



ISSN 2456-3110

Vol 4 · Issue 4

July-Aug 2019

# Journal of **Ayurveda and Integrated Medical Sciences**

*www.jaims.in*

# JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences



**Charaka**  
Publications

Indexed

# A Clinical Evaluation of *Agnikarma* in the management of *Greeva Sandhigata Vata* w.s.r. to Cervical Spondylosis

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## ABSTRACT

Today is the era of modernization and fast life. Everybody is busy and living stressful life changing of life style of modern human being has created several disharmonie. In his biological system. Advancement of busy, professional and social life, improper sitting posture in offices, continuous work in one posture and over exertion, jerking movements during travelling and sports - all these factors create undue pressure and stress injury to the spine and play an important role in producing disease like cervical spondylosis. *Agnikarma* is said to be the most superior among all the *Anushastra Karma*. *Agnikarma* is superior to *Ksharakarma* as disease burnt with *Agni* will never recur. Disease that cannot be cured with medicines, *Kshara* and Surgery, can be cured with *Agnikarma*.

**Key words:** *Greevassandhigata Vata*, *Cervical Spondylosis*, *Agnikarma*.

## INTRODUCTION

*Greeva Sandhigata Vata* is one of the commonest joint disorders broadly described under *Vatavyadhi* which affects musculoskeletal system of the body, particularly the geriatric<sup>[1]</sup> group. This age group is more vulnerable to *Dhatukshaya* (Degeneration of tissue). The *Vata Dosha* becomes more provoked due to *Kshaya* or *Avarna Prakriya* and produces various types of *Vatika* disorders. Clinical symptoms remain *Avyakta*<sup>[2]</sup> (Hidden) in *Purvaroopa* of *Vatavyadhi*, but in due course of pathogenesis. When structural derangement of *Dhatu* (*Hanthi Sandhigata Sandhin*) in the form of degeneration takes place, then clinical

features appear in the form of *Shoola* (Pain) and *Shopha* (Swelling).<sup>[3]</sup> When *Greeva* or cervical region of the body is affected, then the neck becomes stiff with restricted movements. The *Kaphaavrita Vyanavayu* is also a chief causative factor to produce pain and restricted movement of joints.<sup>[4]</sup>

Cervical spondylosis is an age related chronic degenerative disorder of intervertebral disc and bodies of cervical spines as per modern medicine. Initially disc loses water and elasticity and leads to reduction in intervertebral disc spaces with gradual formation of osteophytes. It commonly occurs at the lowest three cervical intervertebral joints, but the most common site is at the level of C<sub>5</sub>-C<sub>6</sub>.<sup>[5]</sup>

Now a days joint disorders are prevailing even in early age group after third decade of life. Only symptomatic relief can provided by administering powerful analgesics drugs and other conventional tools available in modern medicine or surgical procedures, this disease remains a challenge for physicians and research scholars. The treatment of *Sandhigata Vata* should be aimed at minimizing pain, optimizing function and reducing disability. The line of treatment told by *Acharayas* for the management of *Sandhigata Vata* is to use *Vatashamana Chikitsa*.<sup>[6]</sup> Among them *Agnikarma*<sup>[8]</sup> due to its *Ushna Guna* eliminates the

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Submission Date: 12/07/2019 Accepted Date: 23/08/2019

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

DOI: 10.21760/jaims.4.4.10

vitiated *Vata Dosha* and there is no fear of putrefication and bleeding, and ultimately it produces balancing effect on vitiated *Vata Dosha*. Ayurveda *Acharyas* also advised many drugs and drug combinations like *Rasayana*, *Balya*, *Amapachana* drugs to treat and control the degenerative process (*Dhatu Kshaya*). It's necessary to have safe, effective, economic, patient friendly treatment modality in present era. Hence in this study an attempt is made to evaluate the effect of *Agnikarma* with Indigenous drugs in *Greeva Sandhigata Vata* w.s.r. to cervical spondylosis.

## MATERIALS AND METHODS

### Inclusive Criteria

- Patients presenting with classical *Lakshanas* of *Greeva Sandhigatavata*.
- Patient with either sex age group between 40yrs and 60yrs

### Exclusive Criteria

- Patients with any systemic diseases like DM, HTN, TB, Pregnancy, HIV, Disc prolapse, cervical injury, potts sign.
- Contra-indication of *Agnikarma*.

