

Importance of *Ayurvedic* approach in the management of Cervical Spondylosis: A critical review

¹Vd. Kanika Aggarwal, ²Vd. Pragati Katariya, ³Vd. Sumit Srivastava, ⁴Vd. Vinod Barwal

¹Assistant Professor, Department of Panchkarma, Shri Dhanwantry Ayurvedic College and Hospital, Chandigarh, India

²Associate Professor, Department of Kaya Chikitsa, Shri Dhanwantry Ayurvedic College and Hospital, Chandigarh, India

³Associate Professor and HOD, Department of Rog Nidana and Vikriti Vigyan, Shri Dhanwantry Ayurvedic College and Hospital, Chandigarh, India

⁴Associate Professor, Department of Kaumarbhritya, Shri Dhanwantry Ayurvedic College and Hospital, Chandigarh, India

Corresponding Author:

Vd. Kanika Aggarwal (kanikaaggarwal1986@gmail.com)

Abstract

Cervical spondylosis, also called as arthritis of the neck, is a common age-related condition which affects the joints and discs of cervical vertebrae. In this condition, there is degeneration of inter-vertebral discs, cervical spine, and bony overgrowth of adjacent vertebrae. Signs and symptoms of cervical spondylosis include pain in neck and/or arms & upper back, weakness, wasting of muscles and impairment of reflexes and movements. The disease has a poor prognosis in modern therapeutics, hampering daily activities of the patient. In *Ayurveda* it can be correlated to *Greevashoola/ Greevagatvata/ Greevasandhigatvata* which can be considered as one among the *Vataja Nanatmaja Vikaras*. In *Greevagatvata* the back of neck becomes painful, stiff and the movements of neck are impaired.

In this condition, combination of Ayurvedic *Panchakarma*, Ayurvedic *Shamana aushadhi*, *Nidana parivarjana*, *Yogasana*, Physiotherapy and Strengthening exercises offer complete solution for managing *Greevagatvata*.

Keywords: *Greevagatvata*, cervical spondylosis, cervical spine

Introduction

Cervical Spondylosis is a major global public health problem. Cervical spondylosis is a chronic degenerative process of the cervical spine. It affects the vertebral bodies and intervertebral disks of the neck and leads to herniated intervertebral disks, osteophytes, and ligament hypertrophy. This may eventually cause compression of the nerve roots and spinal cord. Numbness, weakness, and tingling in the neck and/or arms, pain in the neck and/or arms, neck stiffness, and headaches are the usual symptoms of cervical spondylosis. Most people with spondylotic changes of the cervical spine on radiographic imaging remain asymptomatic, with 25% of individuals under the age of 40, 50% of individuals over the age of 40, and 85% of individuals over the age of 60 showing some evidence of degenerative changes. The most frequently affected levels are C6-C7, followed by C5-C6. Symptomatic cervical spondylosis most commonly presents as neck pain.

In the present era, leading a sedentary life style, repetitive stress on neck due to sitting in front of computers for a long time, travelling too much on two wheelers, lack of neck exercise, improper sitting postures, increased mental stress etc. are the main reasons for the development of *Greevagatvata*. Certain dietary factors such as, imbalanced diet also play important role. Few environmental factors can also be responsible for these conditions along

with actual conditions related with faulty life style e.g., crowd, carrying heavy load on shoulders, unsuitable furniture, improper clothing, over load imitation, unhygienic conditions, lack of awareness, inappropriate time table, poverty, occupation etc. These posture deformities reduce the efficiency of individual up to great extent. They can easily be corrected or prevented if early steps are taken.

Ayurvedic view on Greevagatvata:

Nidana¹ (Causes)

With the review of Ayurvedic literature, specific etiological factors described separately for *Vata vyadhi* are applicable for Cervical Spondylosis. So, all factors vitiating *Vata Dosha* in body are root cause of *Greevagatvata*. Causes described for *Vata vyadhi* in various Ayurvedic texts are classified systematically as below:

1. **Aharajanya Factors:** These include all factors related to diet, its consumption, and quality of food materials which provoke *Vata Dosha* which led to Spine Disorders.
2. **Viharajanya Factors:** These include behavioral and postural factors which provoke *Vata Dosha*.
3. **Mansik Factors:** These include factors affecting mind which in turn provoke *Vata Dosha*.
4. **Abhigataj Factors:** This includes trauma which provokes *Vata Dosha*.
5. **Anya Factors:** These include all other factors like seasonal variation, which provoke *Vata Dosha*.

