

## EVALUATION OF COMBINED EFFICACY OF *NIRGUNDI PATRA PINDA SWEDANA*, *GREEVA BASTI* AND *MATRA BASTI* IN THE MANAGEMENT OF CERVICAL SPONDYLOSIS: A CASE REPORT

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### ABSTRACT

Cervical Spondylosis is a condition in which there is deterioration of the vertebrae, discs and ligament in the neck or cervical spine, also known as Arthritis of neck, cervical osteoarthritis, or degenerative osteoarthritis. Apart from age, other risk factors for cervical spondylosis include occupations that may cause more stress on neck, certain neck injuries, incorrect posture while sitting or walking, smoking, sedentary lifestyle and genetic factors. A diagnosed case of Cervical spondylosis since eight years, presenting with Pain in cervical region radiating into right upper limb, low back pain, disturbed sleep,

irritating behaviour was managed with *Nirgundi Patrapinda swedana*, *Greeva Basti* and *Matra Basti* for a period of 14 days. The Patient was assessed on Subjective as well as Objective parameters before and after treatment. There was appreciable relief in Pain, stiffness and associated complaints after 14 days. Thus it can be concluded that *Nirgundi Patra Pinda Swedana*, *Greeva Basti* and *Matra Basti* in combination provide considerable relief in the management of Cervical Spondylosis.

**KEYWORDS:** Cervical Osteoarthritis, Cervical Spondylosis, Degenerative Osteoarthritis, *Greeva Basti*, *Matra Basti*, *Nirgundi patra Pinda Swedana*.

### INTRODUCTION

The term spondylosis is used to define a generalized natural ageing process that involves a sequence of degenerative changes in spinal structure.<sup>[1]</sup> The first manifestation of aging in the spinal column is spondylosis in the intervertebral disc in the third through fifth decades. Cervical spondylosis is essentially a degenerative disorder that begins in the disc and progresses with age to involve more than one disk.<sup>[2]</sup> Approximately 5% of the people

under forty years age, 20% of people over forty years of age and around 75% of people over sixty years of age have some degree of degeneration.<sup>[3]</sup> The pathology begins in the intervertebral discs. The edges of the vertebrae often develop bony spurs called Osteophytes. In time, the disc gets thinner and their function as shock absorber is lost, this increases the risk of symptoms. Swollen neck joints, facet joints can press or pinch nearby nerve roots, and thus the spinal cord itself. This can cause tingling sensation or sensation of pins and needles in the extremities. Patients experience pain in the neck along with some stiffness and headache. The neck pain may spread to reach the shoulders, arms and hands. The pain may be worse when the head is moved. The neck stiffness is more common after a long episode of inactivity. Brain can be affected if the blood vessels are compressed as this can affect the blood supply to the brain, this may result in dizziness and even blackouts. Based on signs and symptoms, cervical spondylosis resembles *Greeva Stambha*, which falls under the umbrella of *Vata vikara*. All the movements in body are attributed to the functions of *Vyana Vayu*.<sup>[5]</sup> Some of the clinical manifestations of *Kupita Vayu* are similar to the signs and symptoms of cervical spondylosis. *Pani-Prishtha-Shirograha* bears resemblance to the stiffness in hands, upper back and nape of neck observed in cases of Cervical spondylosis, *Gatrasuptata* (numbness in hands), *Bhedastoda arti* (Pricking Pain and tingling sensation), *Greevahundana*.<sup>[6]</sup> Acharya Chakrapani comments *Greevahundana* is nothing but *Greevastambha*.<sup>[7]</sup> The line of treatment for pacifying *Kupita Vayu* includes *Snehana*<sup>[8]</sup>, *Swedana* (*Sankara/Prastara/Nadi*)<sup>[9]</sup> and *Basti*.<sup>[10]</sup> Thus the treatment protocol in present case was planned following the classics which included *Nirgundi Patrapinda Swedana*, *Greeva Basti* followed by *Dashmoola Taila Matra Basti* for 14 days.

## CASE REPORT

A 44 years male patient k/c/o Cervical spondylosis, visited Department of Panchakarma, National Institute of Ayurveda, Jaipur with chief complaints of Pain in nape of neck radiating to right upper limb, stiffness, restricted movements at right shoulder joint and irritability since eight years.

