

A COMPARATIVE CLINICAL EFFICACY OF AGNIKARMA WITH LAUHASHALAKA AND TAMRA SHALAKA IN THE MANAGEMENT OF SANDHIGATA VATA (CERVICAL SPONDYLOSIS)

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Article Received on
20 March 2018,

Revised on 10 April 2018,
Accepted on 30 April 2018

DOI: 10.20959/wjpr20189-12328

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ABSTRACT

Sandhigata vata is a clinical condition in which structural as well as functional disarrangement takes place in the joints. *SandhigataVata* can be identifying as a disease of *Sandhi* (Joint) with symptoms of *Sandhi shoola*, *Sandhi shotha* and *Akunchana Prasaraana Pravrittiscavedana* and in the later stage *Hanti Sandhigatah*. In the context of *Ayurveda* some clinical condition mimics with *Cervical Spondylosis* like *Manyastambha*, *Manyagraha*, *Grivastambha*, *Viswachi*. But in these disorders no degenerative changes takes place. *SandhigataVata* is the only disease which can be strongly appropriate with *Cervical Spondylosis*. *Cervical Spondylosis* is a general term for

age-related wear and tear affecting the cervical vertebrae in neck. As the discs dehydrate and shrink, bone spurs and other signs of osteoarthritis develop. *Agnikarma* having anti *Vata Kapha* property like *Ushna*, *Sukshma*, *Ashukari guna* may be helpful to relieves pain and muscle spasm instantly so it can be used to treat cervical Spondylosis. It is a non-pharmacological, Para surgical technique which gives instant relief to the patients of *Sandhigata vata – Cervical Spondylosis*.

KEYWORDS: *Agnikarma, Sandhigata vata, Cervical Spondylosis.*

INTRODUCTION

Sandhigata vata is a clinical condition in which structural as well as functional disarrangement takes place in the joints. As It is *vata Vyadhi* which is considered as a *Mahagadabe* cause treatment may be prolonged and prognosis is uncertain.^[1] Due to changes in lifestyle and occupational stress *Sandhigata Vata* has found in society as prominent disease.

Sandhigata vata can be defined as a disease of *Sandhi* (Joint) with symptoms of *Sandhi shoola*, *Sandhi shotha* and *Akunchana Prasara Pravrattiscavedana* and in the later stage *Hanti Sandhigatah*.^[2]

Acharya Sushruta has described various types of *Sandhi* viz. *Peshi Sandhi*, *Snayu Sandhi* and *Shira Sandhi* etc. but in this perspective, we are dealing with *Asthi Sandhi*.^[3] The term *Gata* means “situated in”, directed to. Hence *Sandhigata vata* represents the site in which provoked *vata dosha* is situated. *Vata*^[4] is a biological force which governs and stimulates all the activity of Body and act as a receptor as well as stimulator.

During the progression of pathogenesis of *Sandhigata vata* repeated *Nidana* causes vitiation of *vata* which gets localized to cervical joints and leads to neck pain, Stiffness with Restriction of range of motion in cervical region. Due to *kaphavrita vyan vayu* normal circulation is obstructed than it affects cervical range of motion also.

Cervical Spondylosis is a general term for age-related wear and tear affecting the spinal discs in neck. As the discs dehydrate and shrink, bone spurs and other sign of osteoarthritis develops.^[5] Cervical spine is subjected to much more strains of mobility and weight bearing as compared to the lumbar. Pathology starts with the degeneration of intervertebral discs which leads to reduction of intervertebral disc space and peripheral osteophytes formation. Osteophyte impinging on the nerve root gives rise to Radicular Pain in the upper limb and neck, occipital headache, vertigo, giddiness. These changes can results in spinal canal stenosis. NSAIDS, Muscle Relaxant, Glucocorticoids, Antidepressants and Analgesics are widely available pharmacological management with many unwanted side effects. Decompression surgery is most practiced method to relieve compression of nerve root but success rate is low because degenerative disease of spine is inevitable consequence of aging.

In Ayurvedic literature several methods like *Shehana*, *Upanaha*, *Agnikarma*, *Bandhan*, *Unmardan*, has been described in the treatment concerning *Sandhigata vata*.

Agnikarma having anti vata kapha property like *Ushna*, *Sukshma*, *Ashukari guna* was chosen to manage *Sandhigata vata*. As *Agnikarma* may be effectively helpful to relieve the pain and muscle spasm instantly so it is used to treat cervical Spondylosis.