Samprapti² (Pathophysiology)

Samprapti of *Vata vyadhi* is of two main types:

- 1) **Samanya samprapti** -Due to intake of *Vata prakopaka Ahara- Vihara*, *Vata dosha* gets vitiated and fills the *Rikta* (empty) *strotasa* (*Asthivaha/ Majjavaha/ Mamsavaha/ Medovaha*) where *Snehadi guna* are absent producing the disease.
- 2) **Vishesha samprapti** - It is further of two types:
 - A. **Dhatukshayajanya:** As the *shleshaka bhava* decreases in the body, it also decreases in the spine (joints) in quantity as well as quality due to which *Sandhishaitilya* occurs. *Ashrayashrayi sambandha* also leads to *Asthi dhatu kshaya* leading to *khavaigunya* in the joints of spine.
 - B. **Margavrodhajanya:** *Margavrodha* of *vata dosha* by *kapha, mala, ama, meda* etc. occurs due to which *Vata* gets vitiated and starts circulating in the body, which travels and settles in the place of *khavaigunyayukta* joint of spine (neck). After *Sthanasamshraya* it produces the disease.

Samprapti ghatak

<i>Dosha</i>	<i>Vata pradhan Kapha</i>
<i>Dushya (Dhatu)</i>	<i>Asthi, Majja, Mamsa, Meda</i>
<i>Updhatu</i>	<i>Snayu, Sira, Kandra</i>
<i>Agni</i>	<i>Jatharagni, Dhatvagni</i>
<i>Strotasa</i>	<i>Asthivaha, Majjavaha, Mamsavaha, Medovaha</i>

<i>Strotodushti</i>	<i>Sanga and Vimargagaman</i>
<i>Samuthana</i>	<i>Pakvashaya</i>
<i>Sancharsthan</i>	<i>Rasayani/Shakha</i>
<i>Rog Marga</i>	<i>Madhyama</i>
<i>Sthanasamhsraya</i>	<i>Greeva Pradesh</i>
<i>Vyakta sthana</i>	<i>Greeva-Manyaprishtha Gata Pradesh</i>
<i>Adhishthana</i>	<i>Asthi, Sandhi</i>
<i>Swabhava</i>	<i>Chirkari</i>

Lakshana³ (Symptoms)

- *Ruja, Toda, Stambha, Suptata, Chimchimayana, Gaurava, Prasaran Aakunchan janya vedana, Mamsa Shaithilya, Kriya Hani, Spandan, Shiroshoola, Bhrama, Aruchi, Tandra, Agnimandya, Staimitya*

Chikitsa (Treatment) for Greevagatvata

That which can cure *Roga* completely without causing any complication or it will not provoke further vitiation of *Dosha* is called as *Chikitsa*. It is clearly said as per *Ayurveda*, treatment is something which will cure the disease completely without any complication and does not give rise to any other disease. Based on this view and as per *Vatavyadhi chikitsa siddhanta* following treatment plan should be followed for managing *Greevagatvata*:

Treatment plan

1. *Nidana Parivarjana* (Avoiding the cause)
 - A. *Aharaj* (Diet)
 - B. *Viharaj* (Lifestyle)
 - C. *Mansik* (Psychological)
2. *Shodhana Chikitsa* (Bio-purification)
3. *Shamana Chikitsa* (Oral treatment)
4. *Pathya sevana* (*Aharaj, Viharaj, Mansik*- Diet and lifestyle restrictions)
5. Supportive Therapy
 - A. *Yogasana*
 - B. *Physiotherapy and Exercises*

Nidana parivarjana includes avoiding causative factors (diet and lifestyle) of Spine disorders like *vata vardhak aahar*, postural abnormality and psychological factors like stress, anxiety etc.