Occupational History of Patient revealed that he was an I.T. Consultant for last ten years and his job required prolonged sitting in front of the computer for about six hours at a stretch. Patient noticed mild pain in Right wrist joint around eight years back which in few weeks involved elbow joint too. Within few months the pain worsened and the cervical region was involved. Pain in nape of neck further worsened and started radiating to right upper limb

along with stiffness in cervical region. Patient consulted a local physician and was advised MRI of Cervical spine, which revealed cervical spondylosis of the disc, posterior endplate osteophytic projection into the spinal canal along with intervertebral discs at C4-5 and C5-6 levels. Initially patient was managed with allopathic medicines with which mild relief in pain was noticed. But, restricted movements were persisting with increased stiffness. Patient then switched to Homeopathic treatment for eight months which was satisfactory enough for him to perform his routine work. Since last eight months the pain worsened, radiating to right upper limb, stiffness and he developed irritability due to mental agony caused by the diseased condition. Patient also reported complaint of indigestion since last three years.

The *Sharira prakriti* of the patient was *Kaphavataja*, had *Krura koshta* (on the basis of bowel habits), *Madhyama bala* (optimum physical strength) with good *Satva* (psychological strength). He had *Agnimandya* (decreased digestion and appetite) and habit of occasional drinking alcohol.

*Dosha dushya lakshana*: Predominant *Dosha* in the disease is *Vata* in association with *Kapha*.

**Assessment Criteria:** Pain, Visual Analogue Scale (VAS), stiffness and range of movement at cervical spine were assessed before and after treatment. [Table 1.1- 1.3].<sup>[11]</sup>

**Investigations:** MRI findings of the cervical spine revealed cervical spondylosis of the disc, posterior endplate osteophytic projection into the spinal canal along with intervertebral discs at C4-5 and C5-6 levels.

**Management of the condition:** The patient was admitted in the Panchakarma IPD and treatment was planned considering involved *Dosha* and *Dushya*. *Nirgundi Patrapinda swedana* was planned followed by *Greeva Basti* and *Matra Basti* with *Dashmoola Taila* for 14 days. [Table 1].

### Procedures

***Nirgundi Patra Pinda Swedana*:** Fresh *Nirgundi* leaves were crushed into small pieces in a pan and fried with *Dashmoola taila* till the mixture assumed reddish colour. *Saindhava Lavana* and *Haridra* (*Curcuma longa*) powder were added to the mixture. The prepared material was divided into two parts, put in two pieces of cloth and boluses were prepared. The prepared boluses were applied on the back of neck, bilateral shoulder region after

checking the temperature. The Boluses were reheated in a pan containing oil and re-applied; the procedure was continued for 30 minutes.

**Greeva Basti:** Black gram powder was mixed with sufficient quantity of water to make thick dough. Patient was advised to lie down in prone position. The prepared dough was fixed on the cervical area in a circular shape, taking care not to cause any leakage of oil. *Dashmoola taila* was heated up and poured slowly inside the ring. Its uniform temperature was maintained throughout the process by replacing warm oil. The oil was kept for upto 30 minutes. After that, the oil was removed by dipping cotton and squeezing in a container. Dough was removed afterwards, and the area was wiped off. Same procedure was followed for 14 days.

**Matra Basti:** *Sarvanga Abhyanga* (whole body massage) with *Dashmoola Taila* followed by *Bashpa Swedana* (Steam sudation) was performed. The patient was then asked to take light hot liquid diet before administration of *Matra Basti*. Syringe was then filled with 60 ml luke warm *Dashmoola Taila*, and care was taken to ensure the absence of any air bubble in the syringe. The patient was asked to lie in left lateral position on the knee height table. *Basti* nozzle was lubricated with oil, tip of nozzle inserted into anal orifice in direction parallel to spine. The *Basti* was administered in the same position, while the Patient was asked to take long deep breaths to ensure proper administration of *Basti*. After the administration of *Basti*, the patient was asked to lie in supine position and legs were raised from the table thrice, and the soles and buttock were patted for better absorption of *Basti*. The Patient was asked to stay in the same position for 5 minutes and was then shifted to bed and instructed to take light hot meal after evacuation of the *Basti*.

## OBSERVATIONS AND RESULTS

After 14 days of *Nirgundi Patra Pinda Swedana*, *Greeva Basti* and *Matra Bast*, significant improvement was reported in Pain and Stiffness. [Table 3] There was a reduction in Neck disability score from 50% before treatment to 26% after treatment. [Table 4] Observations of Visual Analogue Scale (VAS) came down from 6 to 2 by the end of treatment. Improvement was also found in the range of movements [Table 5].

