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Research Article

A CLINICAL STUDY ON EFFECT OF *SNEHANA NASYA* IN *VISHWACHI* W.S.R TO CERVICAL SPONDYLOSIS

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ABSTRACT

Vishwachi is one among the *Vataja Nanatmaja Vyadhi*. It affects the neck and upper extremities with signs and symptoms like *Ruk*, *Stambha*, *Toda*, *Karmakshaya* and *Chestapaharana* of *Bahu* as explained by different Acharyas. *Dalhana* opines that the condition resembles *Gridhrasi* which affects the lower limb, and is of two types, *Vataja* and *Vatakaphaja.* The clinical presentation of *Vishwachi* is similar to that of Cervical Spondylosis which is a degenerative condition of the cervical spine. Being an *Urdhwajatrugatavikara*, *Nasya karma* has been mentioned as the prime line of treatment. *Dhatukshaya* can be considered as main factor leading to a condition like *Vishwachi*. Hence in order to find an effective solution in this condition, *Snehana Nasya* with *Shuddhabala Taila* has been taken for the study.

Objective: To evaluate the effect of *Snehana Nasya* in *Vishwachi*. **Methods:** It is an open label single arm clinical trial with pre-test and post-test design. A special proforma was prepared considering history taking, physical examination and assessment needed for the condition. The study was carried out in 30 patients of *Vishwachi*. *Nasya karma* was done by instilling 16 *Bindu* of *Shuddhabala Taila* for 7 days. Data was collected on the 1st day before treatment and 7th day after treatment. **Results:** The reduction in severity of symptoms was statistically analysed by Wilcoxon sign rank test. Significant improvement was found in all the patients. **Conclusion:** Analysis of overall effect of the treatment showed significant results. Hence *Nasya karma* with *Shuddhabala Taila* was found to be effective in *Vishwachi.*

KEYWORDS: *Vishwachi,* Cervical Spondylosis, *Snehana Nasya, Shuddhabala Taila*.

INTRODUCTION

We all know how it is like to feel pain. Its unpleasantness can take many forms, whether it's the daily ache of arthritis or a throbbing headache. In this era of fast life, man has changed his life style to a great extent and created a disharmony in our biological system. Disease manifests in such conditions which will hamper the day to day activities of individuals.

Vishwachi is a disease affecting the neck and upper extremities having the signs and symptoms like *Ruk, Stambha, Toda, Karmakshaya*[1,2] and *Chestapaharana of Bahu*.[3] *Dalhana* opines that the disease resembles *Gridhrasi* and is of two types– *Vataja* and *Vatakaphaja*. In modern parlance the condition may be compared with Cervical Spondylosis.

Cervical Spondylosis is a degenerative condition of the cervical spine affecting the middle and old age group of both sexes. It leads to pain and stiffness in the neck, radiating pain to the arm, paraesthesia, numbness, headache, giddiness etc. People can't perform day to day activities due to the severity of pain. The lifetime prevalence of the adult population was 48.5%, and the prevalence of screen-using workers was 55%.[4] M47.812 is a billable ICD code which is used to specify the diagnosis of spondylosis without myelopathy or radiculopathy in cervical region.[5] M47.22 is a billable/specific ICD-10-CM code that can be used to indicate a diagnosis of spondylosis with radiculopathy.[6] The main aim of treatment in this condition is to relieve the pain and hence analgesics are prescribed along with muscle relaxants and physiotherapy. Due to untoward effects of pain relieving drugs, people are approaching Ayurveda to find a better remedy for this condition.

