga* in which vitiated *Vata* causes contracture in one of the feet or hands with piercing pain and distress.<sup>[9]</sup> In later stage if CTS is left untreated the pain and numbness radiates from hand to forearm and arm, at that stage it can be compared with *Vishwachi* (Brachial neuralgia).<sup>[10]</sup>

Symptoms like pain, tingling is due to involvement of *Vata*, so the line of treatment should be *Vatahara* and *Brumhana Chikitsa*. Even when nomenclature of the disease is not possible, it should be treated according to their *Prakruti*, *Adhithana*, *Vyaktasthana* and *Lakshanas*.<sup>[11]</sup> *Abhyanga* is mainly indicated with *Karpasasthyadi Taila*, *Murivenna Taila*, *Mahanarayana Taila* and *Swedana* in the form of *Patra Pinda Sweda*, *Jambira Pinda Sweda*. *Pichu* with *Karpuradi Taila*, *Murivenna Taila*, *Vishagarbha Taila* reduce swelling thereby releasing pressure over

median nerve. *Aranala Dhara*, *Dashamoola Kshira Dhara*, *Dhanyamla Dhara* and *Sthanika Seka* with *Bala Taila*, *Narayana Taila*, *Mahanarayana Taila* is done locally in CTS. *Rasnadi Lepa* and *Upanaha* with *Kolakulathadi Churna*, *Saindhava* and *Chincha Kalka*, *Vachadi Upanaha* reduce inflammation. *Nasya Karma* with *Karpasasthyadi Taila* and *Ksheerbala Avartita* is effective in reducing pain, tingling sensation, numbness.<sup>[12]</sup> *Agnikarma* over maximum pain area gives instant relief from pain by balancing local *Vata* and *Kapha Dosha* without any untoward effects.<sup>[13]</sup> *Raktamokshana* and *Siravyadha* over wrist joint and *Jalouka* or *Pracchhanna* over thumb, index, middle and ring finger act as a supreme treatment for CTS as it cures the diseases those are not relieved effectively by *Snehana*, *Lepana* etc. therapeutic measures.<sup>[14]</sup> *Mrudu Virechana* is given with *Eranda Taila* and *Nirgundi Taila* to pacify the excess of *Doshas*.<sup>[15]</sup>

Median nerve conduction studies and Electromyography (EMG) are the electrophysiological tests performed to identify both sensory and motor disorders. No electrophysiological or other diagnostic testing is necessary in patients with a typical history of carpal tunnel syndrome.<sup>[16]</sup> Non-surgical methods include wrist splinting, Non-steroidal anti-inflammatory drugs (NSAIDs) and Corticosteroids. In mild cases where the symptoms can reverse spontaneously, non-surgical management should be considered. Surgery is mainly indicated in patients having symptoms that cause substantial sleep disruption or interference with activities of daily living or if there are symptoms or signs of advanced disease, such as constant numbness, thenar weakness or atrophy<sup>[17]</sup> or denervation observed on EMG testing.<sup>[17]</sup>

## PATIENT PROFILE

A 38-years old obese female patient approached OPD of Panchakarma Department, Rishikul Campus, Haridwar in Feb 2019 with the complaints of numbness, tingling, swelling and pain in right hand and arm since last two weeks. As she entered the OPD room, she was trying to relieve the symptoms by "shaking out" her right hand (flick sign). She complained of an electric shock like sensation in

thumb, index finger and middle finger which travelled from wrist up to the arm and sometimes wake her from sleep. Her normal activities of daily living were disrupted as she experienced weakness in right hand and drop objects. Proper history revealed that she was involved in playing and teaching the folk instrument *Dholaka* since last 1.5 years. It started gradually affecting wrist joint of right hand with frequent numbness or tingling in the fingers, especially the thumb and the index and middle fingers. There was no recent history of traumatic event such as a wrist fracture, carpal bone subluxation, crush injury, high velocity strain. On interrogating past medical history, prolonged use of contraceptive pills was not found. Apart from obesity (weight - 82 kg), there were no other conditions that occupy carpal canal space.