**Table 1.1: Grading Criteria for Signs and Symptoms of Cervical Spondylosis.**

<b>Symptoms</b>	<b>Score</b>
<b>Pain (<i>Shoola</i>)</b>	
No Pain	0
Pain in the neck, mild aggravates with movement	1
Pain in neck, severe aggravates with movement	2
Pain mild or severe with radiation to arm	3
Pain in neck, radiation and disturbed the sleep	4
<b>Stiffness (<i>Stambha</i>)</b>	
No Stiffness	0
Stiffness; no medication	1
Stiffness, relieved by external application	2
Stiffness, relieved by oral medication	3
Stiffness, not responded by medicine	4
<b>Headache</b>	
No headache	0
Mild pain occasionally	1
Headache once in a week	2
Headache more than 5 times in a week	3
Daily severe headache	4
<b>Vertigo (<i>Bhrama</i>)</b>	
No Reeling of head/ <i>Bhrama</i>	0
Sometimes feeling of reeling in head/ <i>Bhrama</i>	1
Feeling of reeling head/ <i>Bhrama</i> < 3 times a day	2
Feeling of reeling head/ <i>Bhrama</i> > 3 times a day	3
Frequently feeling of reeling head, change of posture causes the severe problem	4
<b>Tingling sensation</b>	
Absent	0
Occasionally	1
Up to 1hr	2
Up to 2hr	3
More than 3hr	4
<b>Loss of sensation</b>	
No loss of sensation	0
Occasionally sensation loss	1
Partial loss of sensation reversible	2
Partial loss of sensation irreversible	3
Complete loss of sensation	4

**Table 1.2: Neck Disability Index.**

<b>Pain Intensity</b>	<b>Score</b>
No pain at the moment	0
Very mild at the moment	1
Moderate at the moment	2
Fairly severe at the moment	3
Very severe at the moment	4
The worst imaginable at the moment	5
<b>Personal Care (Washing, Dressing, etc.)</b>	
Can look after himself normally without causing extra pain	0
Can look after himself normally but it causes extra pain	1
Painful to look after himself and I am slow and careful	2
Need some help but can manage most of his personal care	3
Need help every day in most aspects of self care	4
Do not get dressed, wash with difficulty and stay in bed	5
<b>Lifting</b>	
Can lift heavy weights without extra pain	0
Can lift heavy weights but it gives extra pain	1
Pain prevents him lifting heavy weights off the floor, but can manage if they are conveniently placed, for example on a table	2
Pain prevents him from lifting heavy weights but can manage light to medium weights if they are conveniently positioned	3
Can only lift very light weights	4
Cannot lift or carry anything	5
<b>Reading</b>	
Can read as much as want to with no pain in my neck	0
Can read as much as want to with slight pain in my neck	1
Can read as much as want with moderate pain in my neck	2
Can't read as much as want because of moderate pain in my neck	3
Can hardly read at all because of severe pain in my neck	4
Cannot read at all	5
<b>Headaches</b>	
No headaches at all	0
Slight headaches, which come infrequently	1
Moderate headaches, which come infrequently	2
Moderate headaches, which come frequently	3
Severe headaches, which come frequently	4
Headaches almost all the time	5
<b>Concentration</b>	
Can concentrate fully when want to with no difficulty	0
Can concentrate fully when want to with slight difficulty	1
Have a fair degree of difficulty in concentrating when want to	2
have a lot of difficulty in concentrating when want to	3
Have a great deal of difficulty in concentrating when I want to	4
Cannot concentrate at all	5
<b>Work</b>	
Can do as much work as I want to	0
Can only do usual work, but no more	1

Can do most of usual work, but no more	2
Cannot do usual work	3
Can hardly do any work at all	4
Can't do any work at all	5
<b>Driving</b>	
can drive car without any neck pain	0
can drive car as long as he/she want with slight pain in neck	1
can drive car as long as he/she want with moderate pain in neck	2
can't drive car as long as he/she want because of moderate pain in neck	3
can hardly drive at all because of severe pain in neck	4
can't drive car at all	5
<b>Sleeping</b>	
I have no trouble sleeping	0
sleep is slightly disturbed (less than 1 hr sleepless)	1
sleep is mildly disturbed (1-2 hrs sleepless)	2
sleep is moderately disturbed (2-3 hrs sleepless)	3
sleep is greatly disturbed (3-5 hrs sleepless)	4
sleep is completely disturbed (5-7 hrs sleepless)	5
<b>Recreation</b>	
Able to engage in all recreation activities with no neck pain at all	0
able to engage in all recreation activities, with some pain in neck	1
able to engage in most, but not all of my usual recreation activities because of pain in neck	2
able to engage in a few of usual recreation activities because of pain in neck	3
can hardly do any recreation activities because of pain in neck	4
can't do any recreation activities at all	5