In *Shodhana Chikitsa*, initially *Deepana* (Improving digestive fire) and *Aampachana* (Digestion of toxins) is done followed by *Snehana*⁴ (both internal and external oleation) and *Swedana*⁵ (inducing sweating). Thereafter, *Mridu Shodhan* (*Mridu Virechana*⁶-Purgation), *Anuvasana*⁷/*Matra* and *Asthapana*⁸ *Basti* (Medicated enemas), *Nasya*⁹ (Nasal instillation of medicated oil) is done as per severity and chronicity of the disease. For relief of pain and spasm *Agnikarma*¹⁰ (Cauterization), *Raktamokshana*¹¹ (Bloodletting), and *Viddha Karma* (Dry pricking of specific points) are also done.

In *Shaman Chikitsa*, *Vatashamaka, Vata-Kaphashamaka* and *Vatanulomana Aushadhis* (medicines) are used in *Greevagatvata* as per severity and chronicity of the disease and *Dosha* involvement.

In *Pathya Sevana* (*Aharaj-Viharaj-Mansik*), *Vatashamaka aahara* and *vihara* are advised along with *Dincharya* regimen to prevent recurrence and other lifestyle disorders.

In Supportive therapy -*Yoga, Pranayama, Physiotherapy* and Strengthening exercises of Neck muscles are done.

Treatment Plan (as per severity/ chronicity):

Categories	Shodhana Chikitsa	Shamana Chikitsa	Other T/t
Category 1: Muscle spasm only, no bony involvement	<i>Snehana</i> (with <i>Mahvishgarbha Taila</i>) <i>Swedana</i> (<i>Churna Pinda Sweda</i>) <i>Niruha Basti</i> (with <i>Erandmooladi Kwath</i>) <i>Matra Basti</i> (with <i>Mahanarayan Taila</i>) <i>Nasya</i> (with <i>Dhanwantram 101 Taila</i>)	<i>Vishtinduk Vati</i> ¹² (62.5-125mg) <i>Yograj Guggulu</i> ¹³ (500mg-1gm) <i>Rasnasaptak Kshaya</i> ¹⁴ (15-30ml) <i>Praval Pishti</i> ¹⁵ (125-250mg)	<i>Nidana parivarjana</i> <i>Dincharya Regimen</i> <i>Pathya sevan</i> (<i>Aaharaj- Viharaj- Mansik</i>)
Category 2: Muscle spasm, early degenerative changes	<i>Snehana</i> (with <i>Karpasthyadi Taila</i>) <i>Swedana</i> (<i>Patra Pinda Sweda</i>) <i>Niruha Basti</i> (with <i>Erandmooladi Kwatha</i>) <i>Matra Basti</i> (with <i>Sahacharadi Taila</i>) <i>Nasya</i> (with <i>Dhanwantram 101 Taila</i>)	<i>Mahayograj Guggulu</i> ¹⁶ (250-500mg) <i>Rasraj rasa</i> ¹⁷ (125-250mg) <i>Dashmoola Arishta</i> ¹⁸ (15-20ml) <i>Shankh Bhasma</i> ¹⁹ (125-250mg)	<i>Nidana parivarjana</i> <i>Dincharya Regimen</i> <i>Pathya sevan</i> (<i>Aaharaj- Vihara- Mansik</i>)
Category 3: Progressive degenerative changes with nerve compression	<i>Snehana</i> (with <i>Mahanarayan Taila</i>) <i>Swedana</i> (<i>Nadi Swedana</i>) <i>Niruha Basti</i> (with <i>Dashmooladi Kwatha</i>) <i>Matra basti</i> (with <i>Ksheerbala Taila</i>) <i>Nasya</i> (with <i>Ksheerbala 101 Taila</i>)	<i>Mahavata Vidhwansan rasa</i> ²⁰ (62.5-125mg) <i>Ekanveer rasa</i> ²¹ (125-375mg) <i>Maharasnadi Kshaya</i> ²² (15-30ml) <i>Cap. Ksheerbala 101</i> (6-18 drops) <i>Swarna Bhasma</i> ²³ (15-30mg)	<i>Nidanaj parivarjana</i> <i>Dincharya Regimen</i> <i>Pathya sevan</i> (<i>Aaharaj- Viharaj- Mansik</i>)

Note →

1. *Anupana* for *shamana aushadhi* can be *koshna jala/ kashaya*
2. *Lepana, Avgahana, Agnikarma* and *Raktamokshana* can also be done according to condition of the patients in all 3 categories

