



Evaluation of Combined Efficacy of Greeva Basti, Patra Pottali Sweda and Nasya in the Management of Cervical Spondylosis: A Pilot Study

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Abstract

Cervical Spondylosis is one among the degenerative disc ailments. A recent study showed, the middle aged population shows increased incidence of degenerative disc changes. This may be because of faulty regimen and lifestyle. The study conducted here is a combined therapy of Nasya (Nasal therapy), Griva Basti (Neck care), and Patra Pottali Sweda (Specialized massage therapy using boluses of herbs) consecutively to get maximum relief in a minimal period of time. More attentiveness is on the Bahi Parimarjana Chikitsa (External purification therapy) on the affected part that being Griva (neck) and Manya pradesha (cervical spine region). At the initial stage because of Kapha Avarana (Kapha obstruction) there will be stiffness and later when it becomes chronic due to improper usage of cervical spine, Vata alone will lead to Dhatukshaya (tissue degeneration) because Dhatukshaya is an integral character of Vatadosha and Asti is always a victim.

Keywords: Cervical spondylosis; Paraesthesia; Nasya karma; Spine; Degenerative changes

Introduction

Degeneration is a natural process with aging. Elderly people are most affected with degenerative disorders. Today is an era of sophisticated and fast life; everybody is busy and leading a stressful life. So to meet each and every requirements of life there is a vigorous competition and consequently there is change in life style leading to several disharmonies in the biological system of humans.

Advancement of busy professional and social life, improper sitting postures in work places, continuous work in only one posture and over exertion, jerky movements during travelling and sports; all these factors create undue pressure and stress injury to the spine (cervical) and play a major role in producing diseases like Cervical Spondylosis.

Cervical Spondylosis is the most common disorder of the cervical spine. It is caused by degenerative changes in the vertebrae and intervertebral discs that occur as a result of constant improper stress on the cervical spine, injury, ageing, rheumatoid disease etc.

A number of factors are responsible for the development of signs and symptoms of Cervical Spondylosis:

- Osteophyte (bony growth).
- A narrowed spinal canal present since birth.
- Degeneration of the intervertebral discs.
- Changes in the spinal cord and nerves due to insufficient blood supply.

There is no exact clinical entity mentioned in Ayurvedic Classics as Cervical Spondylosis, however it can be considered as Greeva Hundana or Astigata Vata because of its pathogenesis:

- Shoshana (withering) of Asthi Dhatu (in Cervical Region).
- Dushana of Vata.
- Rooksha (drying) guna of Vata increases.
- Avarana of Shleshmaka Kapha and its Shoshana by Pravruddha Vata.

Thus the clinical aspects of Astigata Vata can be implemented in the disease, Cervical Spondylosis. It leads to pain and stiffness in neck, radiating pain into arm, headache, vertigo, giddiness, paraesthesia,

numbness, etc. It disturbs the daily routine and overall life of the patient. Though it is not immediately fatal, it causes severe complications in later stage. It cripples the patient to an extent there is dependency on others. The individual cannot perform day to day work properly because of the severity of pain leading to a decreased quality of life [1].

Modern medical science provides both conservative and surgical treatment for Cervical Spondylosis but nothing has been satisfactory to date. Alternative medical sciences, like Ayurveda aims to present a better remedy for this condition, which is the purpose of this paper.

Materials and Methods

Study design

An open, randomized, preliminary clinical study.

Source of data

Patients were selected from O.P.D & I.P.D of D.G.M.A.M.C. & H. having classical signs & symptoms of Cervical spondylosis as well as fulfilling inclusion & exclusion criteria.

Sample size

Total 8 patients were registered, among them 1 dropped out, and 7 patients completed treatment schedule.

Inclusion criteria

Patients diagnosed as suffering from Cervical Spondylosis based on classical signs and symptoms were included in the study.

Exclusion criteria

Patients below age 20 or more than 60 years and patients who had history of fracture, surgical emergencies and systemic diseases were

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excluded from the study. Patients who are not fit for the Nasya Karma were also excluded from the study.

Assessment criteria

A special research Performa was prepared for the study incorporating all the relevant points from both Ayurvedic and modern views. Subjective parameters like Manya Shoola (cervical vertebrae pain), Manya Stambha (cervical spine stiffness), Bahu Shoola (relating or other pain), Griva Shoola (neck pain) and objective parameters like Flexion, Extension, Lateral (Right & Left) Flexion, Rotation, and Passive Neck Flexion were assessed. Each parameter was graded [2].