### (a) Preparation of Medicine<sup>[8]</sup>

SN	Sanskrit Name	Botanical Name	Quantity
1.	<i>Indravaruni</i>	<i>Citrullus colocynthis</i>	1 part
2.	<i>Pippali</i>	<i>Piper longum</i>	1 part

Medicine will be prepared as per classics in the pharmacy of RGES. Ayurvedic Medical College and Hospital, Ron.

### (b) Preparation of *Shalaka*

It is specially prepared as per the procedure.

- Metal - *Pancha Dhatu Shalaka*<sup>[16]</sup>
- Length - 12 cm
- Weight - 10 grams

- Diameter - *Masuradala*

### Methodology

- Agnikarma*, in the shape of *Bindhu*, by heating *Panchadhatu Shalaka* and keeping the other end at the point of maximum tenderness of *Greeva Pradesha* (cervical region) upto the heat tolerance of the patient.
- The procedure will be repeated in a time gap of 7 days or 3 weeks along with oral medications or the same period of time.

### Study Duration

- Total duration including follow up - 42 days
- Oral medicine - 21 days
- Agnikarma* - Procedure on every 7<sup>th</sup> day for 21 days.
- Followup - Every 7<sup>th</sup> day up to the period of 42 days.

### Posology

- Indigenous drugs - 4 grams thrice a day.
- Anupana - Jaggery and Luke Warm Water.

### Assessment of Results

Assessment of improvement of patient will be recorded on the basis of relief of pain & stiffness. All the signs and symptoms are scored depending upon their severity, to assess the effect of the treatment. The result of study will be obtained in term of qualitative data.

SN	Symptoms	Nil	Mild	Moderate	Severe
1.	<i>Vedana</i>	0	1	2	3
2.	<i>Stambha</i> (Stiffness)	0	1	2	3
3.	<i>Shotha</i>	0	1	2	3

### Subjective Parameters

- Vedana* (pain)

- *Stambha* (stiffness)
- *Shotha*

### Objective Parameters

- Site of tenderness
- Goniometer reading

### Investigations

- X-ray of Cervical spine (antero posterior/laterally)
- MRI (if needed)
- Routine blood, RBS examination and urine Routine examination.

### OBSERVATION

The clinical observations from different aspects approaching to the treatment for patients of trial group have been represented showing the incidence, statistical analysis of effectiveness of trial drug along with clinical assessment of result etc. The data of each item are explained and have been represented with foot notes.

The total cases taken up for the study of either group were categorized on age limits. The lower limit of age was 40 years and the upper age limit was 60 year. Among the 40 patients selected, 10 patients were farmers, 10 were house wives and 14 were Hotel worker and 06 were self employed. The higher incidence of *Greevasandigatavata* was seen in the patients of mixed diet, among the 40 patients selected for the study. As the number of patient is only 40, no conclusion can be made out related to age, sex, occupation, religion, socio-economic status, marital status, habitat, addictions and dietary habits. A predominance of *Vaata-Pittaja Prakruti* was observed in the patients with 45% incidence among the 40 patients selected for the study. In both *Vaata-Kaphaja* and *Pitta-Kaphaja Prakruti* equal incidence of 20% was observed. Minimum incidence was observed in *Vaataja* and *Pittaja Prakruti* persons. No patients belonging to *Kaphaja* and *Samadoshaja Prakruti* were present among the selected 40 patients for the study. Among the 40 patients, higher incidence of 85% was seen in the *Madhyama Saara* patients and no patients were observed belonging to the *Pravara Saara*. 15%

*Avara Saara* patients were present in this study. Among the 40 patients selected for the study, higher incidence of 95% was seen in the *Madhyama Saara* patients. Only 5% of patients were present in the *Avara Saara*. 80% of patients were having *Madhyama Aahaara Shakti* and 20% of patients were having *Avara Aahaara Shakti* among the 40 patients selected for the study. It was observed that 70% of the patients were of *Madhyama Vyaayaama Shakti*, 30% of *Avara Vyaayaama Shakti* and no patients of *Pravara Vyaayaama Shakti* among the 40 patients. Here 16 patients were middle aged (*Madhyama Vaya*) and 24 patients were *Vruddha (Avara Vaya)*.

### RESULTS

#### Effect of the therapy on subjective parameters after treatment

Parameter	Mean		Net Mean	Impr. %	SD	SE	t	p	Remarks
	BT	AT							
Pain	2.05	1.4	0.65	31.7	0.80	0.12	5.12	< 0.05	S
Stiffness	1.95	1.12	0.82	42.05	0.67	0.10	7.72	< 0.01	HS
Swelling	0.65	0.27	0.37	56.92	0.49	0.07	4.83	< 0.05	S

After treatment, Mean BT of Pain is 2.05 and Mean AT is 1.4 with mean difference of 0.65 with 31.7% improvement in results with t value 5.12 which is significant (P<0.05).