From the review of previous work on *Sandhigata vata* it becomes clear that most of the work has been carried out in regards to *Shodhanachikitsa* and *Samanachikitsa* and very few work have been carried out in regards to Para-surgical procedure like *Agnikarma*. Hence it creates a scope to explore the problem in the light of scientific background for better treatment.

Shushruta has mentioned so many dravya for *Agnikarma* procedure but in this study *Lauhadhatushalaka* and *Tamra Dhatu Shalakais* selected to evaluate the comparative efficacy of *Agnikarma*.

Keeping all these points in mind the study has been conducted to evaluate the efficacy of *Agnikarma* with *Lauhashalaka* and *Tamrashalaka* in the management of *Sandhigata vata-cervical Spondylosis*.

AIMS AND OBJECTIVE

To compare the efficacy of *Agnikarma* with *lauha shalaka* and *tamra shalaka* in the management of *Sandhigata Vata- Cervical Spondylosis*.

MATERIAL AND METHODS

Source of data-Patients of sandhigata vata- cervical spondylosis fulfilling the inclusion criteria as mentioned below and attending the OPD of parul Ayurveda hospital. Detailed Proforma was prepared incorporating Ayurvedic and contemporary points.

Diagnostic Criteria

- *Shoola (Pain)* in cervical region.
- *Stambha (Stiffness)* in cervical region.
- *Graha (Restricted movement)* of neck.
- Disease Confirmed by X -Ray.

Associated Symptoms

- *Bhrama* (Giddiness)
- *Shira shoola* (Headache)
- *Suptata* (loss of sensation)

Inclusion Criteria

- Patients fulfilling the diagnostic criteria.
- Patients between the ages of 40 – 70 years.

Exclusion Criteria

- Pregnant/lactating woman.
- Patients group of age below 40 years and above 70 years.
- Patients suffering from pathological condition like Bone tumor, Tuberculosis spine etc.
- Uncontrolled diabetes mellitus.
- History of injury to cervical spine.
- Who were not ready to sign written informed consent form

Study was cleared by the institutional ethical committee. Written informed consent was taken from each individual patient willing to participate before the start of the study. Patients were free to withdraw their name from study at any time without giving any reason.

In this research work total 40 patients of *Sandhigata Vata – Cervical Spondylosis* were registered and 34 patients completed the course of treatment. Proper randomization was done for the patients in both groups each consisting 20 patients. 18 patients in group-A & 16 patients in group –B completed the course of treatment. Total 6 patients left against medical advice.

An assessment was made on the changes in clinical features before and after treatment. Suitable scoring was given to each symptom while range of motion was measured by goniometer.

criteria was made to assess the effect of therapy i.e. cured 100% relief of the complaints, no recurrence in followup, marked improvement more than 75% and less than 100% relief in complaints, moderate improvement more than 50% and less than 75% relief in the complaints, mild improvement 25% and less than 50% relief in the complaints and unchanged 0-25% relief in the complaints.

Investigations

- (1) Pathological -hematological analysis of T.L.C., D.L.C., Hb, R.B.S, H.I.V, Hb_s Ag
-Routine examination of urine.
- (2) Radiological -X-Ray of cervical spine - A.P. & lateral view.

Procedure of Agnikarma

Like another procedure *Agnikarma* is practiced in to three steps - Poorva karma: Pradhan karma: Paschat karma.

Purva Karma

- Informed written consent was taken at the time of registration of the patient for study.
- Information sheet was provided to all patients at the time of registration.
- Required various investigations were done.
- *Snigdha, Picchila Annapana sevana* advised before procedure.
- *Ghrita-kumari* pulp collection.
- *Tamra Shalaka* heated up to Red hot time approximately 3 to 4 minute and *Lauha Shalaka* heated up to red hot time approximately 5-8 minute minimum.
- Preparation of local part: Local part was washed with *Triphala Kwatha* and wiped with dry sterilized gauze and covered this area with a drape sheet.

Pradhan karma**Group-A**

- Type of Karma: *Bindu* type of *Agnikarma* was done with *lauha Shalaka*.
- In *Cervical Spondylosis* *Prone* position was adopted as it was comfortable to the patient.
- In the disease of *Cervical Spondylosis* irrespective of specific site in this study *Agnikarma* has been done at the maximum painful/tender site at affected neck area.
- During *Agnikarma Ghritakumari* was applied to relieve burning sensation.

