



SHORT REVIEW ARTICLE

SHORT REVIEW: AYURVEDIC PERSPECTIVE AND MANAGEMENT GUIDELINES IN CARPAL TUNNEL SYNDROME

P.P.PRADEEP KUMAR¹ SALINI. S² KRISHNA RAO.S³ INDU.S⁴ P.RADHAKRISHNAN⁵ V.C.DEEP⁶

ABSTRACT: Carpal tunnel syndrome is the most common form of entrapment neuropathies. It is characterised with numbness, paraesthesia, pain, along the median nerve distribution, and in advanced cases it will lead to wasting and finally loss of function of hand. It is diagnosed clinically and by electrophysiological studies like nerve conduction study. In Ayurveda the advanced stages of Carpal Tunnel Syndrome can be seen in *viswachi* (functional loss of hand) and *khalli* (*viswachi* associated with pain). Both are considered as dysfunction of *vata* in *kandara* (abnormal activity of *vata* in ligaments following abnormal motor innervation). Hence it should be understood as *vyana vayu*(neuronal conduction) dysfunction within the median nerve due to *kupitavata*(initiator of pathology by extraneously formed substances). Management depends upon the stage of the disease. Numbness and reduced sensation phase should be treated with *swedana* (fomentation) and *kapahavata samana*(maintaining equilibrium by correcting metabolism), pain predominant phase should be treated with *vata pitta samana*(correcting metabolism) and *snehana* (improving the structure by nourishment) wasting / functional loss phase should be treated with *vata samana*(correcting metabolism) and *brmhana*(nourishing the structure). *Agnikarma*(cauterisation), *siravyadha*(venesection) and *sneha virechana*(purgative by lipids) is ideal as *vyadhi vipareeta chikitsa* (management aiming at reversing the pathophysiology) in numbness, pain and wasting phase respectively.

Key words: Carpal tunnel syndrome, *kandara*, *vyana vayu*, *agnikarma*, *siravyadha*

^{1,3,4}Research officer, ⁵Assistant Director, ⁶Research officer (SCT4), National Ayurveda Research Institute for Panchakarma, Cheruthuruthy, Thrissur, Kerala, India.

²Medical officer, Govt. Ayurveda Dispensary, Eruthenpathy, Palakkad, Kerala, India

Corresponding Author Email id: vaidyanpradeep@gmail.com

Access this article online: www.jahm.in

Published by Atreya Ayurveda Publications under the license CC-by-NC.

INTRODUCTION:

Carpal tunnel syndrome is the most common form of entrapment neuropathies. It's characterised with numbness, paraesthesia, pain, along the median nerve distribution, and in advanced cases it will lead to wasting and finally loss of function of hand, it's diagnosed with history of classical symptoms and by electrophysiological studies like nerve conduction study. The current allopathic management advises conservative managements like physiotherapy Short Wave Diathermy, wrist brace etc in mild cases. Non Steroidal Anti Inflammatory drugs / diuretic/ Corticosteroids orally and local injections are advised in moderate case and in cases where conservative management have failed. Surgical management are done in refractory cases and data even suggest its recurrence in few. The present management is not directed at the reversal of cause or arresting at progression of the disease. Hence it's very essential to develop effective management guidelines for better outcome.

In Ayurveda there is description of diseases like *viswaci*^[1] and *khalli*^[2] which closely resemble the features of carpal tunnel syndrome in advanced stages. *Viswachi* is characterised by function loss of hand following dysfunction of *vayu* in the *kandara*^[3] of hand (major peripheral nerve supplying

hand), *khalli* is also having similar features with pain as additional symptoms.

Ayurvedic pathophysiology:

Normal function of *vyana vayu* (factor governing peripheral nerve activity) in *kandara* helps in proper sensory and motor activity, abnormality or damage in either of them can lead to *vikruta karma* (dysfunction) developing signs and symptoms of neuropathy^[4]. *viswaci* and *khalli* are *vata vyadhi* (disease due to *vata*) and hence its understood that *vata* plays a dominant role in all stages of the disease. The disease *grdhrasi* (sciatica) which is also a *snayu/kandara gata vata* mentioned in *vata vyadhi* is classified as *vata* and *vata kaphaja*^[5] hence a similar classification can also be understood for *viswaci*. The initial presentation of the disease is due to abnormality of *vyana vayu* in its *srotas* (median nerve) producing *avyakta lakshana*^[6] (prodromal symptoms) like on and off numbness, paraesthesia, nocturnal episodes of pain and numbness, feeling of swelling and tightness, occasionally temperature variations according to the involvement of sensory, motor or autonomic fibres in median nerve.

