

## Clinical Efficacy of Agnikarma in the Management of Sandhigata Vata w.s.r. to Cervical Spondylosis

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### Abstract

*Sandhigata Vata* is a common *Vatik* disorder found in all races and can be correlated with cervical spondylosis is modern parlance. Structural as well as functional pathogenesis takes place at the level of C5-C6 of the cervical spine commonly. *Agnikarma* is an ideal treatment modality for the *Asthi Sandhigata Vikara* as per *Sushruta*. Till date only symptomatic treatments like analgesic - anti inflammatory drugs and spinal exercises etc. are available but none of these modalities are providing satisfactory result. Long term use of these drugs are also not free from adverse effects. This study was designed after considering all these facts. A total of 33 patients were registered and out of them 21 patients completed treatment course, in which 11 patients were treated with *Agnikarma* (Study group) and 10 patients were treated with *Trayodasanga Guggulu* (control group). Finally, it was concluded that *Agnikarma* provided significant relief in pain, stiffness and restricted movement of the neck.

**Keywords:** Cervical Spondylosis; Agni karma; Drugs.

### Introduction

*Sandhigata Vata* is one of the commonest joint disorders broadly described under *Vatavyadhi* which affects musculoskeletal system of the body, particularly the geriatric[1] group. This age group is more vulnerable to *Dhatukshaya* (Degeneration of tissue). The *Vatadosa* becomes more provoked due to *Kshaya* or *Avarana prakriya* and produces various types of *Vatik* disorder. Clinical symptoms usually remain *Avyakta* (Hidden)[2] in *Purva Roopa* of *Vata Vyadhi*, but in due course of pathogenesis. When structural derangement of *Dhatu* (Hanti Sandhigata Sanndhin) in form of degeneration takes place, then clinical features appear in the form

of *Shoola* (pain) and *Shopha* (swelling)[3]. When cervical region of the body is affected, then the neck becomes stiff with restricted movements. The *Kaphavritta Vyana Vayu* is also a chief causative factor to produce pain and restricted movement of joints[4].

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 C5-C6[5]. The disease process commonly presents with symptoms related to pressure on the spinal cord and associated nerve roots and blood vessels. Around the age of 50, 25-50% people and, at 75 years of age, at least 70% of people develop cervical spondylosis[6]. Repeated trauma related to specific occupation like carrying axial loads, professionally adopted posture etc. and smoking plays important role in producing cervical spondylosis even in lesser age group.

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However, about 50% of people over the age of 50 experience neck pain and stiffness due to cervical spondylosis. Out of them, 25–40% have at least one episode of cervical radiculopathy[7], feeling of tingling sensation or / and numbness in the course of nerve.

Now days, joint disorders are prevailing even in early age group after third decade of life. Only symptomatic relief can be provided by administering powerful analgesic drugs and other conventional tools available in modern medicine. Due to the limitations and side effects of these medicines or surgical procedures, this disease remains a challenge for the physicians as well as research scholars.

The *Agnikarma* is a well known para-surgical procedure and has been advised by *Sushruta* for disorders of *Asthi*, *Sandhi* and *Snayugata Vyadhi*[8].

Its effectiveness is well documented without producing any further complications. *Ayurveda* also has advised many drugs and drug combinations like *Rasayana*, *Balya*, *Vatasamaka*, *Amapachana* drugs to treat and control the degenerative process (*Dhatu Kshaya*).

Keeping all these facts in view, treatment modality for *Sandhigata Vata* by *Agnikarma* and *Trayodashanga Guggulu* was designed to prove its efficacy.

### Aims and objectives

1. To study the influence of modern lifestyle on *Sandhigata Vata* (Cervical Spondylosis) with its etiopathogenesis.
2. To assess the efficacy of *Agnikarma* in *Sandhigata Vata*.
3. To assess the efficacy of *Trayodashanga Guggulu* in *Sandhigata Vata*.

### Materials and methods

A total of 33 patients were registered randomly from the O.P.D. & I.P.D. of *Shalya*

*Tantra Dept*, I. P. G.T. & R. A., irrespective of their sex, caste, occupation and religion. All patients were diagnosed on the basis of sign and symptoms, as per the proforma, especially prepared for that study.

### Clinical trial

The study was exclusively based on clinical trials. All the selected patients were divided into two groups.