Ayurveda is one among the most ancient medical sciences in the world. It describes the basics and applied aspects of life processes, health, disease and its management. There are specific principles of approach for each condition. *Vishwachi* is a *Vataja Nanatmaja Vikara*. Here the involvement of *Vata* in the clinical manifestation of *Vishwachi* is of prime

importance. Being an *Urdhwajatrugata Vikara*, *Nasya karma* is mentioned as a treatment in this condition.[7]

Nasya karma is one among the *Panchakarma* procedures done in the treatment of diseases pertaining to the *Urdhwajatru*. Ashtanga Sangraha has quoted "*Nasa hi Shirasodwaram*", meaning nose is the gateway to the *Shiras* (head). *Shiras* is considered as most important part of the body since it is the seat of five sense organs and the abode of *Prana*. Hence it is termed as the *Uttamanga*. While explaining the *Phalashruti* of *Taila*, Acharyas have said that *Taila* mitigates *Vata* and at the same time it does not increase the *Kapha*.[8] Considering this aspect, and keeping in mind the beneficial effects of *Nasya karma* as to attaining a *Ghanonnata skandha* and *Griva*, *Snehana Nasya*[9] *karma* has been taken for the study.

Therefore the present study was planned to evaluate the effect of *Snehana Nasya* with *Shuddhabala Taila* in *Vishwachi.*

Objectives

To evaluate the efficacy of *Snehana Nasya* with *Shuddhabala Taila* in *Vishwachi*.

MATERIALS AND METHODS

Source of data

Patients who attended the OPD & IPD of *Panchakarma* at Ramakrishna Ayurvedic Medical College, Hospital and Research Centre, Bengaluru.

Method of collection of data

Screening

The patients having signs and symptoms of *Vishwachi* were screened and those who fulfilled the below mentioned inclusion criteria were selected for the study.

Diagnostic criteria

Patients presenting with *Pratyatma Lakshanas* of *Vishwachi* such as *Bahu Karmakshaya*, *Shoola* from *Bahuprushta* to *Anguli*, *Stambha, Bahushunyata* etc.

Patients presenting with symptoms of Cervical Spondylosis.

Inclusion criteria

1. Patients presenting with *Pratyatma lakshana* of *Vishwachi.*
2. Patients presenting with symptoms of Cervical Spondylosis.
3. Patient indicated for *Nasya Karma*.
4. Patients of either gender between age group of 30-60 yrs.

Exclusion criteria

1. Patients who are contraindicated for *Nasya Karma*.
2. Other systemic disorders which will interfere with the course of treatment.
3. Patients with traumatic injury of cervical spine.
4. Patients suffering from neoplastic and infective disorders.
5. Pregnant and lactating mothers.

Investigations

X - Ray of Cervical Spine - AP and Lateral views.

Study design

The study was an open label, single arm clinical trial on 30 patients of *Vishwachi* selected using purposive (non-random) sampling technique with pre and post test design.

Plan of study

(A) Grouping

30 patients fulfilling the diagnostic and inclusion criteria were selected by convenience sampling method and were treated in a single group.

(B) Intervention

Procedure employed: *Nasya karma* with *Shuddhabala Taila.*

Source and authentication of drug

The raw drugs were purchased from SNA Oushadhasla Pvt. Ltd, which is a GMP certified pharmacy and *Taila* was prepared as per the textual reference mentioned in *Sahasrayoga Taila-prakarana*.[10]

Dosage of *Nasya Karma*: As per Acharya Sushruta, the *Madhyamamatra* for *Snehana Nasya* is 1 *Shukti* (i.e., 32 *Bindu*).[11]

Treatment plan

Purva Karma: Patients were advised to remain relaxed. *Abhyanga* was done to face and neck with *Murchita Tilataila*. *Tapa Sweda* (*Mridu*) was given with cloth dipped in hot water.

Pradhana Karma: Position of the patient: Supine with head end lowered. *Taila* is taken in a *Gokarnika* and made luke warm by keeping in a water bath. 16 *bindu* of *Shuddhabala taila* is instilled into each nostril in two to three doses by keeping the other nostril closed. Soles, palms, neck and ears are massaged. Nasal secretions were advised to be spitted out.

Paschat Karma: *Kavala* with *Ushnajala*. Special advice was given to patients to avoid exposure to wind, dust, smoke and direct sunlight. They were advised to use warm water for drinking or bathing along with intake of *Laghu ahara*.