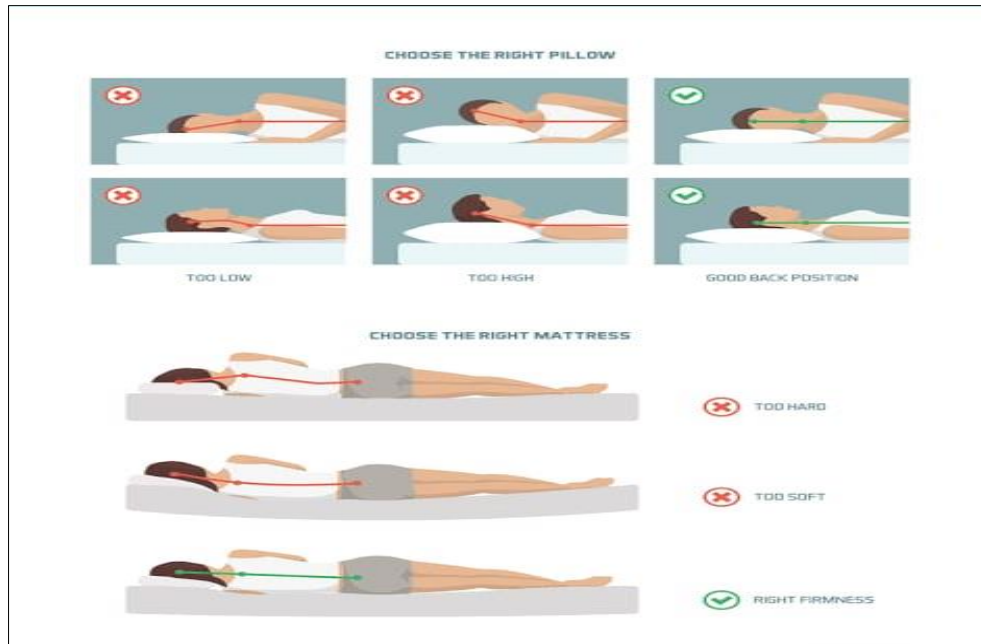
Pathya sevana (Aharaj – Viharaj- Mansik):

Aharaj

- Petite Yellow Lentiles (*Dhuli moong*), Green gram (*Chhilka moong*), Wheat, *Raagi*, Red rice, Bottle gourd (*Ghiya*), Round gourd (*Tinda*), Bitter gourd (*Karela*), Sponge gourd (*Tori*), Pointed gourd (*Parval*), Spinach, Fenugreek (*Methi*), Turnip (*Shalgam*), Ginger, Garlic etc.
- Milk, *Mamsa Rasa* (Meat Soup), Coconut Water etc.
- Apple, Pomegranate, Papaya, Chikoo, Resins, Dates etc.

Viharaj:

- Correct Firmness of mattress



- Correct Posture (keeping the spine straight) while sitting, standing, and walking.



- Light walk (*Shatpawali*)
- Mild to moderate exercises (*Sukshma Vyayama*)
- Muscle strengthening exercises (*Vyayama*)
- Sleeping (9-10PM) and waking up (5-6AM) early (*Brahm muhurat ujagare*)

Mansik

- Sound Sleep of 8 to 10 hrs
- Meditation (like *shavasana*, *yognidra*, *dhyana* etc.)
- *Pranayama* (*Anuloma -viloma*, *Bhramari* etc.)
- Music therapy (listening to soothing music like *OM* chanting, *Gayatri mantra*)
- Being in company of wise and positive people (*Satsang*, spending time with people having positive attitude and mindset)

**Supportive therapy
Yogasana**

Category 1	Category 2	Category 3
<ul style="list-style-type: none"> •Yogic Breathing •Sukshma vyayama -Shoulder movement -Neck forward and backward -Arms rotation -Arms flexion and extension -Waist rotation - Feet extension and flexion -Feet rotation and stretch •Pawanmuktasana (without neck elevation) •Tadasana •Ardhachakrasana • Cat and cow pose •Makarasna •Setubandhasana (Full) •Veerbhadrasana • Suryanamaskar 	<ul style="list-style-type: none"> •Yogic Breathing •Sukshma vyayama -Shoulder movement -Neck forward and backward -Arms rotation (light) -Arms stretch upward and forward -Feet extension and flexion - Feet rotation and stretch •Titaliasana •Tadasana •Joewalk •Markatasana •Full shalbhasana •Setubandhasana(half) •Pawanmuktasana (without neck elevation) •Full bhujanga 	<ul style="list-style-type: none"> •Yogic breathing •Sukshma vyayama -Shoulder movement -Neck backward -Wall climbing (with fingers) -Feet extension and flexion -Feet rotation and stretch •Tadasana (on chair) •Shavasana •Makrasana •Markatasana •Half bhujanga asana •Half shalbhasana