### Group A

*Agnikarma* done by *Panchadhatu Shalaka* (PDS)

### Group B

Treated with *Trayodashanga Guggulu*

### Criteria for Selection of Patients

- *Shoola* (Pain) in cervical region
- *Stambha* (Stiffness) in Cervical region
- *Graha* (Restricted movement) of neck

### Associated Symptoms

- *Bhrama* (Giddiness)
- *Sira Shoola* (Headache)
- *Chimchimayana Hasta* (Tingling sensation in hand)
- *Suptata* (Loss of sensation)

### Exclusion Criteria

- Uncontrolled diabetes mellitus
- Tuberculosis of Spine
- Carcinoma of Cervical vertebra
- History of injury to cervical spine

### Investigation

➤ Routine investigations of blood, urine and stool were carried out to rule out other pathology before starting the treatment.

➤ X- ray of cervical vertebrae – A. P. and lateral views.

### *Trayodashanga Guggulu*

It was prepared in university pharmacy as per the classical reference given in *Bhaisajya Ratnavali* and given to the patients, 3gm, twice a day in divided doses with lukewarm water for one month.

### *Agnikarma*

The whole procedure was divided into three phases:

- i. *Purovakarma* (Preoperative procedure)
- ii. *Pradhana karma* (Operative procedure)
- iii. *Paschat karma* (Post operative procedure)

### *Purvakarma*

➤ Selection of patients - All the patients were selected based on their clinical features as well as relevant investigations according to the research proforma.

➤ Written consent was taken from every patient beforehand.

➤ Advised to take *Snigdha* and *Pichhila Ahara* prior to the procedure.

➤ Arrangement of *Triphala Kasaya*, *Yastimadhu churna*, *Kumari swarasa* was done.

➤ Stove flame was used to heat up the *Pancha Dhatu Shalaka* (PDS) red hot.

➤ Preparation of body part- Part (Back of Neck) was painted with *Triphala Kasaya* and dried with sterilized gauze piece and this area covered with a sterilized cut sheet.

### *Pradhana karma*

➤ *Samyak Dagdha Vrana* (Therapeutic Superficial Skin Burn) over the back of the neck starting from C5 to C7 spines was made by making three (03) *Vilekha Dahana Vishesa* (Multiple Dots in Three Straight Line) with red hot *Pancha Dhatu Shalaka*, one by one.

➤ Immediately, a swab soaked in *Kumari Swarsa* was applied by a sponge holding forceps over the *Vilekha Dahana Vishesa* by an assistant.

➤ Minimum 01cm. gap was left between two consecutive *Vilekha Dahana Vishesa*.

➤ Care was taken not to produce *Asamyak Dagdha Vrana* (Pathological Burn).

➤ Total four sittings of treatment were given at seven days interval.

### *Pashchat Karma*

➤ *Kumari Swarasa* was wiped out completely by sterilized gauze piece.

➤ Dusting of *Yastimadhu Churna* over the *Samyak Dagdha Vrana* was done to cover the whole *Dagdha* area.

➤ Patients were allowed to go home with advice:-

✱ Apply paste of *Haridra* powder mixed with coconut oil at night and leave the part open.

✱ Advised not to use water over that part at least for 24 hours.

✱ Advised to avoid *Vata Vardhaka Ahara* and *Vihara*.

### *Criteria for Assessment*

The improvement was assessed on the basis of relief in signs and symptoms of the disease as per the criteria made for that using scoring pattern.

### *Criteria for assessing the total effect*

- ✱ Cured -75% - 100% relief
- ✱ Marked Improvement- >50% - < 75% relief
- ✱ Improvement - 25% - 50% relief
- ✱ Unchanged - <25% relief

**Followup Period:** One month.

### Observation and results

A total of 33 patients were selected in this study. Out of them, 11 patients in *Agnikarma* group and 10 patients in *Trayodashanga Guggulu* group completed the treatment course successfully.

In this study, highest incidence (49%) of *Sandhigata Vata* was found in the 41 to 60 years of age group. *Vata Dosha* dominates in this age group by taking a pivot role for *Dhatu kshaya*. This incidence is followed by 45 % patients from 20 to 40 years of age group which may be due to the impact of particular profession in which strenuous impact on neck is more. fifty eighty percent female patients were affected which might be due to improper care of the spine while doing strenuous work: 46 % housewives suffered because of more exposure to occupational trauma. Seventy nine percent. Patients were using modern treatment to get rid off the pain which provides only symptomatic relief which cannot be acceptable at all. Maximum 37 % patients were having chronicity of one year which prompted the patients to seek the proper treatment which suggests gravity of the disease. Maximum 58% patients possessed *Vata Kapha Prakriti*. The *Vyan Vayu* is responsible for function of all body parts. Majority of the patients were having *Madhyama Kostha* and *Madhyama Jaranshakti* which reflects the stage of *Agnimandya Ruksha ahara*, *Dukhasana* (inappropriate posture) and *Agnimandya* are the chief causative factors for provoking *Vata Dosha* and manifestation of *Kaphavritta Vyanavayua* which affected the targeted joints and produced the disease "*Sandhiagata Vata*", proves the theory that the pathogenesis of this disease occurs due to *Kaphavritta Vyanavayua*.