NDI Score: 1. If all sections applicable= \_\_\_\_\_/ 50 x 100= \_\_\_\_\_%

2. If 1 section is missed/ no applicable= \_\_\_\_\_/ 45 x 100= \_\_\_\_\_%

**Table 1.3: Range of Movement at Cervical Spine.**

<b>1. Flexion</b>	
No restriction i.e. able to touch the interclavicular line	0
Able to touch interclavicular line, with slight difficulty	1
Up to 2cms difference between the chin and interclavicular line	2
2-4cms difference between the chin and interclavicular line	3
More than 4cms difference	4
<b>2. Extension</b>	
Normal i.e. able to extend the head up to the level when tip of nose and forehead becomes in horizontal plane approximately flexion to extension – 130°	0
Movement up to 120° with slight difficulty	1
Movement up to 120°	2
Movement up to 110°- 120°	3
Movement less than 110°	4
<b>3. Lateral Rotation</b>	
Normal i.e. able to make complete rotation of neck(180°)	0
Rotation with little difficulty	1
Rotation side to side only	2

Rotation one side only	3
Complete restriction of movement	4
<b>4. Right Lateral Flexion</b>	
Normal i.e. the ear touches to the shoulder tip	0
Ear touches to the shoulder tip with slight difficulty	1
Up to 3cms difference between the ear and shoulder tip	2
3 – 5cms difference between the ear and shoulder tip	3
More than 5cms difference	4
<b>5. Left Lateral Flexion</b>	
Normal i.e. the ear touches to the shoulder tip	0
Ear touches to the shoulder tip with slight difficulty	1
Up to 3cms difference between the ear and shoulder tip	2
3 – 5cms difference between the ear and shoulder tip	3
More than 5cms difference	4

**Table 2: Plan of treatment.**

Procedure	Duration	Drug Used
<i>Nirgundi Patra Pinda swedana</i>	14 days	<i>Nirgundi Patra, Dashmoola Taila, Haridra, Saindhav Lavana</i>
<i>Greeva Basti</i>	14 days	<i>Dashmoola Taila</i>
<i>Matra Basti</i>	14 Days	<i>Dashmoola Taila</i>

**Table 3: Changes Observed in signs and symptoms of Cervical Spondylosis.**

Symptoms	B.T. Score	A.T. Score
<b>Pain (<i>Shoola</i>)</b>	4	2
<b>Stiffness (<i>Stambha</i>)</b>	3	1
<b>Headache</b>	3	1
<b>Vertigo (<i>Bhrama</i>)</b>	3	0
<b>Tingling sensation</b>	3	1
<b>Loss of sensation</b>	2	0

**Table 4: Changes Observed in Neck Disability Index.**

Symptoms	B.T. Score	A.T. Score
<b>Pain Intensity</b>	1	0
<b>Personal Care (Washing, Dressing, etc.)</b>	3	2
<b>Lifting</b>	3	2
<b>Reading</b>	3	2
<b>Headaches</b>	3	2
<b>Concentration</b>	2	1
<b>Work</b>	2	1
<b>Driving</b>	3	1
<b>Sleeping</b>	3	1
<b>Recreation</b>	2	1
<b>NDI Score</b>	50%	26%

**Table 5: Changes observed in range of movement at cervical spine.**

Movement	B.T. Score	A.T. Score
<b>Flexion</b>	3	1
<b>Extension</b>	2	1
<b>Lateral Rotation</b>	2	1
<b>Right Lateral Flexion</b>	4	2
<b>Left Lateral Flexion</b>	3	2

