

## A CLINICAL STUDY OF *NASYAKARMA* WITH *KARPASASTHYADI TAILA* IN CERVICAL SPONDYLOSIS

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### ABSTRACT

Degenerative joint disease commonly troubles the human being causing pain, thereby, considerably reduces the human activity. Cervical Spondylosis is one among the degenerative conditions affecting the cervical spine & can be considered as a *Urdhwajatrugata Vikara* that means the disease occurring above clavicle region and is commonly identified in *Ayurveda* with *Vataja Nanatmaja Vikaras* like *Manyastambha*, *Greevastambha*, etc. Hence, the word ‘Cervical Spondylosis’ and its treatment should be viewed from the point of *Vata Vyadhi* only. *NasyaKarma* being the treatment of choice in *Jatroordhwagata Vata Vyadhis* can be best adopted in the management of Cervical Spondylosis. The formulation *Karpasasthyadi Taila* is specifically indicated for *NasyaKarma* and it is described as ‘*Sarva Anilapaham*’ as it can be employed in all *Vata Vyadhis*. Hence, the present clinical study was planned where in 50 patients of Cervical Spondylosis in between the age group of 16-70 years were subjected to *NasyaKarma* with *Karpasasthyadi Taila* in the dosage of 8 drops in each nostril performed for a period of 7 days. The data collected were analyzed by subjecting to statistical methods such as Pearson’s Chi-Square test to assess the therapeutic effect of *NasyaKarma* on subjective and objective parameters of Cervical Spondylosis. The observation revealed maximum incidence in *Parihani Avastha* i.e., between 41–70 years of age. All the patients presented with *Samyak Nasya Lakshanas*. The study revealed statistically highly significant improvement in major subjective & objective parameters of Cervical Spondylosis.

**Keywords:** *NasyaKarma*, *Karpasasthyadi Taila*, *Vata Vyadhi*, Cervical Spondylosis

### INTRODUCTION

Man always wants to be in the comfort zone, and in this regard, his lifestyle becomes modified and restless which in turn makes him to get entangled in different degenerative diseases even before entering into the degenerative phase of old age. Degenerative joint disease commonly troubles the human being causing pain, thereby, considerably reduces the human activity in terms of social and professional life. Cervical Spondylosis<sup>1, 2, 3</sup> is also one such degenerative condition affecting the cervical spine which causes neck pain and may even lead to cervical spondylotic myelopathy. Internationally, Cervical spondylotic myelopathy is the most common cause of non-traumatic spastic paraparesis & quadriparesis, in one report 23.6% of patients of latter had Cervical spondylotic myelopathy (Moore, 1997). Cervical Spondylosis may affect males earlier than females. By age 60, 85% of men and 70% of women show changes consistent with Cervical Spondylosis on X-ray. In another report based on radiographic evidences (Irvine et al), prevalence in males was 13% in the third decade increasing to nearly 100% by age 70 years, but in case of prevalence in females it ranged from 5% in the fourth decade to 96% by the age 70 years. Another study (Rochester, Hinnestova) has reported that the annual incidence of Cervical Radicular symptoms to be 83.2 per 1,00,000 with a prevalence of 3.5 per 1,000 population. Degenerative disc disorders can be included under the heading of *Vata Vyadhi*. Hence, the word 'Cervical Spondylosis' & its treatment can be viewed from the point of *Vata Vyadhi* only. Cervical Spondylosis can be considered as *Urdhwajatrugata Vikara* that means the disease occurring above clavicle region & is commonly identified in *Ayurveda* with *Vataja Nanatmaja Vikaras* like *Manyastambha*, *Greevastambha*, etc.<sup>4</sup> *PanchaKarma*, the inher-