#### *Effect of therapies on Shoola (Pain)*

*Agnikarma* provided better result (76% relief) in relieving pain as compare to *Trayodashanga Guggulu* (63% relief). due to qualities of *Agnikarma*, i.e. *Ushna*, *Sukshma*, *Ashukari guna*, which were helpful to subside *Vata Dosa* and

gave instant relief in pain to the patients. *Trayodashanga Guggulu* contains *Madhura Rasa*, *Snigdha Guna* and *Ushna Virya* which pacified *Vata Dosa* and rendered relief to the patients from pain.

#### *Effect of therapies on Stambha (Stiffness)*

*Agnikarma* provided better results for relieving neck stiffness as compared to *Trayodashanga Guggulu*: 63% patients got relief in *Agnikarma* group whereas 55% patients got relief in *Trayodashanga Guggulu* group. Neck stiffness is caused by *Vata* and *Kapha Dosa*. The *Ushna* property of *Agnikarma* would have pacified both vitiated *Vata* and *Kapha Dosha*. likewise *Trayodashanga Guggulu* is also found helpful in pacifying vitiated *Vata* and *Kapha Dosha* by virtue of its *Ushna Virya*.

#### *Effect of therapies on Graha (Restricted movement)*

*Graha* is mostly found at the neck region. Significant relief was observed in 62.50% patients by *Agnikarma* therapy whereas *Trayodashanga Guggulu* provided relief in 59.00 % patients. This may be attributed to *Ushna* properties of *Agnikarma* as well as *Trayodashanga Guggulu*.

#### *Effect of therapies on Sirashoola (Headache)*

Ten patients in *Agnikarma* group and 6 patients in *Trayodashanga Guggulu* group were complaining of headache. Headache was relieved in 61.00% of patients by *Agnikarma* whereas 69.00% patients got relief by *Trayodashanga Guggulu*. Hence, it can be inferred that *Trayodashanga Guggulu* provided better result than *Agnikarma* in relieving *sirashula*.

#### *Effect of therapies on Chimchimayana Hasta (Tingling sensation)*

Symptom of *Chimchimayana Hasta* was relieved in 50.00 % patients by *Agnikarma chikitsa* whereas 67.00% relief was observed with *Trayodashanga Guggulu*. But statistically,

result of *Agnikarma* on *Chimhchimayana Hasta* was found insignificant. Probably, the feature of *Chimhchimayana Hasta* would have been produced by *srotavarodha* of *Vatavaha Nadi* and the relief was observed due to *Sukshma* as well as *Ushna* guna of *Agnikarma* and *Trayodasanga Guggulu* which might have helped to remove the *Srotavarodha* of *Vatavaha Nadi*.

#### *Suptata* (Loss of sensation)

In 30.00% patients, *Suptata* was relieved by *Agnikarma chikitsa* where as 50.00% were relieved in *Trayodasanga Guggulu* group. But both the therapies were statistically insignificant. *Suptata* might have been produced by complete obstruction of *srotasa* of *Vatavaha nadi*. Due to a small sample, no definite conclusion can be drawn here.

#### *Bhrama* (Head reeling)

The relief in *Bhrama* by *Agnikarma* was found in 61.00% patients whereas 62.00% patients got relief by *Trayodasanga Guggulu*; both results were found statistically insignificant. *Bhrama* might have been produced due to lack of *Rasa Rakta Purana*. It was taken care of by *Usnata guna* of both therapies.

#### *Effecting Chronicity*

Better response was observed in less chronic cases (0-1year) because in such cases degenerative process is mild.

#### *Overall Effect of Therapies on Sandhigata Vata (Cervical Spondylosis)*

Out of 11 patients of *Agnikarma* group, 18.00% were completely cured without recurrence up to one month where as 18.00% patients had marked improvement and 63.00% patients got improved.

Out of 10 patients of *Trayodasanga Guggulu* group, 10.00% patients were cured, 30.00% patients showed marked improved and 60.00% patients improved.

## Discussion

*Sandhigata Vat*, affects the neck region and can be correlated with cervical spondylosis in modern parlance. It is still posing a problem for the physicians in the entire world because of its unrevealed pathophysiology. Though it is not a fatal disease initially, it causes more and more complications as the disease advances which reflects the gravity of the disease. The *Vata vitiated* diet regimen and activities like *Dukhasana* (faulty sitting position), *Dukhasayaya*, occupational trauma, continuous work in a particular posture etc. are the chief causative factors of *Sandhigata Vata /cervical spondylosis*[9].