Hematological analysis, which was done on patients include-Hb%, T.C., D.C., E.S.R. and bio-chemical tests. Random Blood Sugar was carried out to exclude the possibility of any other disease as well as to know the present condition and diagnosis of patients. X-ray of cervical spine Anterio-posterior and Lateral view was taken to rule out fracture, joint obliteration and other possibilities of exclusion (Tables 1 and 2).

Intervention

Step 1 - Griva Basti with Prabhanjana Khuzumbu and Sahacharadi Taila

Step 2 - Patra Pottali Sweda

Step 3 - Nasya with Dhanvantara 101

Abhyantara

Dashamoola Kashaya: 15 ml twice daily with warm water, before food.

Method

Step 1-Griva Basti with Prabhanjana Khuzumbu and Sahacharadi Taila: All patients were first subjected for Greeva vasti. For this Prabhanjana Khuzumbu and Sahacharadi Taila were taken in equal quantity and mixed together. Patients were asked to lie on their chest in a comfortable position or sit on a chair flexing their neck resting on a platform with extended arms to expand the cervical spine area. In this position the para-spinal muscles are completely relaxed. A brim made of Masha kalka (black gram paste) was prepared around the cervical spine area with due care to expose the affected part of the spine. Warm oil was poured into the masha brim and constant temperature was maintained by replacing oil periodically at the prescribed time [3].

Griva basti was carried in Arohana (ascending) and Avarohana (descending) pattern. Procedure was carried out for 30 minutes on 1st day and then increased by 5 minutes till 5th day and then 6th day onwards decreased by 5 minutes daily till 10th day (Table 3).

After the Greeva vasti, Sthanika abhyanga was done with same taila. Abhyanga was followed by Patra Pottali Sweda.

Step 2-Patra Pottali Sweda: Small sized chopped Patras (leaves) of Eranda, Nirgundi, Arka, Karanja, shigru, nimba, chinch, along with small pieces of Lemon, Coconut gratings and Saindava Lavana are fried in a pan using little quantity of the Sahacharadi Taila until golden brown. Then pottali is prepared for Sthanika Sweda that is done until Samyak Swinna Lakshanas (signs of proper sudation e.g. sweating) appears [4].

Step 3 - Nasya with Dhanvantara 101 Times Oil: After patra pottali sweda, 5 minutes rest is given to the patient and then Nasya procedure carried out. A poorvakarma mukha abhyanga is done with

Parameter	Grading	Observation
Manya Shoola	0	No Pain
	1	Mild Pain
	2	Moderate Pain But Tolerable
	3	Moderate Pain But Not Tolerable
	4	Severe Intolerable, Perhaps Suicidal Pain
Manya Stambha	0	No Movement
	1	Up to 25% Of Total Movement
	2	Up to 50% Of Total Movement
	3	Up to 75% Of Total Movement
	4	Full Range Of Total Movement
Bahu Shoola	0	No Pain
	1	Mild Pain Radiating From Neck On Movement
	2	Moderate Pain Radiating From Neck On Movement
	3	Severe Continues Pain Affecting Routine Work
	4	Severe Continues Pain Reducing Arm Strength
Griva Shoola	0	No Pain
	1	Mild Pain
	2	Moderate Pain But Tolerable
	3	Moderate Pain But Not Tolerable
	4	Severe Intolerable, Perhaps Suicidal Pain

Table 1: Shows gradation of subjective parameter.

Parameters of Cervical Joint	Grading	Observation
Flexion & Extension	0	Full Range
	1	Restricted Movements
	2	No Movements
Lateral Flexion & Rotation	0	Full Range
	1	Restricted Movements
	2	No Movements
Passive Neck Flexion	0	Without any difficulty
	1	With some difficulty
	2	With much difficulty
	3	Unable to do

Table 2: Shows gradation of objective parameter.

Days	Duration	Days	Duration
1	30 minutes	6	50 minutes
2	35 minutes	7	45 minutes
3	40 minutes	8	40 minutes
4	45 minutes	9	35 minutes
5	50 minutes	10	30 minutes

Table 3: Shows duration of Greeva vasti.

same oil and mrudu (mild) sweda given with a cloth dipped in hot water.