**Investigations**

To rule out secondary compression and metabolic pathology, CBC, ESR, RA Factor, TFT, Blood sugar (Fasting and Post-prandial), Serum Uric acid, LFT were carried out. All related laboratory investigations were within normal limits except ESR, which was slightly raised (40mm/hr) due to inflammation of the surrounding tissues. So, these exclude out rheumatoid arthritis and other collagen diseases, polyneuropathy, rheumatic polymyalgia, vascular disease, gout, endocrine diseases, amyloidosis. For differential diagnosis with cervical radiculopathy, X-Ray Cervical spine was done and was found normal.

**Diagnostic assessment**

Diagnosis of carpal tunnel syndrome is substantially clinical. Numbness and tingling along the median nerve distribution which causes nocturnal awakening and improves by flicking the hand are sufficient for the diagnosis of CTS. CTS can be clinically diagnosed after a thorough physical assessment and by performing the following provocative tests.

**Table 1: Clinical Findings**

SN	Test	Principle	Finding	Result
1.	Phalen’s test	Increased pressure in the carpal tunnel	Symptoms appeared within 52 sec	Positive

2.	Tinel’s test	Percussion of median nerve	Electric shock like sensations occurred in the region of median nerve	Positive
3.	Median nerve compression test	Onset of paresthesia in the territory of median nerve distribution	On applying a direct digital pressure for approximately 30 sec symptoms were reproduced	Positive

**Therapeutic Intervention**

CTS mainly involves the wrist i.e. *Manibandha*, which is a *Rujakara Marma*. When it is affected it produces pain, so the treatment is based on that. Here it is *Vata Vridhhi* in *Kapha Sthana*.<sup>[18]</sup> *Abhyanga* was done with luke-warm *Saindhvaadi Taila* for 20 minutes for 10 days followed by *Pata Swedana* for 5 minutes. Wrist joint of right hand was massaged slowly and gently in round pattern up to the whole arm in the direction of hairs to get its effect in deeper tissues. The massage should be done clockwise when tonification or strengthening of organs or tissues is required.<sup>[19]</sup> The treatment for *Vata* imbalance include *Snehana*, *Swedana* and *Veshtana* (wrapping or covering the body with cloth).<sup>[20]</sup> Heat opens up vascular channels and softens the tissues, permitting more effective application of massage. *Snehana*<sup>[21]</sup> and *Swedana* effect locally which relieves numbness, swelling and reduces the intensity of pain. When heat is applied for a short period, it causes peripheral vasodilatation, redness of skin, general and local muscular relaxation.<sup>[22]</sup> It stimulates the circulation, speeds removal of inflammation waste products and thereby, relieves pain and swelling.

*Taila* through *Abhyanga* gets absorbed through the skin and reaches to the *Meda* in 700 *Matras* (228 sec.) which ultimately nourishes its *Updhatus Snayu* and *Sandhi*.<sup>[23]</sup> In addition, release of vasodilator substances, such as histamine from mast cells, is linked to local increase in blood flow and lymph. It improves the nutritive status, direct mechanical

displacement, as well as reflex nervous responses of blood and lymph channels walls induced by application of pressure to cutaneous areas.

Saindhavadi Taila is Vata-Kaphahara as it contains Tila Taila, Shunthi, Chitraka, Pippali, Bhallataka, Saindhava and Kanji.<sup>[24]</sup> Saindhava is Tridosahara and by virtue of its Sookshma Guna it enters the affected part along with Tila Taila and other drugs. Shunthi and Pippali mitigate Vata by their properties viz. Snigdha Guna, Ushna Veerya and Madhura Vipaka.<sup>[25]</sup> Bhallataka and Chitraka act on the Nadi Sansthana i.e. median nerve.