ent & integral part of *Ayurveda* is contributing a lot in the management of different degenerative & chronic disorders. *NasyaKarma*, one amongst the *Panchakarma* carries very high importance as it deals with the organ of high importance, the *Shiras*. *NasyaKarma* in which the medicine is instilled into nose, the gateway of head could be the effective, economical & affordable treatment modality to treat this condition. While mentioning *NasyaKarma Yogya*, *Charaka*<sup>5</sup> mentions '*GreevaskandaRoga*', *Susrutha*<sup>6</sup> mentions '*Greevaskandorasaam cha Balajananartham*'. All the *Acharyas* have highlighted its extensive utility in the management of *Urdhwajatrugata Roga* and *VataRoga*. So, *NasyaKarma* being the treatment of choice in *Urdhwajatrugata Vikara*<sup>7, 8</sup>, is one among the line of treatment of *Vataja Nanatmaja vikara* and can be best adopted to treat Cervical Spondylosis. The formulation *Karpasasthyadi Taila*<sup>9, 10</sup> described in *Sahasrayoga* is specifically indicated for *NasyaKarma* and it is described as '*Sarva Anilapaham*' as it can be employed in all *Vata Vyadhis*. So, the same was employed for *NasyaKarma* in the management of Cervical Spondylosis. Thus, by considering the above factors, a clinical study was undertaken to evaluate the therapeutic efficacy of *NasyaKarma* with *Karpasasthyadi Taila* in Cervical Spondylosis.

## OBJECTIVES OF THE STUDY

- ❖ To evaluate the therapeutic effect of *NasyaKarma* with *Karpasasthyadi Taila* in the management of Cervical Spondylosis.
- ❖ To analyse and standardize the formulation *Karpasasthyadi Taila*.
- ❖ The detailed conceptual study of *NasyaKarma*, *Karpasasthyadi Taila* and Cervical Spondylosis.

## RESEARCH QUESTION

- ❖ Whether any improvement is seen in *NasyaKarma* with *Karpasasthyadi Taila* in the management of Cervical Spondylosis?

## HYPOTHESIS

**H<sup>0</sup>:** There is no significant therapeutic effect of *NasyaKarma* with *Karpasasthyadi Taila* in Cervical Spondylosis.

**H<sup>1</sup>:** There is significant therapeutic effect of *NasyaKarma* with *Karpasasthyadi Taila* in Cervical Spondylosis.

## MATERIALS AND METHODS

### Source of Data

- ❖ **Literature Source:** All the *Ayurvedic* literature, literatures of allied science, contemporary texts, journals and websites about *NasyaKarma*, *Karpasasthyadi Taila* and Cervical Spondylosis were reviewed and documented in study.
- ❖ **Sample Source:** 50 patients coming under the inclusion criteria approaching the OPD and IPD of Sri Kalabyraveswaramy Ayurvedic Medical College, Hospital & Research Center, Bengaluru, Karnataka and SDM College of Ayurveda and Hospital, Hassan, Karnataka were selected for the study.
- ❖ **Medicine Source:** *Karpasasthyadi Taila* was prepared from S.D.M. Ayurveda Pharmacy, Kuthpady, Udupi. The Analytical studies were conducted in SDM Centre for Research in Ayurveda and Allied sciences, Kuthpady, Udupi, Karnataka, India.

### Method of Collection of Data

- ❖ Patients were selected randomly on the basis of clinical examination. A special proforma

containing details necessary for the study was prepared.

- ❖ Clinical study was done by adopting *Mukhabhyanga*, *Swedana*, *NasyaKarma* using *Karpasasthyadi Taila* followed by *Dhoomapana* to the patients of Cervical Spondylosis.

### Diagnostic Criteria

- ❖ Patients presenting with signs and symptoms of Cervical Spondylosis.
- ❖ The diagnosis was radiologically confirmed through X-ray of the Cervical Spine-AnteroPosterior and Lateral view.

### Inclusion Criteria

- ❖ Patients of both genders between the age group of 16-70 years.
- ❖ Patients having the signs and symptoms of Cervical Spondylosis.
- ❖ Patients who are fit for *NasyaKarma*.

### Exclusion Criteria

- ❖ Patients with major systemic disorders that may interfere with the course of treatment.
- ❖ Traumatic, infective and neoplastic conditions of spine.
- ❖ Patients who are undergoing other modalities of treatment.

### Design of the Study

- ❖ It is an open observational clinical study of *NasyaKarma* with *Karpasasthyadi Taila* in the management of Cervical Spondylosis where in pre-test and post-test design was done.
- ❖ **Sample Size:** 50 patients fulfilling the inclusion criteria were selected for the study and

were subjected to *NasyaKarma* with *Karpasasthyadi Taila*.

- ❖ The data collected and compiled in the study were sorted out & analyzed by subjecting to statistical methods such as Pearson's Chi-Square test to assess the therapeutic effect of *NasyaKarma* on subjective and objective parameters of Cervical Spondylosis.

### Duration of Study

- ❖ *NasyaKarma* for 7 days.
- ❖ Total duration of study was for 7 days.