Patient was asked to lie in supine position with neck slightly extended. Dhanwantara 101 times Avartita Taila was taken in Nasya yantra and 8 drops of oil was poured in both nostrils in an uninterrupted stream i.e., *avicchinna dhara* and the patient asked to slowly inhale the medicine but not to swallow. Patient is required to remain in the same position for 5 minutes and then spit the descended medicine from the throat.

Luke warm water with little saindhava lavana was given for gargling. Dhoomapanartha Haridra dhooma was prepared for the process. All procedures were done for 10 days [5].

Results

Observation

Among the 8 patients registered for trial, 7 completed the treatment schedule successfully, all the patients were suffering from neck pain radiating to arm with neck stiffness (Tables 4-7).

Table 4 shows there are 2 males (28.571%) and 5 females (71.428%). The age group between 25-35yrs is 4 (57.142%), 36-45yrs is 2 (28.571%) & 46 – 55yrs is 1 (14.285%). Vegetarians are 2 (28.571%) & Non-Vegetarians are 5 (71.428%). Hindus are 3 (42.851%), Muslims are 2 (28.571%), Christian is 1 (14.285%) & Jain is 1 (14.285%). Based on occupation working people are 4 (57.142), sedentary is 1 (14.285%) & heavy labor worker is 2 (28.571%) in number.

Table 5 shows that most symptoms are present in all patients i.e. manya shoola, manya sthambha, bahu shoola, griva shoola and amsa (shoulder) shoola are present in all patients (100%). Shira shola (nerve), nidra nasha (insomnia), anga marda (body pain), klama (fatigue) are a second major clinical symptoms present in 85.714% of patients. Aruchi (loss of appetite), gourava (heaviness in body) and suptata (numbness) was observed in 5 patients (71.428%), and adhma (bloating) was observed in 4 patients (57.142%).

Table 6 shows that among 7 patients 5 patients were of vata kapha prakriti (71.428%) & 2 were of vata pitta prakriti (28.571%).

Table 7 shows that among 7 patients 6 patients were of non-traumatic and 1 had history of injury.

Results

Results were analyzed on the basis of gradations of subjective and objective parameters before and after the treatment using a statistical test. The observed grading in the patients on subjective and objective parameters is as follows (Table 8 and 9).

SL NO	SEX		AGE	FOOD		RELIGION				OCCUPATION			
	M	F		Veg	Mixed	H	M	C	Other	Active	Sedentary	Labor	
1.		+	28		+	+					+		
2.	+		32	+		+						+	
3.		+	35		+	+					+		
4.		+	34	+					+		+		
5.	+		46		+		+						+
6.		+	40		+		+						+
7.		+	45		+			+			+		

Table 4: Shows general observation in patients.

Symptoms	No of Patients	%
Manya Shoola	7	100%
Manya Stambha	7	100%
Bahu Shoola	7	100%
Griva Shoola	7	100%
Aruchi	5	71.428%
Shira Shoola	6	85.714%
Admana	4	57.142%
Amsa Shoola	7	100%
Nidranasha	6	85.714%
Anga Marda	6	85.714%
Gourava	5	71.428%
Klama	6	85.714%
Suptata	5	71.428%

Table 5: Shows clinical presentation of patients.

Deha Prakriti	No of Patients	%
Vata Pitta	2	28.571%
Vata Kapha	5	71.428%
Pitta Kapha	0	0

Table 6: Shows Deha Prakriti.

Abhigata / Trauma	No Of Patients	%
Trauma	1	14.285%
Non Trauma	6	85.714%

Table 7: Shows Abhigataja Karana.

Effect of therapy in subjective parameter: In the present study the therapy has shown highly significant results in all the subjective parameters. The mean of Manya shoola before treatment (BT) was 2.714 and after treatment (AT) showed 0.285 with 89.4% relief, statistically highly significant with $P < 0.001$ and $t = 8.0645$. The mean of Manya stambha BT was 2.714 and AT showed 1.142 with 57.92% relief, statistically highly significant with $P < 0.001$ and $t = 7.779$. The mean of Griva shoola BT was 2.714 and AT showed 0.142 with 94.8% of relief, statistically highly significant with $P < 0.001$ and $t = 8.619$. The mean of Bahu shoola BT was 2.571 and AT showed 0.857 with 66.6% of relief, statistically highly significant with $P < 0.001$ and $t = 4.774$ (Table 10).