**Follow-up and outcomes**

After the completion of Abhyanga, patient got significant relief in pain, numbness, weakness of wrist joint and fingers. Symptomatic relief was taken as the criteria of assessment of response to treatment. Subjectively, the patient was assessed by **Boston Carpal Tunnel Syndrome Questionnaire (BCTQ)** before and after treatment. BCTQ is a disease-specific measure of self-reported symptom severity and functional status.<sup>[26]</sup>

**Table 2: Symptom severity scale (11 items)**

Symptoms	1	2	3	4	5
1. How severe is the hand or wrist pain that you have at night?	Normal	Slight	Medium	Severe	Very serious
2. How often did hand or wrist pain wake you up during a typical night in the past two weeks?	Normal	Once	2 to 3 times	4 to 5 times	More than 5 times
3. Do you	No pain	Slight	Medium	Severe	Very

typically have pain in your hand or wrist during the daytime?					serious
4. How often do you have hand or wrist pain during daytime?	Normal	1-2 times / day	3-5 times / day	More than 5 times	Continued
5. How long on average does an episode of pain last during the daytime?	Normal	<10 minutes	10-60 minutes	>60 minutes	Continued
6. Do you have numbness (loss of sensation) in your hand?	Normal	Slight	Medium	Severe	Very serious
7. Do you have weakness in your hand or wrist?	Normal	Slight	Medium	Severe	Very serious
8. Do you have tingling sensations in your hand?	Normal	Slight	Medium	Severe	Very serious
9. How severe is numbness (loss of sensation) or tingling at night?	Normal	Slight	Medium	Severe	Very serious

10. How often did hand numbness or tingling wake you up during a typical night during the past two weeks?	Normal	Once	2 to 3 times	4 to 5 times	More than 5 times
11. Do you have difficulty with the grasping and use of small objects such as keys or pens?	Without difficulty	Little difficulty	Moderately difficulty	Very difficulty	Very difficult

**RESULTS**

On physical assessment after treatment, Phalen’s test, Tinel’s test and Median nerve compression test were found negative.

Subjective severity of CTS symptoms and response to changes as a result of treatment were documented as follows;

BCTQ Score	BT	AT	% Relief (BT – AT / BT) x 100
	42	19	54.74%

Thus, after *Abhyanga* with *Saindhavaadi Taila* patient got 54.74% relief in symptoms of CTS. The symptoms of pain, numbness, and tingling sensation reduced from severe to mild. Additionally, sleep of the patient was also regularized. The therapeutic effect may be a result of both a psychological and physiologic phenomenon.<sup>[27]</sup> During post-treatment follow-up period, patient sustained the achieved improvement without any recurrence or aggravation of symptoms. *Abhyanga* prevents delayed onset muscle soreness and accelerates the rate of functional recovery.

**Strategies for prevention of Carpal Tunnel Syndrome**

The patient was advised to minimize stress on hands and wrists by reducing the force and relaxing grip. To prevent its recurrence, short and frequent breaks need to be taken between the tasks by gently stretching and bending hands and wrists periodically. While working in cold environment, gloves were advised to keep hands and wrists warm. In such cases, interruption or changing the way these activities are performed may even lead to complete resolution of the disease.

**DISCUSSION**

In the present case study *Abhyanga* followed by *Pata Swedana* for duration of 10 days provided significant relief in CTS. All the ingredients of *Saindhavaadi Taila* possess *Vedana Shamaka*, *Vata-Kaphahara* and *Balya* properties which gives strength to Median Nerve. *Abhyanga* is effective in CTS as it acts on somato-sensory system. During *Abhyanga*, primarily all the receptors situated in the skin (thermoreceptors, mechanoreceptors, proprioceptors, nociceptors) are stimulated simultaneously by the massage movements. As a result, the free nerve endings embedded in the capsule are also stimulated later. *Abhyanga* relieves tiredness and excess of *Vata* (aches and pains), nourishes body tissues, thus gives dramatic results in CTS. Fibrous scar tissue can potentially trap nerves, blood vessels, and lymphatics. By realigning collagen fibers and facilitating the movement of skin over other superficial structures, massage can help prevent problems caused by this entrapment. Symptoms disappear once circulation is re-established or decompression accomplished through movements.