Samanya nidana of vata vyadhi:

Habitual intake of *katu tikta kashaya rasa* (spicy, bitter and astringent foods), *rooksha bhojana* (fat free diet), *ratri jagarana* (awakening at nights), *ati adhwa* (long distance walking), *bhara* (lifting heavy

weights) etc *nidana* (etiology) leads to *vatakopa* and are most often associated with many of the *vata vyadhis*^[7]

Nidana specific for vyana vayu dysfunction:

Atigamana (long walk), *dhyana* (excessive thinking), *kreedha* (excessive sports), *visama ceta* (improper activity), *virodhi* (incompatible foods), *rooksha* (less nutritive food), *bhi* (fear), *harsa* (excitement), *visada* (depressed state), etc etiology will result in direct *vyana vayu kopa*^[8], among the following the *visama ceta* (abnormal repeated activities) can be considered as specific for carpal tunnel syndrome, repeated activity or overuse as etiology is well documented in few studies.

Samprapti

The *vata dosha* following the improper diet and activities aggravated by the *samanya vatavyadhi nidana* (general etiology) after undergoing *caya, prakopa and prasara* (stages of disease manifestation) together with *vyana vayu dushti nidana* decides the *sthana samsraya* (localisation of pathology) in *bahu kandara*^[9] (nerves in hand).

The *vata dosha* with *seeta, rooksha, laghu* and *visada guna* (the factor initiating pathology with its various potent properties) interact with the *kandara* and result in the dysfunction of *vyana vayu*, which is characterised by symptoms such as paraesthesias, numbness, burning sensation

, pain, weakness, muscle wasting and loss of function.

The *seeta guna* of *vatadosha* interacts with the *kandara* and result in *vyana vayu* dysfunction like impaired impulse transmission resulting in paraesthesia and numbness which is evident by reduced conduction velocity. *seeta guna* has the property of reducing the *gati*^[10] (impulse). The numbness predominant phase of carpal tunnel syndrome can be understood as *seeta guna* dominant phase of *vata* and *kapha* either individually or in combination.

Rooksha guna of *vata* source from *vayu mahabhuta*, coupled with *usna guna* of *pitta* source from *agni mahabhuta* cause reduced nourishment to *kandara* and *vimarga gamana* of *vyana vayu*. *Rooksha guna* is responsible for *kharatva*^[11] (degeneration). Resulting in neuritis, demyelination and axonal loss producing pain, burning sensation and paraesthesias hence the pain predominant phase of carpal tunnel syndrome is dominated by *rooksha guna* of *vata* and *usna guna* of *pitta*.

Visada and *laghu guna* of *vayu* interferes with the blood supply of *kandara*^[12] and cause rapid demyelination and axonal loss resulting in deteriorating *vyana vayu* function evident from features like reduced hand grip, falling of objects from hands, weakness, and muscle

wasting, hence wasting phase is dominated by *visada laghu guna* of *vayu*.

Table 1.: Pathophysiology of Carpal tunnel syndrome

Gunās	Bhūtas	Doshas	Upadhātu	Sthani dosa	Lakshana
Seeta	Vayu	vata	Kandara	Vyana vayu	Supti
Seeta	Jala	kapha	Kandara	Vyana vayu	Supti
Ruksha and usna	Vayu agni	vata pitta	Kandara	Vyana vayu	Ruk toda
Visada	Vayu	vata	Kandara	Vyana vayu	Sada
Laghu	Vayu aksaha	vata	Kandara	Vyana vayu	Kshaya

Management:

The management should always comply the principle of *dosha vipareeta* (treatments targeting to subside the initiator of disease) and *vyadhi vipareeta chikitsa* (treatments against the pathophysiology) .In CTS the *dosha* involved is *vatapradhana sannipata* , *seeta* ,*rooksha*,*visada*,*laghu guna* of *vayu* , *usna rooksha guna of pittam* (kinchit sneha), *seeta guna of kapha* plays a very important role , hence management should be *hetu vipareeta* (anatagonistic to the pathological gunas) that is *usna*, *snigdha*, *picchila*, and *guru* appropriately directed to the stage of the disease. *Vyadhi* here should be taken as *kandara gata vata* (

vyana vayu dysfunction in *kandara*) hence correcting *vyana vayu* by *anulomana chikitsa* is also very essential.