Group-B

- Type of Karma: *Agnikarma* was done with *Tamra Shalaka*.
- In *Cervical Spondylosis* *prone* position was adopted as it is comfortable to the patient.
- In the disease of *Cervical Spondylosis* irrespective of specific site in this study *Agnikarma* has been done at the maximum painful/tender site at affected neck.
- During *Agnikarma Ghritakumari* was applied to relieve burning sensation.

Paschat Karma

- After wiping of *Kumari* pulp local application of *Madhu* and *Sarpi* was done on *Samyaka Dagdha Varna*.
- After *Agnikarma* patient was observed for 30 minute, and advised *Pathyapathya* as per *Sushruta Acharya's Varna Rogadhikara* till the healing of *Samyaka Dagdha Varna*.
- Patients were strictly advised, “don't touch water at *Dagdha Varna* site for one *Ahoratra* (24 hours).”

OBSERVATION AND RESULT

Total 40 patients were registered on the basis of clinical presentation irrespective of age sex religion in this study. Out of them 34 patients completed successfully completed their treatment schedule. 18 patients in *Lauha Shalaka* group and 16 patients in *Tamra Shalaka* group completed the course of treatment. Every patient was assessed after the completion of therapy.

The important observations made in this study are as follows.

- Total 40 patients studied in this work out of them maximum 75% patients belonged to 40-50 years of age group: female (75%); Hindu religion (77.5%); literate (80%); Middleclass (45%) were observed.
- The maximum patients of this study having *Vegetarian diet* (75%); *Housewives* (67.5%); *prolonged sitting type of work* (47.5%); *Urban habitat* (67.5%); *Madhyama sara* (52.5%); *Madhyama type of samhanan* (60%) patients were observed.
- The maximum patients in this study were having *Vata kapha Prakriti* (65%); *addiction of tea* (60%) & *tobacco* (30%) were observed.
- *The history of chronicity up to 1 year* (70%); *and overweight patient found* (32.5%); *pain in neck region* (100%); *gradual onset disease* (70%) was reported.
- *As chief complaints, neck pain was present in entire* (100%) *patients, while Pain with Radiation* (52.5%); *and Stambha (stiffness)* (62.5%) *of patients were observed.*

All selected 34 patients were treated by *Agnikarma* in 2 sittings at 15 days of interval. In Group-A, *Agnikarma* was done with *LauhaShalaka* and in Group-B *Agnikarma* was performed with *Tamra Shalaka*. The relief in signs and symptoms were observed after treatment and noted in the proforma specially prepared for this study. Paired 't- test' and 'chi square' test was applied for assessment of individual group. Unpaired 't-test' was used to

assess the comparative efficacy of the *Agnikarma* in Group-A (*Lauha Shalaka*) with the Group-B (*Tamra Shalaka*).

Group -A

Effect of Agnikarma by Lauha Shalaka on Chief Complaints

Symptoms	Mean		Diff.	S.D. ±	S.E. ±	‘t’	‘P’	%	REMARKS
	B.T	A.T.							
Pain	2.50	0.78	1.72	0.75	0.17	9.71	<0.001	68.8%	H.S.
Flexion	41.67	55.28	13.6	7.63	1.79	7.56	<0.001	32.63%	H.S.
Extension	49.17	57.50	8.33	5.94	1.40	5.95	<0.001	16.94%	H.S.
Right Side Flexion	38.61	48.89	10.27	8.6	2.04	5.03	<0.001	26.59%	H.S.
Left Side Flexion	42.28	53.06	10.78	9.11	2.14	5.95	<0.001	25.49%	H.S.
Right Rotation	60	72.78	12.77	9.73	2.29	5.56	<0.001	21.28%	H.S.
Left Rotation	53.06	66.11	13.05	10.31	2.43	5.37	<0.001	24.59%	H.S.

Symptom	Mean			S.D. ±	S.E. ±	X ² value	P	%	REMARKS
	B.T	A.T.	BT-AT						
Pain With Radiation	0.61	0.28	0.33	0.59	0.14	2.81	>0.05	54.09%	N.S.
Stiffness	0.78	0.28	0.50	0.51	0.12	1.97	>0.05	64.10%	N.S.