Duration: 7 consecutive days.

Follow up: 7 days after completion of *Nasya Karma*.

Assessment criteria

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

Subjective Parameters

1. Neck pain
 Grade 0- No Pain
 Grade 1- mild pain on exertion / occasional / relieved by rest
 Grade 2- moderate pain / frequent pain / relieved on medication
 Grade 3- continuous severe pain/ intolerable
2. Radiation of Pain
 Grade 0- no radiation
 Grade 1- radiation of pain from neck to any one arm present occasionally
 Grade 2- radiation to any one arm continuously present
 Grade 3- radiation to both arms occasionally present
 Grade 4- radiation to both arms continuously present
3. Stiffness
 Grade 0- no stiffness
 Grade 1- mild stiffness
 Grade 2- moderate stiffness
 Grade 3- severe stiffness
4. Weakness
 Grade 0- no weakness
 Grade 1- weakness in any one upper extremity
 Grade 2- weakness in both upper extremities
5. Paraesthesia
 Grade 0- absent
 Grade 1- present
6. Clumsy finger movements
 Grade 0- no clumsy finger movements.
 Grade 1- clumsy movements in any one extremity
 Grade 2- clumsy movements in both extremities
7. Vertigo
 Grade 0- absent
 Grade 1- present on neck movements or occasionally
 Grade 2- present constantly

Objective Parameters

1. Tenderness over cervical region
 Grade 0- no pain
 Grade 1- patient complains of pain
 Grade 2 – patient complains of pain and winces
 Grade 3- patient winces and withdraws the affected part
 Grade 4- patient will not allow palpation of affected part
2. Movements of the neck
 Grade 0- all 6 movements painless or not restricted
 Grade 1- any 1 movement painful or restricted
 Grade 2- any 2 movements painful or restricted
 Grade 3- any 3 movements painful or restricted

Grade 4- any 4 movements painful or restricted
Grade 5- any 5 movements painful or restricted
Grade 6- all movements painful or restricted

3. Reflexes
Grade 0- Absent
Grade 1- Diminished
Grade 2- Average
Grade 3- Exaggerated
Grade 4- Clonus, very brisk

OBSERVATION

Table 1: Age wise distribution

Age-Group	No. of Patients	%
30 – 40	5	16.7
40 – 50	16	53.3
50 – 60	9	30

Table 2: Gender wise distribution

Gender	No. of Patients	%
Male	16	53.3
Female	14	46.7
Total	30	100.0

Table 3: Distribution based on duration of work

Duration of Job (hrs)	No.of Patients	%
6	2	6.67
7	9	30.0
8	12	40.0
9	4	13.3
10	2	6.7
11	1	3.3

Table 4: According to *Pradhana Vedana*

Symptoms	No. of Patients	%
Neck Pain & radiating pain	18	60.0
Neck pain, Radiation + Stiffness	12	40.0
Total	30	100.0

Table 5: According to radiating side

Radiating side	No. of patients	%
Rt. Upper limb	9	30.0
Lt. Upper limb	11	36.7
Both limbs	10	33.3

Table 6: Distribution based on other *Lakshanas*

	Paraesthesia		Clumsy finger movements		Vertigo	
Present	29	96.7 %	25	83.3 %	12	40%
Absent	1	3.33 %	5	16.7 %	18	60 %
Total	30	100.0	30	100.0	30	100.0

Table 7: Duration of complaints

Duration	No. of patients	%
< 6 months	7	23.3
6 months – 1 year	15	50
1 – 2 years	8	26.7

Table 8: Neck flexion

Flexion	No. of Patients	%
Painful	16	53.3
Painful + Restricted	2	6.7
Not Painful	12	40.0
Total	30	100.0

Table 9: Neck extension

Extension	No. of Patients	%
Painful	16	53.3
Painful + Restricted	2	6.7
Not Painful	12	40.0
Total	30	100.0