**CONCLUSION**

CTS is clinically characterized by nocturnal paresthesia in the hand (numbness and tingling that usually disappear upon shaking the hand-Flick sign), pain in the hand, wrist, palmar aspect of the first to the fourth fingers or forearm, weakness of the hand and a loss of dexterity. By stimulating other afferent fibers, heat reduces the number of impulses carried to the

brain by pain fibers (gate-control theory). Muscle relaxation may be produced by a reduction of gamma motor neuron and alpha motor neuron activity. Heat also increases the extensibility of collagen. By increasing blood flow, it speeds the removal of pain causing substances. Thus, *Abhyanga* with *Saindhavaadi Taila* is effective in carpal tunnel syndrome.

## REFERENCES

1. <https://www.aans.org/en/Patients/Neurosurgical-Conditions-and-Treatments/Carpal-Tunnel-Syndrome> ; American Association of Neurological Surgeons.
2. Guide To The Diagnosis Of Work-Related Musculoskeletal Disorders ; Carpal Tunnel Syndrome ; Louis PATRY; Éditions Multi Mondes ; Chapter 1 – General Considerations; Page No.1.
3. Agnivesa, Vidyotini Hindi Commentary, Sri Satya Narayana Sastri, Elaborated by Caraka and Drdhabala, Reprint 2011, Chaukhambha Bharati Academy, Charak Samhita , Chikitsa Sthana, Chapter 28, Verse No.4, Page No.775.
4. Agnivesa, Vidyotini Hindi Commentary, Sri Satya Narayana Sastri, Elaborated by Caraka and Drdhabala, Reprint 2011, Chaukhambha Bharati Academy, Charak Samhita , Chikitsa Sthana, Chapter 28, Verse No.16-18, Page No.779.
5. Agnivesa, Vidyotini Hindi Commentary, Sri Satya Narayana Sastri, Elaborated by Caraka and Drdhabala, Reprint 2011, Chaukhambha Bharati Academy, Charak Samhita , Chikitsa Sthana, Chapter 28, Verse No.35, Page No.783.
6. Agnivesa, Vidyotini Hindi Commentary, Sri Satya Narayana Sastri, Elaborated by Caraka and Drdhabala, Reprint 2011, Chaukhambha Bharati Academy, Charak Samhita, Chikitsa Sthana, Chapter 28, Verse No.32, Page No.782.
7. Agnivesa, Vidyotini Hindi Commentary, Sri Satya Narayana Sastri, Elaborated by Caraka and Drdhabala, Reprint 2011, Chaukhambha Bharati Academy, Charak Samhita, Chikitsa Sthana, Chapter 15, Verse No.17, Page No.456.
8. Agnivesa, Vidyotini Hindi Commentary, Sri Satya Narayana Sastri, Elaborated by Caraka and Drdhabala, Reprint 2011, Chaukhambha Bharati Academy, Charak Samhita, Chikitsa Sthana, Chapter 28, Verse No.37, Page No.783.
9. Agnivesa, Vidyotini Hindi Commentary, Sri Satya Narayana Sastri, Elaborated by Caraka and Drdhabala, Reprint 2011, Chaukhambha Bharati Academy, Charak Samhita , Chikitsa Sthana, Chapter 28, Verse No.55, Page No.787.
10. Dr Brahmanand Tripathi, Charaka Samhita, Hindi commentary, Chikitsasthana, 28chpt, Varanasi, Chaukhamba Sanskrit Samsthan, 2013 edition
11. Charaka Samhita of Agnivesha ; Charaka- Chandrika Hindi Commentary ; Dr. Brahmanand Tripathi; 2004 Edition; Chaukhamba Subharati Prakashan; Sutra sthana, Chapter 18, Verse 44-45; P.No.-378
12. A Clinical study on the effect of Ksheerbala Avartita Nasya Karma in Carpal Tunnel Syndrome, Pares Chougule J.R.A.S. Volume XXXII, No. 3-4, July- Dec, 11pp, 79-86.
13. Role of Agnikarma in Sandhigata Vata (osteoarthritis of knee joint), Nilesh G. Jethava, Ayu. 2015 Jan-Mar; 36(1): 23–28, PMC4687233.
14. Umale NP, Shylaja RK. Efficacy of Siravedha in the management of pain in Gridhrasi. International Ayurvedic Medical Journal. 2013;1:50–5.
15. Agnivesa, Vidyotini Hindi Commentary, Sri Satya Narayana Sastri, Elaborated by Caraka and Drdhabala, Reprint 2011, Chaukhambha Bharati Academy, Charak Samhita , Chikitsa Sthana, Chapter 28, Verse No.83, Page No.782.
16. Carpal tunnel syndrome diagnosis and treatment: a survey of members of the American Society For Surgery of the Hand, Lane LB Starecki M Olson A Kohn N , J Hand Surg Am. 2014; 39: 2181-2187
17. Diagnosis and treatment of carpal tunnel syndrome, J Grant Thomson, The Lancet Neurology, Volume 16, Issue 4, p-263, April 01, 2017
18. Dr. L Mahadevan, Guide to Ayurvedic Clinical Practice, Volume II, Pg No-211
19. Ayurvedic Massage Therapy, Subhash Ranade, Lotus Press, 2008, First Edition, Lotus Press, Chapter-10, Page No.-88.
20. Srimad Vagbhata, Nirmala Hindi Commentary, Brahmanand Tripathi, Chaukhamba Sanskrit