### Investigations

- ❖ Blood for Haemoglobin%, Total Count, Differential Count, Erythrocyte Sedimentation Rate and Random Blood Sugar.
- ❖ X-ray of the Cervical Spine - AnteroPosterior and Lateral view was taken before the treatment to confirm the diagnosis.

### Intervention

- ❖ *PoorvaKarma* – *Mukhabhyanga* with *Karpasasthyadi Taila* and *Swedana* using Towel squeezed after dipping in hot water.
- ❖ *PradhanaKarma* – *NasyaKarma* with *Karpasasthyadi Taila* in the dosage of 8 drops in each nostril.
- ❖ *PaschatKarma* – *Dhoomapana* using *Haridra churna*.

## METHOD OF NASYAKARMA

### Requirements –

- A *Panchakarma* theatre room – provided with proper lighting facilities & devoid of direct blow of wind & other atmospheric influences.
- Heating apparatus – Gas stove, Cylinder & Lighter.

- Table – measuring 3 feet in height & breadth, 6 feet in length and the foot end was elevated by placing two 6 inches high wooden blocks beneath the legs of table.
- 2 Cotton Clothes – one is to spread over the table & the other to drape the patient's body upto clavicular region.
- Pillow – to support the head & to elevate the chest thereby bending the head to 45<sup>0</sup>.
- 1 wide mouthed Vessel – for water bath.
- 1 small bowl – for heating the *Taila* indirectly over waterbath.
- *Taila* – *Karpasasthyadi Taila* - 100ml for *Mukhabhyanga* & 5 ml (fitted with dropper) for *NasyaKarma* required for 7 days of treatment.
- Towel – measuring 18x10 inches in length & breadth for *Swedana*.
- *DhumaYantra* – for *Dhumapana*
- *Haridra Churna* – for *Dhumapana*
- A Glass with Luke warm water – for *Kavalagraha*
- Spittoon, Cotton gauze pieces, Hot water, 1 attendant

### 1. Purva Karma –

First of all, the procedure was briefly explained to the patient & following instructions were given before the initiation of the treatment:

- Not to take head bath daily & can take warm water bath at least 2 to 3 hours prior to *NasyaKarma*.
- Not to have food immediately before the procedure or can have Light food at least 1 hour before the procedure.
- To evacuate the bladder & bowel before entering the *Panchakarma* theatre.
- Not to speak, shake head, laugh, sneeze, exhibit anger while instilling medicine.

- Patient was made to lie down on the table in supine position comfortably and the body was draped with cotton cloth upto clavicular region & told to close the eyes.
- *Mukha Abhyanga* using *Karpasasthyadi Taila* was performed for around 5 - 7 minutes after indirectly heating the oil over water bath. Forehead, eyebrows, nose, chin & maxillary area were massaged with linear thumb movements. Cheek & temporal region were massaged with circular movements of the palm in both clockwise & anticlockwise direction. Anterior of the neck was massaged by moving either dorsum of hands or flat of palms from base of the neck to the mandible.
- Following *Abhyanga*, *MruduSwedana* was performed by using towel soaked in hot water, the water is squeezed out by twisting it from the ends, the warm towel was then waved, touched & pressed on the face & neck repeatedly for 3 - 5 minutes.

### 2. Pradhana Karma –

- The head portion was tilted down to around 45 degree by placing the pillow below the neck & chest. Patient was asked to keep his eyes closed and told to remain relaxed with his hands & legs outstretched on the table with the elevated foot end.
- Thereafter, *Karpasasthyadi Taila* which was packed in 5ml plastic container fitted with dropper was taken and held in hot water bath so that the *Taila* becomes slightly warm.
- With the left hand thumb, the tip of the nose was raised & holding the dropper fitted bottle in the right hand, the specified *Taila* was instilled in the dosage of 8 drops (*Madhyama Matra of MarshaNasya*) in each nostril one after the other.

- Patient was told to sniff & draw the medicine to the throat along with other nasal secretion to spit it out on to spittoon placed beside the head turning on either side.
- Patient was strictly told not to swallow the medicine that is drawn to the throat.
- Meanwhile, patient was advised to slightly raise his hands to rub both the palms vigorously. *Mardana* was done over the palms, soles, shoulders & ears.