After treatment, Mean BT of Stiffness is 1.95 and Mean AT is 1.12 with mean difference of 0.82 with 42.05% improvement in results with t value 7.72 which is highly significant (P<0.01).

#### Effect of the therapy on subjective parameters after follow-up

Parameter	Mean		Net Mean	Impr. %	SD	SE	t	p	Remarks
	BT	AT							
Pain	2.05	0.62	1.42	69.26	0.98	0.15	9.15	< 0.01	HS

Stiffness	1.95	0.47	1.47	75.38	0.81	0.12	11.43	< 0.001	HS
Swelling	0.65	0.07	0.57	87.69	0.50	0.07	7.26	< 0.001	HS

#### Showing the effect of the therapy on subjective parameters after follow up

After follow up, Mean BT of Pain is 2.05 and Mean AF is 0.62 with mean difference of 1.42 with 69.26% improvement in results with t value 9.15 which is highly significant ( $P < 0.01$ ).

After follow up, Mean BT of Stiffness is 1.95 and Mean AF is 0.47 with mean difference of 1.47 with 75.38% improvement in results with t value 11.43 which is highly significant ( $P < 0.01$ ).

After follow up, Mean BT of Swelling is 0.65 and Mean AF is 0.07 with mean difference of 0.57 with 87.69% improvement in results with t value 7.26 which is highly significant ( $P < 0.01$ ).

#### Effect of the therapy on objective parameters after treatment

Parameter	Mean		Net Mean	Impr. %	SD	SE	t	p	Remarks
	BT	AT							
Tenderness	0.575	0.25	0.325	56.5	0.474	0.07	4.33	< 0.05	S
Goniometry Reading	12.7	18.8	6.12	48.18	4.79	0.75	8.08	< 0.01	HS

After treatment, Mean BT of Tenderness is 0.575 and Mean AT is 0.25 with mean difference of 0.325 with 56.5% improvement in results with t value 4.33 which is significant ( $P < 0.05$ ).

After treatment, Mean BT of Goniometry Reading is 12.7 and Mean AT is 18.8 with mean difference of 6.12 with 48.18% improvement in results with t value 8.08 which is highly significant ( $P < 0.01$ ).

## DISCUSSION

*Greeva Sandhigata Vata* is one of the commonest joint disorders broadly described under *Vatavyadhi* which affects musculoskeletal system of the body, particularly the geriatric group. This age group is more vulnerable to *Dhatukshaya* (Degeneration of tissue). The *Vata Dosh* becomes more provoked due to *Kshaya* or *Avarna Prakriya* and produces various types of *Vatika* disorders. Clinical symptoms remain *Avyakta* (Hidden) in *Purvarooopa* of *Vatavyadhi*, but in due course of pathogenesis. When structural derangement of *Dhatu* (*Hanthi Sandhigata Sandhin*) in the form of degeneration takes place, then clinical features appear in the form of *Shoola* (Pain) and *Shopha* (Swelling). When *Greeva* or cervical region of the body is affected, then the neck becomes stiff with restricted movements. The *Kaphaavrita Vyanavayu* is also a chief causative factor to produce pain and restricted movement of joints.

Cervical spondylosis is an age related chronic degenerative disorder of intervertebral disc and bodies of cervical spines as per modern medicine. Initially disc loses water and elasticity and leads to reduction in intervertebraal disc spaces with gradual formation of osteophytes. It commonly occurs at the lowest three cervical intervertebral joints, but the most common site is at the level of  $C_5-C_6$ . The disease process commonly presents with symptoms related to pressure on the spinal cord and associated nerve roots and blood vessels.

In a study conducted by Dr.P.D.Gupta<sup>[9]</sup> (Nagpur) on *Agnikarma Chikitsa*, different types of *Shalaka Dahanopakarnas* were used in the management of various diseases. Here, the *Shalakas* made up of metals like *Tamra*, *Loha*, *Rajata*, *Naga* and *Vanga* separately were made use of. But the desired results were not obtained due to the specific characteristics of the metals, such as *Loha Shalaka* which was getting cooled immediately after making it red hot and only one *Samyak Dagdha Vrana* was possible to be made with once heated *Shalaka*. With *Tamra Shalaka*, good numbers of cases were treated but, the *Samyak Dagdha Vrana* produced by this *Shalaka* was having