Effect of Agnikarma By Lauha Shalaka On Associated Complaints

Symptom	Mean		Diff.	S.D. ±	S.E. ±	X ² value	P	%	Remarks
	B.T	A.T.							
Bhrama	0.44	0.11	0.33	0.48	0.11	2.81	>0.05	75%	N.S.
Shirashoola	0.39	0.11	0.28	0.46	0.10	3.53	>0.05	71.79%	N.S.
Suptata	0.67	0.22	0.45	0.51	0.12	2.57	>0.05	67.16%	N.S.

Group -B

Effect of Agnikarma By Tamra Shalaka On Chief Complaints

Symptoms	Mean		Diff.	S.D. ±	S.E. ±	T	P	%	Remarks
	B.T	A.T.							
Pain	2.44	1.19	1.25	0.44	0.11	11.18	<0.001	51.22%	H.S.
Flexion	36.56	50.94	14.37	9.10	2.27	6.31	<0.001	39.30%	H.S.
Extension	45	57.50	12.50	6.32	1.58	7.90	<0.001	27.77%	H.S.
Right Side Flexion	39.69	50.31	10.62	10.14	2.53	4.18	<0.001	26.75%	H.S.
Left Side Flexion	37.81	49.69	11.87	7.50	1.87	6.33	<0.001	31.39%	H.S.
Right Rotation	59.69	69.38	9.68	7.18	1.79	5.39	<0.001	16.21%	H.S.
Left Rotation	54.38	64.38	10	8.36	2.09	4.78	<0.001	18.38%	H.S.

Symptoms	Mean		Diff.	S.D. ±	S.E. ±	X ²	P	%	Remarks
	B.T	A.T.							
Pain With Radiation	0.63	0.38	0.25	0.44	0.11	5.76	<0.05	39.68%	S
Stiffness	0.69	0.25	0.44	0.51	0.12	2.42	>0.05	63.31%	N.S.

Effect of Agnikarma By TamraShalaka On Associated Complaints

Symptom	Mean		BT-AT	S.D. ±	S.E ±	X ² value	P	%	Remarks
	B.T	A.T.							
Bhrama	0.38	0.19	0.19	0.40	0.10	6.15	<0.05	50%	S
Shirashoola	0.38	0.19	0.19	0.40	0.10	6.154	<0.05	50%	S
Suptata	0.56	0.44	0.12	0.34	0.08	9.67	<0.05	21.42%	S

Overall Effect of Therapy

Assessment	GROUP A		Group B	
	N	%	N	%
Marked improvement (75-100%)	0	0	0	0
Moderate improvement 50-75%	5	14.70%	1	2.94%
Mild improvement 25-50%	13	38.23%	15	44.11 %
Unchanged	00	00	00	00

DISCUSSION

In the context of *Ayurveda* many clinical condition mimics with *Cervical Spondylosis* like *Manyastambha*, *Manyagraha*, *Grivastambha*, *Viswachi*. But in these disorders no degenerative changes takes place. *SandhigataVata* is the only disease which is strongly appropriate with *Cervical Spondylosis*. *Sandhigata Vata* is one of *Vata Vyadhi* described by all the *Acharyas* of *Ayurveda* having vitiated *Vata Dosha* in the *AsthiSandhi* (joints). It is characterized by the symptoms like *Sandhishoola*, *Sandhishopha*^[6] etc. There is relation between *Dosha* and *Dushya* because of their *Bhautika* constitution. Augmentation of *Vata* due to its properties will lead to decrease in the *Asthi* and viceversa. Interrelation between *dosha* and *dushya* is called *Ashraya Ashrayi Bhava*. *SandhigataVata* comes under *sthana gata vyadhi*. Here in the *prakupita vayu* comes under *sthana* and results in the *vyadhi* which is called *SandhigataVata*. *Gatatva* is one such a complex phenomenon mentioned in all *Ayurvedic* classics. *Gatatva* of *Dhatu*, *Updhatu*, *Ashaya*, *Avayava*, And *Indriya* etc. have been described in classics.