Physiotherapy and Exercises

Categories	Region	Electrotherapy/Other Rx	Exercise therapy
Category 1	Neck	Short wave diathermy (SWD) Hot pack Ultrasonic Massage (USM) TENS/IFT	Trapezius stretches SCM Stretch Shoulder shrugs Neck isometrics Pectoral stretch
Category 2	Neck	Short wave diathermy (SWD) Hot pack Ultrasonic Massage (USM) TENS/IFT	Trapezius stretches SCM Stretch Shoulder shrugs Neck isometrics Pectoral stretch
Category 3	Neck	Cryotherapy/Hot pack MFR (Manual fascia Release) TENS/IFT Ultrasonic massage Cupping therapy ICT	Trapezius stretches SCM Stretch Shoulder shrugs Neck isometrics Nerve glides Nerve stretch Scapular stabilization Exercises Pectoral stretch

Discussion

In the recent times, there is an increasing incidence of lifestyle disorders affecting even the younger people. Despite increasing health awareness, more than half of the people in major cities like Chandigarh, Delhi, Mumbai, Ahmadabad, and Chennai suffer from lifestyle disorders. The changed living habits due to increasing job requirement, sedentary lifestyle and competitive living are the main culprits coming in the way of golden rules of good living. People who fall victims to this new phenomenon get trapped with high stress and are prone to Cervical spine disorders at a younger age.

Worldwide lifestyle disorders have a considerable impact in terms of disability and working

efficiency, and represent a relevant burden for healthcare systems due to the expensive and complex medical support required by patients, in addition to economic consequences deriving from loss in productivity. This condition is a leading cause of disability especially among younger people, with a high impact on years lived with disability. Marked variations in incidence and prevalence across countries are present, with differences by sex, occupation socio economic background. This variability can be partly explained by geographical and cultural conditions, as well as relevant infrastructural inequalities, but it also reflects the presence of diverse criteria used to identify and classify patients.

Given the preventable nature of lifestyle disorders like cervical spondylosis, public health experts should monitor trends in cervical spondylosis and identify groups at increased risk, to implement targeted prevention policies. Furthermore, given the burden of disability related to cervical spondylosis, the type of healthcare support provided to patients should be examined to determine the characteristics that are associated with better outcomes.

Management of *Greevagatvata* with Holistic Approach of ayurveda

- Ayurveda treats the body as a whole, not only the affected part where deformation is visible.
- Ayurvedic system has same importance to the preventive as well as to the curative aspects.
- Ayurveda has cure according to the severity of the disease. In other systems, there is no much distinction of treatment based on the severity other than dosage
- Though some treatments in Ayurveda are not easy to follow, there are a lot of remedies mentioned which can be practiced easily and are cheap in cost.

Treatment

Here we promote a holistic approach with Ayurveda, *Yoga*, Rehabilitation and Dietetics. Our aim is not to get a symptomatic result in *Greevagatvata* but a much broader one. We wish to add much value in subject's life. We put forward a holistic quadrangular vision in treatment aspect of *Greevagatvata*.

1. **“Avoiding the Cause” (*Nidana Parivarjana*):** It is the primary step in treatment. As we know Spine Disorders are a result of unhealthy habits, first and foremost thing is avoiding those habits to prevent it in future and to reduce the disease progression. So, we had given maximum importance for that and consider it as the prime step.
2. **“Bio-purification” (*Shodhana & Shamana*):** It is the next step where we help in purification of the body. Here various departments of Ayurveda deal with correcting the equilibrium of the body. *Panchakarma* and *Kayachikitsa* department in Ayurveda help in correcting the *dosha* imbalance of the body along with restoring the normalcy of *agni* (digestion and metabolism) and *dhatu*s (tissues) along with its regeneration. Here we focus on resolving the pathophysiology of the disease.