First stage management: CTS presenting with numbness and hypoaesthesia should be managed by *vata kapha hara chikitsa* using medicines which are *usna veerya* internally like *astavarga kashayam*^[13]. Externally *upanaha sweda* (bandaging with herbal drugs) is the most suitable in managing the numbness and hypoaesthesia^[14]. *Agnikarma* can be much useful in reducing the numbness and hypoaesthesia^[15]

Second stage management: CTS presenting with pain needs to be managed by *snigdha*

swedam externally like *taila dhara*^[16] or *dhanyamla dhara*. Internally by *samana snehapana* with *tailam* like *karpasasthyadi*^[17] and also *siravyadha*^[18] helps in reducing the pain associated with numbness

Third stage management: When wasting sets in with weakness of hands the treatments

under the category of *brmhana* are to be done. Externally *Sali swastika panda swedam*^[19], *jeevanthyadi udwarthanam*^[20], and internally *brmhana nasya*^[21] with *ksheerabala* and *brmhana vasti*^[22], *anuvāsana vasti* and *sneha virechana*²³ can be helpful in arresting the wasting.

Table 2. Table 2: Stage wise management principle of carpal tunnel syndrome

Stage of the disease	Hetuvipareeta chikitsa		Vyadhivipareeta chikitsa
	Internal medication	External treatments	
Numbness phase	Astavarga kashayam / Bhadradarvadi	Upanaham	Agnikarma
Pain phase	Prasarnyadi kashayam	Taila dhara	Siravyadha
Wasting phase	Maharasanadi kashayam	Salisastika lepam Jeevantyadi udwartana chorornam	Snigdha virechana Brmhana Vasti Brmhana Nasyam

CONCLUSION:

Carpal tunnel syndrome is a disorder of peripheral nerve and can be understood as *vyana vayu* dysfunction at the level of *bahu kandara*. The *vata dosha* is the potent cause for initiating the pathology by its potent *gunas* like *rooksha seeta visada* and *laghu*. The presentation of the disease varies with disease progression and hence the exact stage of disease diagnosis and the assessment of

doshas are very important in planning the stage wise management.

REFERENCES:

1. Hari sadasiva (editor) Commentary: Ayurveda rasayana of Hemadri and Sarvanga Sundhari of Arunadatta on Ashtanga Hrdaya of vaghbhata; nidana sthana, chapter 15, verse no.44. Reprint. Varanasi (India): Chaukambha Orientalia: 2010; p.534.
2. Hari sadasiva (editor) Commentary: Ayurveda rasayana of Hemadri and Sarvanga Sundhari of Arunadatta on Ashtanga Hrdaya of vaghbhata; nidana

sthana, chapter 15, verse no.45 Reprint Varanasi (India):
Chaukambha Orientalia: 2010; p.535.

3. Hari sadasiva (editor) Commentary: Ayurveda
rasayana of Hemadri and Sarvanga Sundhari of
Arunadatta on Ashtanga Hrdaya of vaghbhata; nidana
sthana, chapter 15, verse no.14 Reprint Varanasi (India):
Chaukambha Orientalia: 2010; p.531.

4. Hari sadasiva (editor) Commentary: Ayurveda
rasayana of Hemadri and Sarvanga Sundhari of
Arunadatta on Ashtanga Hrdaya of vaghbhata; nidana
sthana, chapter 16, verse no.24 Reprint Varanasi (India):
Chaukambha Orientalia: 2010; p.538

5. R.K.Sharma and Bhagwan Dash (editor) Charaka
Samhita of Charaka, chikitsasthana, chapter 28, verse
no.56-57, vol 5, 2nd edition, Varanasi; Chowkhambha
Sanskrit Series;2004:35

6. R.K.Sharma and Bhagwan Dash (editor) Charaka
Samhita of Charaka, chikitsasthana, chapter 28, verse
no.19, vol 5, 2nd edition, Varanasi; Chowkhambha
Sanskrit Series;2004:24

7. R.K.Sharma and Bhagwan Dash (editor) Charaka
Samhita of Charaka, chikitsasthana, chapter 28, verse
no.15-18, 2nd edition, vol 5, Varanasi; Chowkhambha
Sanskrit Series;2004:23

8. Hari sadasiva (editor) Commentary: Ayurveda
rasayana of Hemadri and Sarvanga Sundhari of
Arunadatta on Ashtanga Hrdaya of vaghbhata; nidana
sthana, chapter 16, verse no.23 Reprint Varanasi (India):
Chaukambha Orientalia: 2010; p.538