Table 10: lateral flexion

Lateral Flexion		No. of Patients	%
Right	Painful	17	56.7
	Painful + Restricted	7	23.3
	Not Painful	6	20.0
Left	Painful	20	66.7
	Painful + Restricted	7	23.3
	Not Painful	3	10.0

Table 11: lateral rotation

Lateral Rotation		No. of Patients	%
Right	Painful	15	50.0
	Painful + Restricted	11	36.7
	Not Painful	4	13.3
Left	Painful	15	50.0
	Painful + Restricted	11	36.7
	Not Painful	4	13.3

Table 12: Reflexes

Reflexes			No. of Patients	%
Biceps	Right	Average/Normal	21	70.0
		Diminished	9	30.0
	Left	Average/Normal	21	70.0
		Diminished	9	30.0
Triceps	Right	Average/Normal	25	83.3
		Diminished	5	16.7
	Left	Average/Normal	25	83.3
		Diminished	5	16.7
Supinator	Right	Average/Normal	30	100.0
		Diminished	0	0
	Left	Average/Normal	30	100.0
		Diminished	0	0

Table 13: tenderness

Tenderness	No. of patients	%
Present	23	76.7
Absent	7	23.3

RESULTS

The following tables show the effect of treatment in subjective parameters

Table 14: Effect of treatment on neck pain

Pain	Min	Max	Mean	SD	Z	p-value
BT	2	3	2.70	0.47	-4.932	0.000 (< 0.001)
AT	0	1	0.43	0.38		

BT- Before treatment, AT- After treatment, Min- lowest grade, Max- highest grade, SD – Standard Deviation, Z- test value

Table 15: Effect of treatment on radiation of pain

Radiation of pain	Min	Max	Mean	SD	Z	p-value
BT	1	4	2.43	1.01	-4.865	0.000 (< 0.001)
AT	0	1	0.30	0.18		

Table 16: Effect of treatment on stiffness

Stiffness	Min	Max	Mean	SD	Z	p-value
BT	0	3	1.67	0.66	-4.818	0.000 (< 0.001)
AT	0	1	0.07	0.18		

Table 17: Effect of treatment on weakness

Weakness	Min	Max	Mean	SD	Z	p-value
BT	1	2	1.40	0.50	-4.949	0.000 (< 0.001)
AT	0	0	0.00	0.00		

Table 18: Effect of treatment on paraesthesia

Paraesthesia	Min	Max	Mean	SD	Z	p-value
BT	0	1	0.97	0.18	-5.385	0.000 (< 0.001)
AT	0	0	0.00	0.00		

Table 19: Effect of treatment on clumsy finger movements

Clumsy finger movements	Min	Max	Mean	SD	Z	p-value
BT	0	1	0.83	0.38	-5.000	0.000 (< 0.001)
AT	0	0	0.00	0.00		

Table 20: Effect of treatment on vertigo

Vertigo	Min	Max	Mean	SD	Z	p-value
BT	0	1	0.40	0.50	-3.464	0.0005
AT	0	0	0.00	0.00		