Cervical Spondylosis is preferable as it is a progressive degenerative condition rather than *inflammatory* or *dissolution* condition.^[7] It is a condition in which progressive degenerative changes takes place in inter vertebral discs leading to changes in the surrounding normal anatomical structures associated with osteoarthritis of spinal *Apophyseal* joints. Neck pain *Stiffness*, *Parasthesia*, *Restricted Range of Motion*, *Sleep Disturbance*, *Bhrama*, *Shirashoola*, *Vertigo*, *Radiculopathy*, *Myelopathy* are main clinical features of *Cervical Spondylosis*. The discussion is made on the *Agnikarma*, performed in this study. Various types of treatment principle^[8] like *Abhyanga*, *Panchakarma*, Para surgical procedures (*Raktamokshana*

and *Agnikarma*) etc. are available for the management of *Vata Vyadhi*. *Agnikarma* is an asset of Ayurvedic surgeon which has been widely used in the clinical practice since time immemorial. It gives immediate relief to the patient from local *Vata* and *Kapha* disorders without producing any untoward effect. *Agnikarma* described in *Sushruta*^[9] along with its priority, Indication, Contraindication, Materials used for that as well as methodology were reviewed. The detail relevant descriptions of *Agnikarma* are also reviewed from all the *Ayurved Samhitas*. On the basis of the review, it can be said that the therapeutic value of *Agnikarma* is superior to *Kshara karma*. It is a potent and minimal *Invasive non Pharmacological Para surgical* procedure without having any untoward effects if it is performed as per the specific indications given and in proper way.

Comparative Effect Of Agnikarma on Pain

In Group –“A” *Agnikarma* was done with the help of *Lauha Shalaka* 68.8% result was found while in *Tamra Shalaka* group 51.22% improvement was found in this study and both the results were highly significant.

Comparative Effect of Agnikarma on Stiffness

In group –A *Agnikarma* was done with the help of *Lauha Shalaka* 64.10% improvement was found while in *Tamra Shalaka* group 62.31% improvement was found in this study and both the results were highly significant.

Comparative effect of Agnikarma on range of motion

Inflection 32.63% in group A while in Group -B 39.30% improvement was noted. Extension in Group- A was 16.94% while in Group- B was 27.77% improvement. 26.59% in Group -A & 26.75% improvement in Group-B was observed in Right side flexion. 30.20% in Group –A & 31.39% improvement in Group-B was observed in left side flexion. 21.28% improvement in Group-A & 16.21% improvement in Group-B was observed in right side rotation. 24.59% improvement in Group-A & 18.38% improvement in Group-B was observed in left side rotation. Highly Significant results were found in both groups.

Comparative effect of Agnikarma on Bhrama

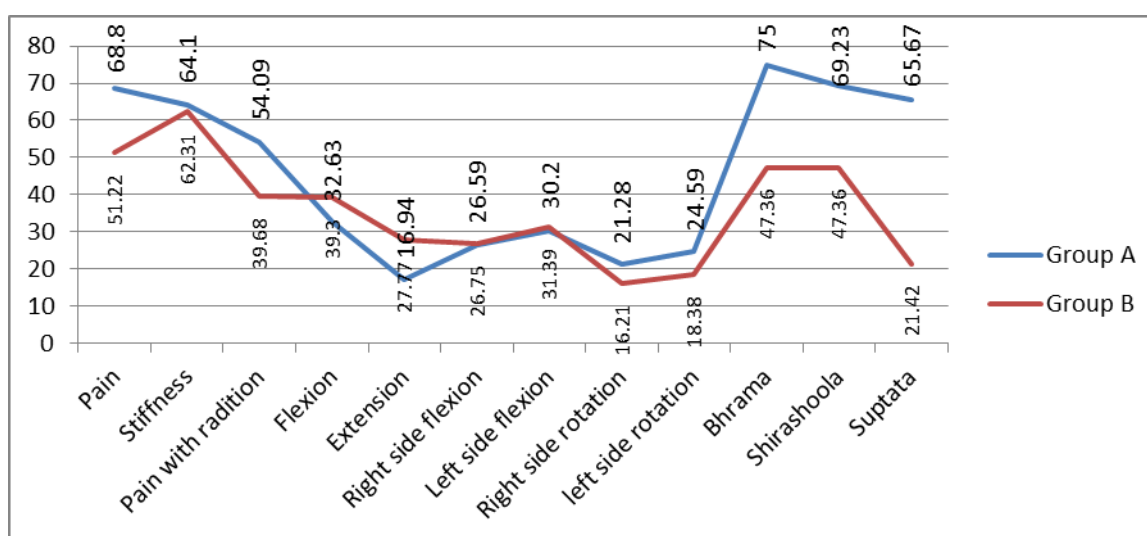
In Group –A significant result was not found in case of *bhrama* while in Group-B significant result was observed.

Effect of Agnikarma on Shirashoola

Shira soola produced by vitiated Vata Dosa. Headache was reduced by Ushna of Agnikarma and both the group having significant result in case of shirashoola. In group –A 69.23% improvement was observed while in Group –B 47.36% of improvement was observed.