### 3. Pashchat Karma –

- *Mukha Abhyanga* using *Karpasasthyadi Taila* was performed for around 5 - 7 minutes.
- After this, *MruduSwedana* using towel soaked in hot water was done over face, nose, forehead, cheeks, chin and neck for 3 - 5 minutes.
- Meanwhile, the patient was told to spat out the medicine & the secretions reaching the throat on to the spittoon placed beside the head.
- *Dhumapana* using *Haridra churna* was performed till patient feels clarity in the throat or minimum of 3 puffs followed by *Kavalagraha* using luke warm water.
- Thereafter, patient was given instructions neither to take cold food & drinks nor to have a cold water bath or face wash; not to get exposed to dust, smoke, breeze & intense sun rays; not to consume fatty food articles; not to consume alcohol; to avoid using fan, AC; to avoid travelling; to avoid day sleep; told to consume light, hot food stuffs; to cover their ears & head; to observe sensual restraint.

## ASSESSMENT CRITERIA

Subjective & Objective Parameters include the clinical grading and standard scoring method of signs and symptoms of the condition. These data were collected before the commencement of

treatment & after the completion of 7 days of treatment. The statistical test “**Pearson’s Chi-Square test**” was applied through the software **SPSS for windows (version 20.0)**.

Subjective Parameters	Objective Parameters
Neck Pain	Tenderness over Cervical region
Radiation of Pain	Painful Movements of Neck
Neck Stiffness	Sensory Loss
Weakness	Neurological Deficit
Parasthesia	Power
Clumsy Finger Movements	Reflexes
Vertigo	Neck Disability Index

## OBSERVATIONS

Sl.No.	OBSERVATION	NO. OF PATIENTS	PERCENTAGE (%)	
01.	<b>Age</b>	31 - 40 years	8	16.0%
		41 - 50 years	16	32.0%
		51 - 60 years	17	34.0%
		61 - 70 years	9	18.0%
02.	<b>Sex</b>	Male	26	52.0%
		Female	24	48.0%
03.	<b>Religion</b>	Hindu	46	92.0%
		Muslim	04	8.0%
04.	<b>Education</b>	Uneducated	04	8.0%
		Primary School	04	8.0%
		Middle School	05	10.0%
		High School	11	22.0%
		Pre-University	06	12.0%
		Graduation	18	36.0%
05.	<b>Occupation</b>	Post-Graduation	02	4.0%
		Labour	01	2.0%
		Business	11	22.0%
		Service	14	28.0%
		Agriculture	03	6.0%
06.	<b>Socio-economic status</b>	Home makers	21	42.0%
		Poor	01	2.0%
		Lower Middle	02	4.0%

		Middle	31	62.0%
		Upper Middle	13	26.0%
		Rich	03	6.0%
07.	<b>Marital status</b>	Married	50	100.0%

## RESULTS

**Table 3: showing the Results of the Clinical Study**

Sl. No.	PARAMETER	CHI-SQUARE ( $\chi^2$ ) VALUE	df	P VALUE	RESULT
01.	Neck Pain	73.879	3	P = 0.001	HS
02.	Radiation of Pain	38.385	4	P = 0.001	HS
03.	Stiffness	30.732	3	P = 0.001	HS
04.	Weakness	15.462	2	P = 0.001	HS
05.	Parasthesia	36.079	1	P = 0.001	HS
06.	Clumsy Finger Movements	27.566	2	P = 0.001	HS
07.	Vertigo	25.000	1	P = 0.001	HS
08.	Tenderness	28.983	3	P = 0.001	HS
09.	Painful Movements of Neck	42.272	6	P = 0.001	HS
10.	Sensory Loss	6.383	1	P = 0.012	S
11.	Neurological Deficit	9.007	1	P = 0.003	HS
12.	Power of Shoulder	10.508	2	P = 0.005	HS
13.	Power of Elbow	11.124	2	P = 0.004	HS
14.	Power of Wrist	11.560	2	P = 0.003	HS
15.	Power of Forearm	10.339	2	P = 0.006	HS
16.	Power of Fingers	11.124	2	P = 0.004	HS
17.	Biceps Reflex	1.044	2	P = 0.593	NS
18.	Triceps Reflex	3.097	2	P = 0.213	NS
19.	Supinator Reflex	2.297	2	P = 0.317	NS
20.	Neck Disability Index	37.634	3	P = 0.001	HS

The results of the study revealed statistically highly significant result on parameters Neck Pain, Radiation of Pain, Stiffness, Weakness, Parasthesia, Clumsy Finger Movements, Vertigo, Tenderness, Painful Movements of Neck, Neurological Deficit, Power of Shoulder, Power of Elbow, Power of Wrist, Power of Forearm, Power of Fingers and Neck Disability Index. The study revealed statistically significant result on Sensory Loss and statistically no significant result on Biceps Reflex, Triceps Reflex and Supinator Reflex. All the patients in the present study developed *Samyak Nasya Lakshanas*.