Changes in subjective parameters during treatment

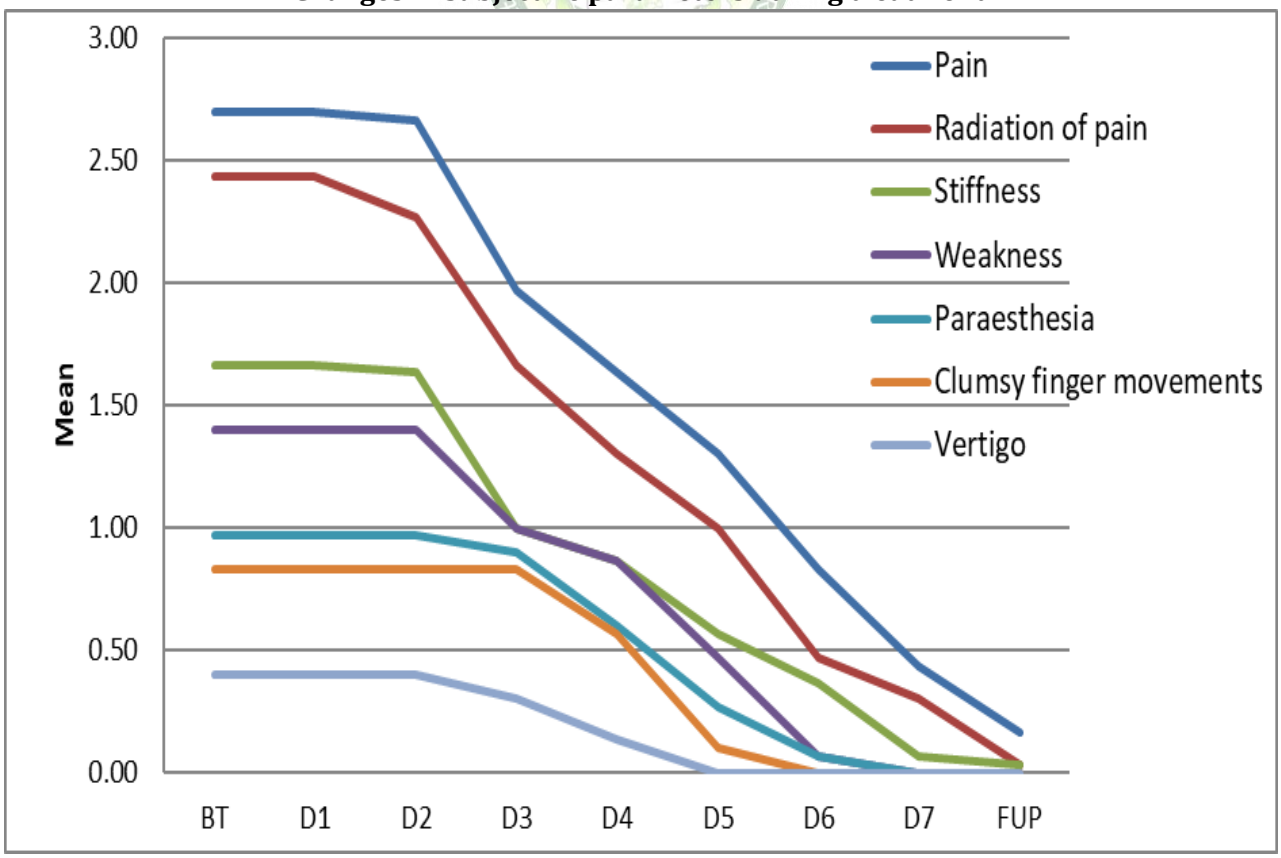

Table 21: Changes in mean scores during the treatment

Day	Pain	Radiation of pain	Stiffness	Weakness	Paraesthesia	Clumsy finger movements	Vertigo
BT	2.70	2.43	1.67	1.40	0.97	0.83	0.40
D1	2.70	2.43	1.67	1.40	0.97	0.83	0.40
D2	2.67	2.27	1.63	1.40	0.97	0.83	0.40
D3	1.97	1.67	1.00	1.00	0.90	0.83	0.30
D4	1.63	1.30	0.87	0.87	0.60	0.57	0.13
D5	1.30	1.00	0.57	0.47	0.27	0.10	0.00
D6	0.83	0.47	0.37	0.07	0.07	0.00	0.00
D7	0.43	0.30	0.07	0.00	0.00	0.00	0.00
FUP	0.17	0.03	0.03	0.00	0.00	0.00	0.00

Effect of *Nasya karma* on objective parameters

Table 22: Effect of treatment on tenderness

Tenderness	Min	Max	Mean	SD	Z	p-value
BT	0	2	0.867	0.571	-4.564	0.000 (<0.001)
AT	0	0	0.000	0.000		

Table 23: Effect of treatment on neck movements

Neck Movements	Min	Max	Mean	SD	Z	p-value
BT	2	6	4.467	1.332	-4.854	0.000 (<0.001)
AT	0	1	0.067	0.254		