Effect of Agnikarma on Suptata

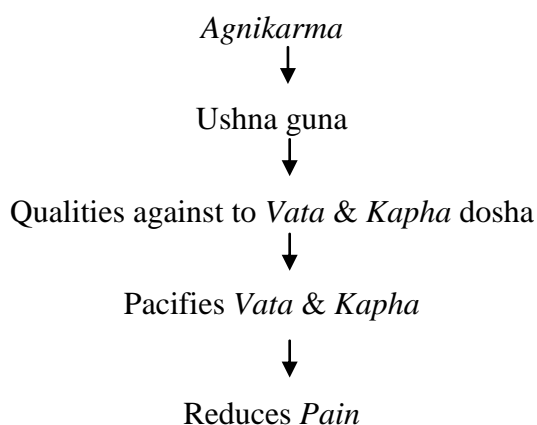
Suptata is developed due to *Guru Guna* predominantly found in *kapha dosha*. As *agni* is having *laghu guna* and its *ushna guna* pacifies the *sheeta guna* of *kapha* as well, so *Suptata* is relieved by Agnikarma. *Suptata* might have produced by complete obstruction of *srota* of *Vatavaha nadi*. Due to small numbers of patient no solid conclusion drawn regarding *Suptata*.



Probable mode of action of Agnikarma

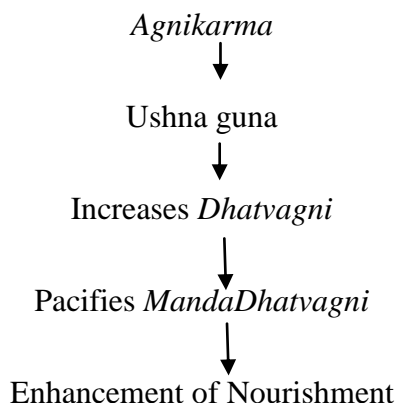
Theory –1.

Pain causes anywhere in the body is due to *Vata Dosha*, *Agni-karma* being *Ushna chikitsa* pacifies *Vata*, thus the pain is relieved immediately after *Agnikarma*.^[10]



Theory 2

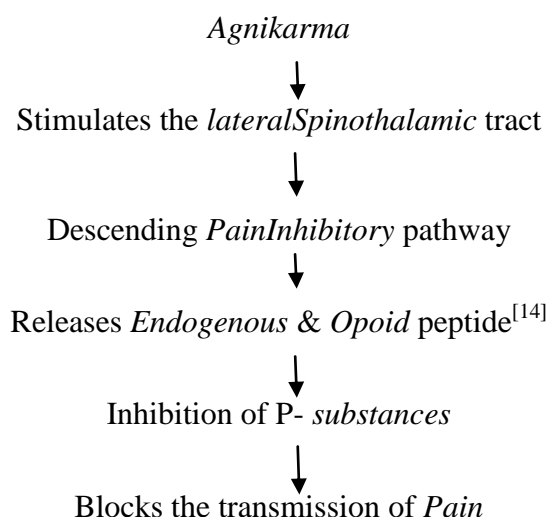
Every *dhatu* have its own *dhatvagni* which is responsible for the nourishment and changes in *dhatu*. Agnikarma works by giving external heat there by increasing the *dhatvagni* which helps to digest the aggravated Doshas & cures disease.^[11]



Perform *Amapachana* and Removal of Toxins

Theory -3

According to *ScientistVent haff*, the place when therapeutic heat is transferred from heating object to biological system it increases the *Metabolism* of that system. Various metabolic changes take place at the site of heat burns which leads to increase demand of oxygen and nutrition.^[12] Superficial sensory nerves get stimulated by *Agnikarma* and leads to local *Dilatation* of blood vessels, resulting in the increased blood circulation. Increase in blood circulation & metabolism are helpful to wash away *Pain* substances and *metabolic* toxins.

Theory-4^[13]

Theory -5

Pain receptors of the skin and motor end plate stimulated at 45 degree centigrade.^[15] Pathway for pain and thermal signals run parallel and ends in to same area but only stronger one can felt. Heat appears to reduce the excitability of nerves. Therefore complete exclusion of pain impulse by heat take place.

CONCLUSION

Agnikarma is a non-pharmacological, Para surgical & reliable technique which gives instant relief to the patients of *Sandhigataavata – Cervical Spondylosis*.

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