## DISCUSSION

*NasyaKarma* occupies a very special place in the domain of *Panchakarma* as it deals with *Uttama Anga*, the *Shiras*. It is considered as best in the management of *UrdhwaJatrugata Vikara*. Cervical Spondylosis can be considered as *UrdhwaJatrugata Roga* by virtue of its site of occurrence in the region of neck. The references pertaining to *NasyaKarma* such as “*Greeva Skandorasam cha Balajananartham*” & indications of the procedure in *Urdhwajatrugata vikaras* like *GreevaSkanda Roga (Ch.Sa.)*, *Manyaroga (A.Sa.,Sha.Sa.)*, *Manyastambha*

(*Bhe.Sa.,Ka.Sa.*), *Apabahuka (Su.Sa.,A.Hr.)*, *Bahugada (Sha.Sa.)*, *Amsajagada (Sha.Sa.)* etc. are all giving the idea behind the relevance of *NasyaKarma* in the treatment of Cervical Spondylosis. The references of *Karpasasthyadi Taila* highlights it's utility in *NasyaKarma* & in treating *UrdhwaJatrugata Vata Vyadhi* which implies its usefulness in the management of Cervical Spondylosis.

### Probable Mode of Action of NasyaKarma in Cervical Spondylosis

*NasyaKarma* is the modality of treatment which is performed through nose, the gate way of head which is in close proximity with the affected part, the Cervical Spine. By virtue of regional propinquity & extensive communications with different parts of head, the procedure *NasyaKarma* exhibits its action in combating the disease pathology. *NasyaKarma* selected here is of *Brimhana* variety which successfully helps to counteract the degenerative process by exhibiting *Brimhana* effect on the part affected. In the present study, *Mrudu Pakita Karpasasthyadi Taila* was used for *Nasya Karma* and *Khara Pakita Karpasasthyadi Taila* was used for *Mukha Abhyanga* as a *Purvakarma* in *NasyaKarma* which may have an impact in augmenting its absorption. The drugs selected here are lipid in nature i.e., *Taila* and it is proven that Lipid soluble micro-molecules present in the drug penetrate through the blood-brain barrier relatively easily via the lipid membranes of the cells and higher lipophilicity results in better transport of drug to the brain & other neuronal structures. The formulation '*Karpasasthyadi Taila*' contain different *Vatahara dravyas* processed in *Taila*, the action of which can be expected in alleviating *vata*, thereby preventing further degenerative process & the pain predom-

inant features. As the same *Taila* was used for *Mukha Abhyanga*, its action can be expected by absorption through the transdermal drug delivery system and stimulation of superficial nerve endings by *Swedana*, thereby enhancing the peripheral blood circulation.

### CONCLUSION

Cervical Spondylosis is a degenerative condition of the cervical spine presenting with neck pain that reduces the human activity. *NasyaKarma* is considered as best in the treatment of *Urdhwajatrugata Vataja Vikara*. The formulation *Karpasasthyadi Taila* described in *Sahasrayoga* is specifically indicated for *NasyaKarma* and can be used to treat Cervical Spondylosis as it is described as '*Sarva Anilapaham*'. *Karpasasthyadi Taila* can be included under *Snehana Navana, Brumhana & Marsha Nasya*. The present clinical study revealed statistically highly significant result of *NasyaKarma* with *Karpasasthyadi Taila* on most of the subjective and objective parameters of Cervical Spondylosis.

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**Source of Support: Nil**

**Conflict Of Interest: None Declared**

How to cite this URL: Vinaykumar K N & Muralidhar P Pujar: A Clinical Study Of Nasyakarma With Karpasasthyadi Taila In Cervical Spondylosis. International Ayurvedic Medical Journal {online} 2017 {cited December, 2017} Available from: [http://www.iamj.in/posts/images/upload/119\\_127.pdf](http://www.iamj.in/posts/images/upload/119_127.pdf)