To get prompt relief from the features of *Sandhigata Vata*, *Agnikarma* is well advised in the classics. Therefore the in the present study, *Agnikarma* was adopted for evaluating its effects on *Sandhigata Vata / cervical spondylosis*. The procedure of *Agnikarma* was done at the level of 5, 6, and 7, considering the maximum tenderness point by *Panchadhatu Shalaka (PDS)* (Rod, made up of five metals) in the manner of *Vilekha Dahan Vishesa*. Various *Dahan Upakarana* are mentioned to perform *Agnikarma* in *Asthi and Sandhigata Vikara*, but *Pancha Dhatu Shalaka*, an innovation done by Prof. P.D. Gupta, was used for this purpose[10] in this study. This *Shalaka* was found useful to make 20-30 *Samyak Dagdha Vrana* on single heating of *Shalaka*. This quality of *PDS* has been proven by many research works. Many papers have been published by Prof. P.D.Gupta. Hence, it was preferred in the present study. It was observed that *Agnikarma* gives instant relief from pain and stiffness. Though there were no radiological changes found in cervical joints, yet patients got relief from symptoms of pain, stiffness and restricted movement of the neck after completion of treatment course.

According to *Charaka*, drugs like *Guggulu* and many *Rasayana* (rejuvenating) drugs are advised for *Vatavyadhi Chikitsa*; that is why *Trayodasanga Guggulu* was selected for this study. Many drugs of this formulation contain *Madhura vipaka* and are mentioned under the

*Rasayana, Balya* as well as *Vaya sthapaniya* groups. Due to rejuvenating property, *Trayodasanga Guggulu* might have decreased further degenerative process and improved the vitality and longevity of cervical vertebrae. *Guggulu* and *Ghrta* are the main ingredients and both have the properties of pacifying *Vata* and *Kapha Dosha*. As per the clinical observation, *Agnikarma* provided better result in comparison to *Trayodasanga Guggulu*.

#### Mode of Action of Agnikarma

*Sandhigata Vata* is produced by vitiated *Vata Dosha* with *anubandha* of *Kapha*. By virtue of *Ushna, Tikshna, Sukshma* and *Ashukari gunas*, *Agnikarma* rendered best therapy to pacify *Vata* as well as *Kapha Dosha*. The *Agnikarma* was done by red hot *Panchadhatu Shalaka*, the physical heat transferred as therapeutic heat to *Twak Dhatu* by producing *Samyak Dagdha Vrana*. This therapeutic heat acted in the following ways:

1. *Ushna, Tikshna, Sukshma, Ashukari gunas* removes the *srotavarodha* followed by increase in *Rasa Rakta Sambahana* (blood circulation) to *Griva Pradesha* which pacify the vitiated *Vata and Kapha Dosha*. Probably, it flushed out the pain producing substances from the neck region and provided relief in pain and stiffness to the patients, ultimately.

2. Therapeutic heat might have increased the *Dhatvagni* which helped in the digestion of *Ama Dosha* followed by increased metabolism of *Dhatu* in proper way. Further, promotion of nutrition to *Griva Sandhi* from *Purva Dhatu* took place and in this way *Asthi* and *Majja Dhatu* might have become more stable to provide relief from symptoms to the patients.

3. Equilibrium state of *Dosha* provides relief from the disease conditions which is achieved by application of therapeutic heat to the deeper tissue like *Mamsa* and *Asthi Dhatu* by the process of neutralization of *Shita Guna* of *Vata* and *Kapha Dosha*.

#### Conclusion

➤ *Sandhigata Vata* is a disease condition related to the joints of the body which occurs in old age group and due to some occupation related work condition.

➤ *Agnikarma therapy* is a simple, safe and result oriented treatment modality for *Sandhigata Vata / cervical spondylosis*.

➤ The PDS should be used preferably with rounded and pointed blunt tip which plays an important role to produce *Samyak Dagdha Vrana*.

➤ It is an ambulatory treatment with affordable expenditure.

➤ To obtain better result *Samyak Dagdha Vrana* is an important clinical parameter. It should be observed during the procedure carefully.

➤ Minimum four sittings with interval of seven days is required to get optimum result, but more sittings are required as per the chronicity and severity of the disease.

➤ The *Trayodasanga Guggula* is also a potent formulation and requirement to relieve the clinical symptoms like *shula, suptata, chimchimayan hasta* etc.

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