- Pratishthan, Reprint 2009, Ashtanga Hridaya Sutra sthana, Chapter 13, Verse No.-1, Page No.-185.
21. Charaka Samhita of Agnivesha ; Charaka- Chandrika Hindi Commentary; Dr. Brahmanand Tripathi; 2004 Edition; Chaukhamba Subharati Prakashan; Sutra sthana, Chapter 13, Verse 52; P.No.-274
  22. The Massage Connection ANATOMY AND PHYSIOLOGY, Kalyani Premkumar, Lippincott Williams & Wilkins, 2004, 2<sup>nd</sup> Edition, Chapter-2, Page No.-77.
  23. Susruta Dalhana with Nibandhasangraha Commentary, Sri Dalhanacharya, Narayan Ram Acharya Kavyatirtha, Chaukhambha Orientalia, 2014, Susruta Samhita, Chikitsa Sthana, Chapter-24, Verse No.-30, Page No.-488.
  24. Chakradatta by Chakrapani Datta, Translated by Pandit Jagannathasharma Bajpeyee, Third Edition, Shri Laxmi Venkateshwar Steam Press, Verse No. 140-141, P.No.-115
  25. Srimad Vrddhavagbhata, Edited with Saroj Hindi Commentary, Ravi Dutta Tripathi, Chaukhamba

Sanskrit Pratishthan, Reprint 2011, Ashtanga Samgraha, Sutra Sthana, Chapter -17, Verse No.-29, Page No.-327.

26. A systematic review of the psychometric properties of the Boston Carpal Tunnel Questionnaire, Jose C de Carvalho Leite, BMC Musculoskelet Disord, 2006 Oct 20;7:78. doi: 10.1186/1471-2474-7-78.
27. The Massage Connection Anatomy and Physiology, Kalyani Premkumar, Lippincott Williams & Wilkins, 2004, 2<sup>nd</sup> Edition, Chapter-2, Page No.-74.

**How to cite this article:** Namrata Bhatt, Alok Kumar Srivastava, Himani Bisht, Minakshi Silswal. Single case evaluation of the effect of Saindhavaadi Taila Abhyanga in Carpal Tunnel Syndrome. J Ayurveda Integr Med Sci 2020;5:552-558.

**Source of Support:** Nil, **Conflict of Interest:** None declared.

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