the characters of *Atidagdha Vrana* which might be due to quick transfer of heat from *Shalaka* to the diseased part. In a similar manner, the *Shalaka's* made of *Rajata; Naga* and *Vanga* were not found useful. Hence the *Panchaloha Shalaka* was innovated by the observer and was successful in treating various diseases. This *Shalaka* was used in treating good number of patients and with once heated *Shalaka*, 20 to 30 *Samyak Dagdha Vranas* in *Bindu Akruti* were made satisfactorily. Many research papers were published and read in different conference on the use of this *Panchaloha* and its effect in treating various diseases. Based on this reference, in the present study, *Panchaloha Shalaka* was used as *Dahanopakarana* in the management *Manyastambha*.

The good response in both groups may be due to the therapeutic action of formulations, following *Pathyapathya* and shorter duration of onset of disease. Moderate and poor response may be due to long duration of onset of degenerative changes and not following *Pathyapathya* properly.

#### Probable mode of action

1. *Agnikarma Chikitsa Shalaka* plays an important role. *Vata* and *Kapha* possess *Sheeta Guna*, for this to neutralize the *Vata* and *Kapha Dosh*, require opposite *Guna* treatment that is *Ushna Chikitsa*. *Ushna Guna* and *Agni* having *Anyonyasritabhava*, hence *Agnikarma* by virtue of its *Ushna, Tikshna, Sukshma* and *Laghu* property breaks *Srotoavarodha*, which was produced by *Vata* and *Kapha Dosh*. Thus *Nirama Kapha* and *Vata Dosh* are neutralized.
2. The red hot *Shalaka* carry heat from one end to another and during conduction of heat some heat stored in previous part is conducted to next part. When such a heated *Panchadhatu Shalaka* applied over skin tissue for *Samyaka Dagdha Vrana*, stored heat is transferred from *Lohadi Shalaka* to skin tissue in the form of *Ushna, Tikshna, Sukshma* and *Laghu Guna*, neutralizes the *Sheeta Guna* of *Vata* resulting in minimizing the severity of the pain. *Agnikarma* also acts like a

*Dosha Dushya Vighatanakaraka* because *Ushna Guna* performs two functions. Firstly by stimulating i.e. *Utkleshana* of *Dhatvagni* and due to this action *Sama Dhatu* (localized *Ama*) is digested and secondly *Ushna Guna* dilates the channels of *Srotas*. Hence *Srotoavarodha* is removed (cleaning the respective *Srota* channel). It is hypothetically stated that *Bindu Pada Agnikarma* which practically used, is probably capable to break down various cycles of painful adhesions. It is hypothetically stated that after *Samyak Dagdha* some local antibodies or non-specific immunoglobins may act as a disease modifying activity.

3. *Agnikarma* may stimulates the sensory receptor lying in the muscle, sends message to the brain which stimulates the pituitary gland to release endorphin which in turn binds with opiate receptors in the pain cells to block the pain stimuli. Endorphin is a naturally occurring neuro peptide and like morphine and other opiates it has a marked propensity for binding on to the "opiate receptors" of the pain cell in the brain.
4. Raising the temperature of damaged tissue through red hot *Shalaka* may speed up the metabolic process, improves circulation by vasodilatation, reduce edema, accelerate repair, which can reduce painful stiffness in joints like arthritis. Thus *Agnikarma* may help in reducing the pain and stiffness of the joints.

The pain receptors in the skin and other tissues are all having free nerve endings. The red hot *Shalaka*, which causes destruction of the free nerve endings, tend to close the "gate" and prevent the sensory transmission of pain.

#### CONCLUSION

*Greeva Sandhigata Vata* is considered as one of the *Kastha Sadhya Vyadhi* where now a days lot of peoples suffering. Comparing to the other science, In Ayurveda we get numbers of treatment modalities, in which *Agnikarma* was selected, which is considered as best among parasurgical procedures explained in Ayurveda. Along with *Agnikarma, Shamanoushadi* was

given orally. After the study highly significant results were found in almost all the parameters respectively which shows that the treatment modalities planned in Ayurveda are relevant and highly effective, affordable and easy to handle.

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**How to cite this article:** Dr. Vinodkumar K. Bhorale, Dr. M. R. Hungundi. A Clinical Evaluation of Agnikarma in the management of Greeva Sandhigata Vata w.s.r. to Cervical Spondylosis. J Ayurveda Integr Med Sci 2019;4:65-70.  
<http://dx.doi.org/10.21760/jaims.4.4.10>

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

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