Table 24: Effect of treatment on reflexes

Reflexes	Min	Max	Mean	SD	Z	p-value
BT	2	3	2.433	0.504	-3.606	0.003
AT	2	2	2.000	0.000		

Changes in objective parameters during treatment

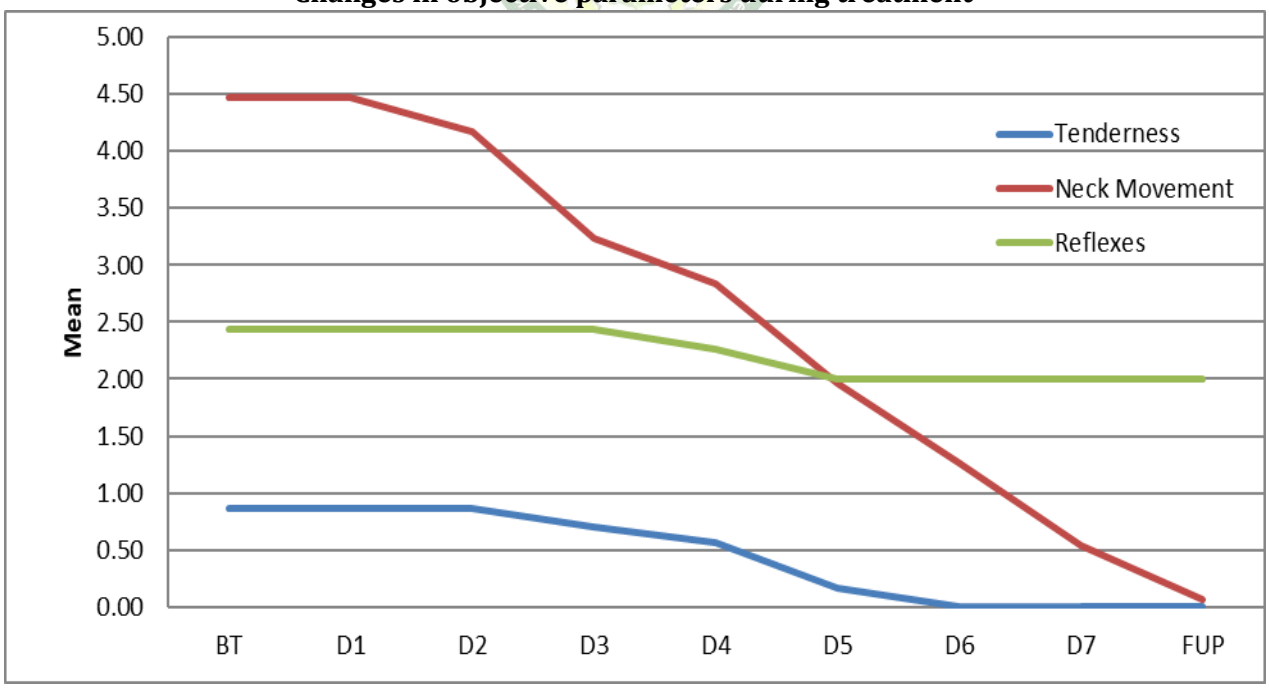

Table 25: Changes in mean scores during treatment

DAY	Tenderness	Neck Movement	Reflexes
BT	0.87	4.47	2.43
D1	0.87	4.47	2.43
D2	0.87	4.17	2.43
D3	0.70	3.23	2.43
D4	0.57	2.83	2.27
D5	0.17	1.97	2.00
D6	0.00	1.27	2.00
D7	0.00	0.53	2.00
FUP	0.00	0.07	2.00

DISCUSSION

Vishwachi is a painful condition where the patient is unable to do his routine work because of impairment of the functions of upper limbs. Pain is sometimes seen at rest also and may be very intense and sudden. The *Nidana* and S*amprapti* are not explained separately in the classics. Being one of the 80 types of *Vatavyadhi*, the S*amanya nidana* and S*amprapti* of *Vatavyadhi* may be considered for *Vishwachi* also.