Effect of therapy in objective parameter: In the present study the effect of therapy in all the objective parameters statistically showed significant results. The mean of Flexion BT was 1 and AT showed 0 with 100% relief, shows statistically high significance with $P < 0.001$ and $t = 0$. The mean of Extension BT was 1 and AT showed 0.142 with 85.7% relief shows statistically high significance with $P < 0.001$ and $t = 6.0173$. The mean of Lateral flexion BT was 1 and AT showed 0.142 with 85.7% relief shows statistically high significance with $P < 0.001$ and $t = 6.0173$. The mean of Rotation BT was 1 and AT showed 0 with 100% relief, shows statistically high significance with $P < 0.001$ and $t = 0$. The mean of Passive neck flexion BT was 2 and AT showed 0.428 with 78.6% relief, shows statistically high significance with $P < 0.001$ and $t = 7.820$ (Table 11).

Radiological study does not reveal any significant changes in post treatment images. This conclusion was drawn after evaluating the results by Sing's index.

Overall effect: Pre and post test result was analyzed statistically for 'p' value using paired 't' test. The test is significant at 81.26% with $p < 0.01$.

Overall results show that among 7 patients 5 patients produced good results. Moderate response and mild response were seen in 1 patient each (Table 12 and Figure 1).

Discussion

Cervical Spondylosis is one of the degenerative disorders of the spine and is an affliction in the middle aged due to provocation factors such as improper stress on spine, irregular postures in working places, and bad food habits. Degeneration of the cervical disc demands Brihmana and Rasayana Therapy. Inter vertebral disc is a cushion like structure that provides protection to vertebral bodies from friction. Degeneration in the disc leads to undue pressure over the nerve roots. Cervical Spondylosis is characterized by degeneration, disc protrusion, calcification and consequent pressure on the nerve roots of the cervical and brachial plexus.

Kshaya roga (wasting) is an integral character of Vata dosha with associated contribution of Kapha and Pitta dosha. Shoola is Vata

SL NO	Manya shoola		Manya stambha		Bahu shoola		Griva shoola	
	BT	AT	BT	AT	BT	AT	BT	AT
1.	3	0	3	1	3	0	3	0
2.	2	1	3	2	3	2	2	1
3.	3	0	2	1	3	0	3	0
4.	2	0	3	1	3	2	2	0
5.	3	0	3	1	1	0	3	0
6.	3	1	3	1	2	1	3	0
7.	3	0	2	1	3	0	3	0

Table 8: Subjective parameter data.

SI no	Flexion		Extension		Lateral (right & left) flexion		Rotation	
	BT	AT	BT	AT	BT	AT	BT	AT
1.	1	0	1	0	1	0	1	0
2.	1	0	1	1	1	1	1	0
3.	1	0	1	0	1	0	1	0
4.	1	0	1	0	1	0	1	0
5.	1	0	1	0	1	0	1	0
6.	1	0	1	0	1	0	1	0
7.	1	0	1	0	1	0	1	0

Table 9: Objective parameter data.

SI. No	Parameter	Mean Bt	Mean At	% of Improvement	SD	SE	t value	P value
1.	Manya shoola	2.714	0.285	89.4%	0.78	0.297	8.0645	P<0.001
2.	Manya stambha	2.714	1.142	57.92%	0.534	0.202	7.779	P<0.001
3.	Griva shoola	2.714	0.142	94.8%	0.786	0.297	8.619	P<0.001
4.	Bahu shoola	2.571	0.857	66.6%	0.951	0.359	4.774	P<0.01

Table 10: Subjective parameter statistical data.

SI no	Parameter	Mean Bt	Mean At	% of Improvement	SD	SE	t value	P value
1.	Flexion	1	0	100%	0	0	0	P<0.001
2.	Extension	1	0.142	85.7%	0.377	0.1425	6.0173	P<0.001
3.	Lateral flexion	1	0.142	85.7%	0.377	0.1425	6.0173	P<0.001
4.	Rotation	1	0	100%	0	0	0	P<0.001
5.	Passive neck flexion	2	0.428	78.6%	0.533	0.201	7.820	P<0.001

Table 11: Objective parameter statistical data.

pradhana whereas sthambha, gourava are character of Kapha dosha. In cervical spondylosis, upasthambita vata dosha vikriti lakshanas are seen more however kaphanubandhi is associated some times. In the present study we find kevala vatajanya lakshanas more. General line of the treatment of vata vyadhi was adopted in the present study. Acharya Charaka mentioned Navanastarpanani susnigdham swedayetat means one should go for navana (nose oiling), tarpana (eye oiling), snehana (internal and external oleation) and swedana (steam therapy) for the basic line of treatment of any vatavyadhi. In the present study nasya was adopted using Dhanwantara taila 101 avartita, tarpana by means of Greeva vasti with Prabhanjana khuzambu and sahacharadi taila, and swedana by Patrapottali sweda. These upakramas (supporting therapies) help in the Samprapti vighatan (cure) [6-8].