Vata dosha possesses *guna* such as *ruksha*, *khar*, *parush*, *sheeta* so when it gets aggravated it leads to degenerative joint disorders as it increases dryness, brittleness of the tissues making them fragile. So, to curb *vata dosha*, in Ayurveda *snehana*, *swedana*, *basti*, *navan nasya*, *vata shamak* and *vata anulomak aushadhis* have been advised which have *gunas* opposite to *vata* such as *snigdha*, *mridu*, *ushna* etc.

Bahya snehana-swedana provide nourishment and lubrication to the structures of spine i.e., *Snayu* (ligaments), *Sandhi* (joints), *Sira* (blood vessels) and *Marma* points, relieve the heaviness, stiffness, spasm, and pain locally. It also increases joint mobility, reduces stress

and fatigue.

Basti is said to be one of the highly effective treatment modalities for *Vataja* diseases. The drugs administered through *Basti* remain in the rectum and colon (*Pakwashaya*) and later absorbed into the body, thereby pacifying the *vata dosha* at its place of origin and nourishing the bones, muscles, and nerves of the whole body.

Nasya helps in providing nourishment to brain, all sense organs and tissues of neck region thereby nourishing all the nerves and pacifying the *vata dosha*.

Shamana aushadhis used here are *deepaniya*, *pachaniya*, *vatashamak*, and *vatanulomak*, due to which they act as analgesic, anti-inflammatory, anti-spasmodic, anti-arthritis, and relieve stiffness and improve metabolism thereby digesting the harmful toxins. They are also *balya*, *brimhaniya* and *rasayana* due to which they act as nervine tonic, helps in healing degenerative tissues and tissue rejuvenation, muscle and bone lubrication and strengthening, proving to be useful in useful in Musculo-skeletal disorders and Nervous-system disorders.

Category 1 treatment specifically help in reducing muscle spasm, stiffness, and inflammation.

Category 2 treatment helps in reducing pain and swelling and checking early degeneration.

Category 3 treatment specially help in reduces radiating pain, inflammation of nerves and strengthens them and are more effective in chronic degenerative conditions.

3. **“Holistic Lifestyle” (*Pathya sevana- Aaharaj-Viharaj-Mansik*):** It is the next phase where we provide a clear master plan for a holistic way of living. That will help the subject to live a disease-free long life and slow down the disease progression. This is the basic aim of Ayurveda:
 - *Swasthasya swasthya rakshanam*: To prolong life and promote perfect health (add years to life and life to years).
 - *Aturasya vikara prashamanam cha* – To completely eradicate the disease and dysfunction of the body.
4. **“Rehabilitative Treatment” (Supportive Treatment):** Here we focus on physical and mental rehabilitation of the patient which helps in increasing endurance and strength, and avoiding complications and recurrence of the disease. *Yogasana*, meditation, physiotherapy and proper exercises are beneficial for creating a healthy body as well as mind.

This concept of giving as much importance to 'maintenance' of health than treatment has earned a place even in WHO (World Health Organization) as the 'only' appropriate definition of health amongst all medical sciences.

Conclusion

- Cervical spondylosis is a degenerative condition involving the vertebrae, discs, supportive structure (muscles, ligaments) of neck. It most commonly presents as Neck pain, which remains as one of the leading causes of disability and rising health care cost.
- Usually, difficulty in the diagnosis and management of cervical spondylosis occurs because of the ignorance, unawareness about seriousness of the condition, or lack of scientific clinical trial data to support clinical decisions.
- The effects of cervical spondylosis depend on the chronicity and the severity of the disease. Now a days almost every individual is suffering cervical spondylosis may it be

housewife, student, teacher, businessman, serviceman, tailor, laborer etc. due to their abnormal body postures and late working hours.

- So, for the proper care and management of *Greevagtavata* a holistic approach is required for its management which can be done by Ayurveda
- Combination of *Panchakarma*, Ayurvedic *Shamana aushadhi*, *Nidana parivarjana*, *Yogasana*, Physiotherapy and Strengthening exercises offers complete solution for *Greevagtavata* in terms of prevention as well as cure becoming need of the hour.

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