In *Vishwachi,* the *Sira, Snayu* and *Kandara* of upper limb are affected along with D*ushti* of *Asthivaha srotas*. Due to *Vatavardhaka nidanas*, the *Vyanavayu* originating from the *Hrudaya,* gets vitiated and circulates in the upper extremities and gets S*thanasamshraya* in the *Griva*. Here it afflicts the *Griva, Amsa, Bahu, Prakoshta* and *Hastatala* producing severe pain in the *Griva*, radiating to the *Amsa, Bahu* and *Hastatala*. In *Vatakaphaja* type, there is involvement of *Rasa dhatu* also causing symptoms like *Tandra, Arochaka, Agnimandya* etc.

Symptoms of *Vishwachi* are described as *Bahu Karmakshaya* or *Chestapaharana* of *Bahu*. Symptoms like *Ruja, Toda, Stambha*, S*hunyata* are indicative of imbalance of *Vatadosha*. The involvement of *Kapha* produces symptoms like *Gaurava, Agnimandya, Mukhapraseka, Bhaktadvesha* etc.

The clinical presentation of *Vishwachi* is similar to Cervical Spondylosis which is a degenerative condition of the cervical spine. It is caused by age related changes in the intervertebral discs. Clinically, several overlapping and distinct symptoms are seen like neck pain, head ache, radicular symptoms and cervical spondylotic myelopathy. As degeneration occurs, osteophytic bars are formed on the ventral aspect of the spinal canal. The chief factors causing degeneration of intervertebral discs are age, manual labour, and minor trauma. Most of the patients are middle aged or older. There may be neck pain, medial scapular pain, shoulder pain or both along with stiffness.

Nasya karma, properly done bestows *Ghanonnata Skanda* and *Griva.* As *Vishwachi* is a disease pertaining to the *Skanda* and *Griva,* it is the best choice of treatment in this condition. *Shuddhabala taila* mentioned in *Sahasrayoga Taila Prakarana* finds an indication in *Vatavyadhi.* Hence this *taila* was used for the purpose of *Nasya karma*.

In the present sample of 30 patients, it was found that the highest number of patients of *Vishwachi* were in the age group of 41-50 years constituting 53.3% of the total number of patients. 30% patients were in the age group of 50-60 years and 16.7% were in the age group of 30-40 years. It is known that the incidence of the disease is common in the third, fourth and fifth decades of age. This tendency was seen in the study sample also.

40% of patients worked for 8 hrs a day. 30% worked for 7 hours, 13.3% worked for 9 hours, 6.7% of patients worked for 10 hrs. The longest duration was 11 hours and the shortest duration was 6 hours.

Assessment of the condition was done based on detailed proforma adopting standard scoring methods of subjective and objective parameters. The data collected from a single group was compared for pre and post-test values by statistical analysis. Results were expressed as mean, standard deviation and proportions. The data is checked for normality and found that it does not follow normality; hence non-parametric tests are used for analysis. To compare the effect of treatment, Wilcoxon Signed rank test is used. It is a non-parametric test analogue to paired t-test when data does not follow normality. The statistical analysis showed significant improvement in all parameters and symptomatic relief was seen in all the patients included for the study.

Highly Significant results were seen in

- ✓ Neck Pain
- ✓ Radiation of Pain
- ✓ Stiffness

- ✓ Weakness
- ✓ Paraesthesia
- ✓ Clumsy finger movements
- ✓ Vertigo
- ✓ Tenderness
- ✓ Movements of the neck