Griva Basti and Abhyanga with Prabhanjana Khuzumbu and Sahacharadi taila are indicated in vata vyadis. Griva basti as procedure done as Sthanika Bahya snehana of affected area. It nourishes the Asthi in affected area and pacifies the vata dosha, thereby taila doesn't aggravate kapha thus counteracting the pathology. Abhyanga softens the skin, gives soothing effect, allows free movement, reduces

the spasticity and rigidity in joint as well as muscle, improves blood circulation to the muscles and relieves the pain. In the long term, muscle wasting may be prevented.

The Swedhana selected here is Patra Pottali which is of the Snigdha Rooksha type. The patras used were vatahara, kapha and pittahara. It does shaman of both vata and kapha. It clears the srotodusti or sanga. The area in contact gets more blood circulation, improves local metabolism, and relieves stiffness and variety of obstructions by widening of the pores which allows easy movement of the liquefied solid or semisolid materials. Patrapottali was a better option because it

- Relieves para-vertebral muscle spasm
- Strengthens Para-vertebral muscles
- Strengthens inter vertebral discs
- Helps repair damaged myelin sheath
- Has a local anti- inflammatory effect

Depending on vyadi lakshanas and sthana of vyadhi i.e., Urdhwajatru (Kapha Sthana), the dusti of vata, along with kapha was considered and treatment of Nasya was planned of Navana type with Dhanwantara 101 taila, having Snigdha and Rooksha affecting ingredients. So, here also the drugs and procedure counteract the underlying pathology. Patrapottali Sweda also helps in relieving Avarana by Kapha dosha [9,10].

Dashamula kwatha is vata kapha hara and indicated for all vata vyadhi. The ingredients of Dashamula kwatha pacifies the vata dosha and helps in counteracting the process of Kshaya (degeneration). Sushruthacharya has stated Dashamula kwatha as the best kapha pitta anila apaha, it does pachana of ama and sarva jwara vinasana as well as vatahara (to pacify vata). Bhavapraksha includes it in *Guduchyadi varga* which is Tridoshagna (alleviating all three doshas), Swasakasahara, Shirorujahara, Tandrahara (drowsiness), Shothahara (anti-inflammatory), Jwaragna (antipyretic), Parswapidahara and aruchihara (relieves anorexia) [11].

Conclusion

Cervical Spondylosis is emerging as one of the most common

SL NO	RESULTS	NO OF PATIENTS
1.	GOOD RESPONSE	05
2.	MODERATE RESPONSE	01
3.	MILD RESPONSE	01
4.	NOT RESPONDED	00

Table 12: Overall result.

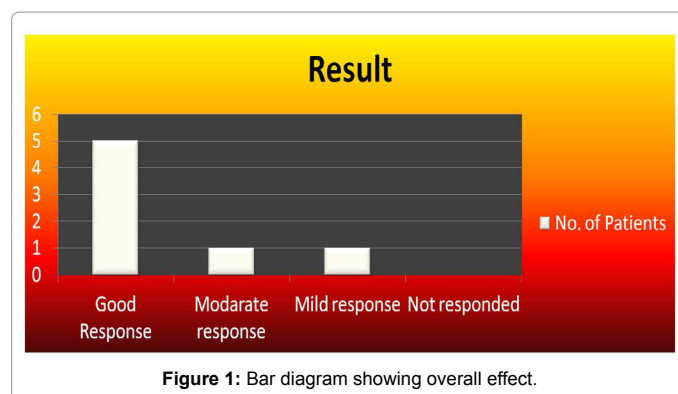


Figure 1: Bar diagram showing overall effect.

diseases especially in urban population. The prevalence of this disease has been expected to increase due to improper lifestyle, poor working, sleeping and sitting postures.

Conclusive results from the present study show a combined effect of griva basti, patra pottali sweda and nasya can offer benefits to reducing symptoms of cervical spondylosis.

Along with the above therapies, postural corrections during work, sleep, travel and avoiding elevated cushions below the neck, coupled with regular exercises go a long way in preventing Cervical Spondylosis.

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