## DISCUSSION

Inter vertebral disc is a cushion like structure that provides protection to vertebral bodies from friction. Cervical spondylosis is a disorder in which the discs and vertebrae in the neck region degenerate and so has a pulling pressure on the spinal cord in the neck. Chronic degeneration should be visualized as *Dhatukshaya*. *Kshaya roga* (wasting) is an integral character of *Vata Dosha*. Pain and stiffness are the primary symptoms of the disease which reflect the association of *Kapha* along with *Vata*. Moreover, as *Urdhwanga* is concerned, the involvement of *Kapha* is clear. *Prakriti* of the patient was *Kaphavataja*. Considering *Vata* as main *Dosha*, *Snehana*, *Swedana* and *Basti* were planned in the management. *Patrapinda Swedana* is a very practical approach of *Swedana* as it is easy and fast in action. Since association of *Kapha* along with *Vata* was found, *Nirgundi* was chosen for *Patra Pinda Swedana* owing to its *Vata-Kaphaghna* properties. Moreover *Nirgundi* has *Vednasthapan*, *Shothahara*, *Deepana*, *Pachana*, and *Rasayana* properties.<sup>[12]</sup> To the *Nirgundi Patra*, *Saindhava Lavana* was added to enhance the absorption of medicinal properties of *Nirgundi* owing to its *Sukshma guna*.<sup>[13]</sup> *Haridra* was added considering the anti-inflammatory action of its active principle Curcumin.<sup>[14]</sup> Massage and fomentation at posterior part of neck help to improve the local circulation, enhancing the absorption of the drug and also relieves the local stiffness. *Patrapottali* was a better option because it relieves para-vertebral muscle spasm, strengthens Para-vertebral muscles, Strengthens inter vertebral discs, and has a local anti-inflammatory effect.<sup>[15]</sup> *Dashmoola* oil used for *Greeva Basti* has been indicated in different types of *Vatavyadhi*.<sup>[16]</sup> and it also provides strength to the local soft tissues. *Greeva Basti* does *Sthanika Bahya snehana* of affected area. It nourishes the *Asthi* in affected area and pacifies the *Vata dosha*, *taila* doesn't aggravate *Kapha* thus counteracting the pathology. *Abhyanga* softens the skin, gives soothing effect, allows free movement, reduces the stiffness in joint as well as muscle, improves blood circulation to the muscles and relieves the pain. *Matra Basti* with 60 ml *Dashmoola taila* was administered post meal for 14 days. Mode of action of *Basti* is well explained by Acharya Charaka. He says that *Basti* administered reaches *Nabhi Pradesha*, *Kati*, *parshwa*, *Kukshi*.<sup>[17]</sup> The organs related to *Kati*, *Parshwa*,

*Kukshi* may be the *Pakwashaya*. *Pakwashaya* extends from *Grahani* to *Guda*. Thus it is clear that the *Basti* administered through *Guda* reaches *Grahani*. *Pakwashaya* is the site for *Purishadhara kala*<sup>[18]</sup> and *Grahani* is the site for *Pittadhara kala*.<sup>[19]</sup> Acharya Dalhana comments that *Purishadhara* and *Asthidhara kala* are same and *Pittadhara* and *Majjadhara kala* are same.<sup>[20]</sup> Thus it is clear that *Basti* has direct action on *Asthi* and *Majja Dhatu*, which justifies the use of *Matra Basti* in Cervical spondylosis, a degenerative disorder. *Matra Basti* has *Balya* action<sup>[21]</sup> which is desired in degenerative conditions as in present case. Disturbed sleep due to pain might have further aggravated *Vata*, and thus justifies the irritation felt by patient. *Matra Basti* might have helped in pacifying *Vata dosha*, thereby improving sleep and reducing irritation.

Thus the significant relief in pain and stiffness along with improved range of motion at cervical spine, decreased vertigo was probably due to *Vatakaphagna* properties of *Nirgundi Patrapinda Swedana*, Tissue and nerve root strengthening effects of *Greeva Basti* and *Vatashamaka* and *Brimhana* effect of *Matra Basti*. In present case, Patient was a known case of cervical spondylosis for 8 years, but got significant improvement in just 14 days.

## CONCLUSION

Cervical spondylosis is a *Kapha-Vata* dominant condition, *Nirgundi patra pinda swedana* pacifies *Vata* associated with *Kapha*, followed by *Greeva Basti* that enhances the local blood circulation and strengthens the local tissues and nerve root, thus relieving Pain and associated complaints. Moreover *Matra Basti* was found to be helpful owing to its *Vatashamaka* effects, thereby improving the sleep and reducing the mental agony caused due to pain and disturbed sleep. Conclusive results from the present study shows that a combined effect of *Nirgundi Patra pinda Swedana*, *Greeva basti*, and *Matra Basti* can offer improvement in signs and symptoms of cervical spondylosis.

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