Significant results were seen in

- ✓ Biceps reflex
- ✓ Triceps reflex

Mode of action

In Ayurvedic literature it is stated that there is a very close relation between the *Nasa* and the *Shiras*. *Acharya Charaka* explains that *Nasa* is the *dwara* to the *Shiras*. Hence it may be said that the medication instilled through nostrils may reach the *Shiras* and thus act upon the aggravated *doshas*. The same opinion is given in *Ashtanga Sangraha* also which explains that the drug which is administered through the *Nasa* reaches the *Shringataka Marma* which is a *Sira Marma* formed by union of *Siras* supplying the *Nasa, Karna, Akshi, Jihwa*. *Acharya Indu* opines that it is located *Shiraso Antarmadhyam*, which can be considered as the middle cephalic fossa. The middle cephalic fossa is a region which is connected to the ethmoidal and sphenoidal sinuses. The sphenoidal sinus is inferiorly connected with the naso-pharynx and posterior with the brain stem. Route of administration of drug has its own importance in the management of any disease. From these references it may be concluded that *Nasya karma* is the most favorable treatment in conditions like *Vishwachi.*

Snehana Nasya brings about *Snehana* effect and provides strength to all *Dhatus* by virtue of its *Dhatuposhaka* property. It gives strength to neck, shoulder and chest and improves eyesight. *Vishwachi* is a *Vatavikara* which occurs due to *Dhatukshaya* (degeneration) in the *Greevakasherukasandhi* (cervical vertebrae & intervertebral discs). Bringing about *Dhatuposhana* in this condition can be best done by instillation of *Vatashamaka oushadha* through the nostril. This was achieved by *Snehana Nasya* done using *Shuddhabala Taila*.

The importance of *Purvakarma* in *Nasya karma* is to facilitate for drug absorption through nasal mucosa and paranasal sinuses. The *Abhyanga* and *Swedana* to face and neck improve the blood circulation to the head. The drug administered reaches the upper part or nasal cavity and stimulates the olfactory neurons and provides a better chance of absorption.

Taila mitigates *Vata* and at the same time it does not increase the *kapha*. *Shuddhabala Taila* mentioned in *Sahasrayoga Taila Prakarana* finds an indication in *Vatavyadhi*. The ingredients of the *Taila* are *Madhura* and *Tikta rasa pradhana*. They have *Laghu* and *Snigdhaguna*, *Ushnavirya* and *Madhuravipaka*. By virtue of its *Madhura rasa, Madhura Vipaka, Ushnavirya* and S*nigdhaguna* acts on *Vatadosha* and reduces pain by their *Vedanashamaka* properties. The *Ushnavirya* and *Tikta rasa dravyas* are *Kaphashamaka*. The *Balya* and *Brumhana* properties of these drugs bring about *Mamsadhatuposhana* thereby improving the functional ability of the *Bahu*. Moreover *Madhura* and *Tikta rasa dravyas* gives *bala* to the *Asthidhatu*. *Tila taila* plays a major role in this action. By the virtue of these properties they act as V*atakaphashamaka* thereby relieving the symptoms of *Vishwachi*.

CONCLUSION

- *Vishwachi* and cervical spondylosis have similarity in etiology and clinical presentation.
- Patients in their fourth and fifth decade of life are the most affected.
- Working for long hours, sitting or lying in uncomfortable postures was found to be aggravating the condition.
- *Nasya karma* (*Snehana* variety) proved to be very effective in this condition.
- All subjective and objective parameters showed remarkable response to the treatment.
- The results obtained were statistically significant with $p<0.05$ for the objective parameters and $p<0.001$ for the subjective parameters.
- During the follow up period, the results attained remained sustained and no major reversals of symptoms were noted.
- Symptomatic relief was seen in all the patients and no reversals of symptoms were noticed. Hence it may be concluded that *Snehana Nasya* is an effective management in *Vishwachi*.
- The main aim of the study was to check neurological deterioration, prevent further progression of the condition and to give symptomatic relief to the patient thereby to develop a feeling of well-being.
- The prevalence of disease has been increasing due to improper life style, poor working, sitting and sleeping postures. Postural correction during work, travel and sleep coupled with regular exercises along with treatment can do a long way in preventing age related changes in a premature stage.

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