9. Jadavji Trikamji, Narayan Ramacarya (editor),
commentary: Nibandhasangraha of Dalhana on
Susrutasaṃhita of Susruta, sutrasthana, Chapter
21,verse no.33. 1st edition. Varanasi: Chowkhambha
Krishnadas Academy; 2004; 106

10. Hari sadasiva (editor) Commentary: Ayurveda
rasayana of Hemadri and Sarvanga Sundhari of
Arunadatta on Ashtanga Hrdaya of vaghbhata; sutra

sthana, chapter 1, verse no.18 Reprint Varanasi (India):
Chaukambha Orientalia: 2010; p.12

11. Jadavji Trikamji, Narayan Ramacarya (editor),
commentary: Nibandhasangraha of Dalhana on
Susrutasaṃhita of Susruta; sutrasthana,,Chapter
46,verse no.516. 1st edition. Varanasi: Chowkhambha
Krishnadas Academy; 2004; 252

12. Jadavji Trikamji, Narayan Ramacarya (editor),
commentary: Nibandhasangraha of Dalhana on
Susrutasaṃhita of Susruta; sutrasthana, Chapter 46,
verse no.517,519. 1st edition. Varanasi: Chowkhambha
Krishnadas Academy; 2004; 252

13. K.V.Krishnan Vaidyan, S.Gopala pillai (editor).
Sahasrayogam with sujanapriya commentary, chapter
kashayayoga of vataroga, 27th edition. Vidyarambham
publishers, alappuzha .Aug 2007.78

14. Hari sadasiva (editor) Commentary: Ayurveda
rasayana of Hemadri and Sarvanga Sundhari of
Arunadatta on Ashtanga Hrdaya of vaghbhata; sutra
sthana, chapter 17 , verse no.3 Reprint Varanasi (India):
Chaukambha Orientalia: 2010; p.253

15. Hari sadasiva (editor) Commentary: Ayurveda
rasayana of Hemadri and Sarvanga Sundhari of
Arunadatta on Ashtanga Hrdaya of vaghbhata; sutra
sthana, chapter 21 , verse no.22 Reprint Varanasi
(India): Chaukambha Orientalia: 2010; p.253

16. R.K Sharma Bhagwan dash (editor), Charaka Samhita
of Charaka, chikitsasthana, chapter 28, vol 5, verse
no.104, 2nd edition, Varanasi; Chowkhambha Sanskrit
Series;2004:52

17. K.V.Krishnan Vaidyan (editor), S.Gopala pillai.
Sahasrayogam with sujanapriya commentary, chapter
tailayogas 27th edition. Vidyarambham publishers,
alappuzha .Aug 2007.278-279

18. Jadavji Trikamji, Narayan Ramacarya (editor),
commentary: Nibandhasangraha of Dalhana on
Susrutasaṃhita of Susruta; chikitsa sthana,Chapter

5,verse no.23. 1st edition. Varanasi: Chowkhamba Krishnadas Academy; 2004; 428.

19. R.K Sharma Bhagwan dash, (editor) Charaka Samhita of Charaka, chikitsasthana, chapter 28, vol 5, verse no.102, 2nd edition, Varanasi; Chowkhambha Sanskrit Series;2004:51

20. Hari sadasiva (editor) Commentary: Ayurveda rasayana of Hemadri and Sarvanga Sundhari of Arunadatta on Ashtanga Hrdaya of vaghbhata; chikitsasthana, chapter 5 , verse no.80 Reprint Varanasi (India): Chaukhambha Orientalia: 2010; p.619

21. R.K Sharma Bhagwan dash (editor),Charaka Samhita of Charaka, chikitsasthana, chapter 28, vol 5, verse no.98, 2nd edition, Varanasi; Chowkhambha Sanskrit Series;2004:50

22.Vasti- R.K Sharma Bhagwan dash (editor),Charaka Samhita of Charaka, chikitsasthana, chapter 28, vol 5, verse no.101, 2nd edition, Varanasi; Chowkhambha Sanskrit Series;2004:51

23..K Sharma Bhagwan dash (editor),Charaka Samhita of Charaka, chikitsasthana, chapter 28, vol 5, verse no.101, 2nd edition, Varanasi; Chowkhambha Sanskrit Series;2004:51

Cite this article as: P.P. Pradeep kumar, Salini. S, Krishna Rao. S, Indu.S, P.Radhakrishnan, V.C. Deep. Short review: Ayurvedic perspective and management guidelines in carpal tunnel syndrome, *J of Ayurveda and Hol Med (JAHM)*.2018;6(4):87-93

Source of support: Nil

Conflict of interest: None Declared