

COMPREHENSIVE AYURVEDIC MANAGEMENT OF *GRIVASTAMBHA*: A CLINICAL  
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**ABSTRACT**

Cervical spondylosis (*Grivastambha*), a manifestation of *Vata Vyadhi* characterized by *Vata* aggravation leading to *Asthi* and *Majja Dhatu* degeneration, presents clinically with cervical pain, stiffness, radiating paresthesia, and vertigo. This case study details the integrative *Ayurvedic* management of a 51-year-old male with chronic cervical spondylosis and comorbid hypertension. Personalized treatment incorporated *Nidan Parivarjan*, *Ahar – Vihar* modifications, and a combined *Shaman – Shodhan* protocol emphasizing *Panchakarma* therapies such as *Greeva Basti*, *Abhyanga*, *Shirodhara*, *Patrapottali Pinda Sweda*, and *Matra Basti*, using medicated oils targeting *Vata* pacification, inflammation reduction, and neuromuscular nourishment. Adjunctive internal medications containing *Shunthi* and *Ashwagandha* were employed for their *Vata – shamaka*, anti-inflammatory, and *Rasayana* properties. The holistic approach resulted in significant symptomatic improvement, enhanced cervical mobility, and quality of life restoration by addressing *Dosha* imbalance, *Dhatu* depletion, and *Srotodushiti*. This study substantiates *Ayurveda*'s efficacy as a non-invasive modality in managing *Vata Vyadhi*-associated cervical spondylosis.

**KEYWORDS:** *Asthi Majja Kshaya*, *Ayurvedic* Management, Cervical Spondylosis, *Dhatu Samya*, *Grivastambha*, Neuropathic Pain, *Panchakarma* Therapy, *Shaman*, *Shodhan Chikitsa*, *Vata Dosha* Aggravation and *Vata Vyadhi*.**INTRODUCTION**

Cervical spondylosis, also known as cervical osteoarthritis, is a degenerative condition of the cervical spine involving age-related changes in the intervertebral discs and vertebrae. It is one of the most common causes of neck pain, particularly in individuals over the age of 40. With increasing sedentary lifestyles and prolonged computer or mobile use, cervical spondylosis has become more prevalent even in younger age groups.<sup>[1]</sup> Cervical spondylosis is primarily caused by chronic wear and tear of the cartilage and bones of the neck.

**Contributing factors include**

- Aging (degenerative changes)

- Poor posture
- Repetitive neck movements
- Sedentary lifestyle
- Previous neck injuries<sup>[2]</sup>

Pathologically, this condition involves disc dehydration, shortening of disc length, formation of osteophytes (bone spurs), and sometimes compression of spinal nerves or the spinal cord, leading to neurological symptoms. Cervical spondylosis typically presents with chronic neck pain and stiffness, often accompanied by radiating pain to the shoulders or arms, headaches (especially at the back of the head), and tingling or numbness in the arms. Some individuals may also experience dizziness

and reduced neck mobility.<sup>[3]</sup> In advanced cases, nerve compression can lead to difficulty with coordination and walking.<sup>[4]</sup> Modern treatment for cervical spondylosis is generally conservative, focusing on pain relief and improved mobility. It includes the use of anti-inflammatory drugs, muscle relaxants, physiotherapy, and posture correction. Short-term use of a cervical collar may be advised, while severe cases might require steroid injections or surgical intervention.<sup>[5]</sup>

Recent MRI and VBM studies show that cervical spondylosis affects brain regions linked to sensory, motor, and cognitive functions, indicating it impacts more than just the spine.<sup>[6,7]</sup> Advancements in AI have also led to highly accurate MRI-based diagnostic tools for cervical spondylosis, capable of automatically assessing spinal metrics like Cobb angle, disc length, and spinal cord compression with precision scores above 0.90.<sup>[8]</sup> Another research highlights the role of pro-inflammatory cytokines like IL-1, TNF- $\alpha$ , and IL-6 in cervical disc degeneration, suggesting kinase inhibitors and organogel – based drug delivery as promising therapeutic options.<sup>[9]</sup> Researches have proved that minimally invasive surgery, advanced physiotherapy techniques, and PEMF therapy enhance recovery in cervical spondylosis, while lifestyle factors play a significant role in influencing its risk.<sup>[10,11,12,13]</sup>

In *Ayurveda*, this condition aligns closely with *Greeva Sandhigata Vata* and *Vata Vyadhi*, where vitiation of *Vata dosha* leads to deterioration of *Asthi* (bone) and *Majja* (marrow/nerve tissue), causing structural and functional impairment.<sup>[14]</sup> When *Vata* is aggravated, it becomes increased (*Vridhdha*) and leads to several pathological changes in the body. This includes *Dhatu Kshaya* (tissue depletion), where excessive dryness and erratic movement cause weakening and degeneration of muscles, bones, nerves, and joints. Additionally, *Strotodushiti* (obstruction of micro-channels) occurs, disrupting circulation and the nourishment of tissues. The digestive fire (*Agni*) also becomes disturbed, leading to the accumulation of toxins (*Ama*), which further worsens the imbalance of *Vata*. These changes manifest as symptoms such as pain, stiffness, numbness, spasms, tremors, and various neurological issues.<sup>[15, 16]</sup>

## OBJECTIVE

To evaluate the efficacy of a personalized *Ayurvedic* integrative treatment protocol—including *Nidan Parivarjan*, *Panchakarma* therapies, and *Ayurvedic* formulations—in alleviating symptoms, restoring *dosha* balance, and improving functional outcomes in a patient with cervical spondylosis (*Vata Vyadhi*).

## CASE STUDY

A 51-year-old male with a known case of Cervical Spondylosis (*Grivastambha*, a manifestation of *Vata Vyadhi*) presented to the Jeena Sikho Lifecare Limited

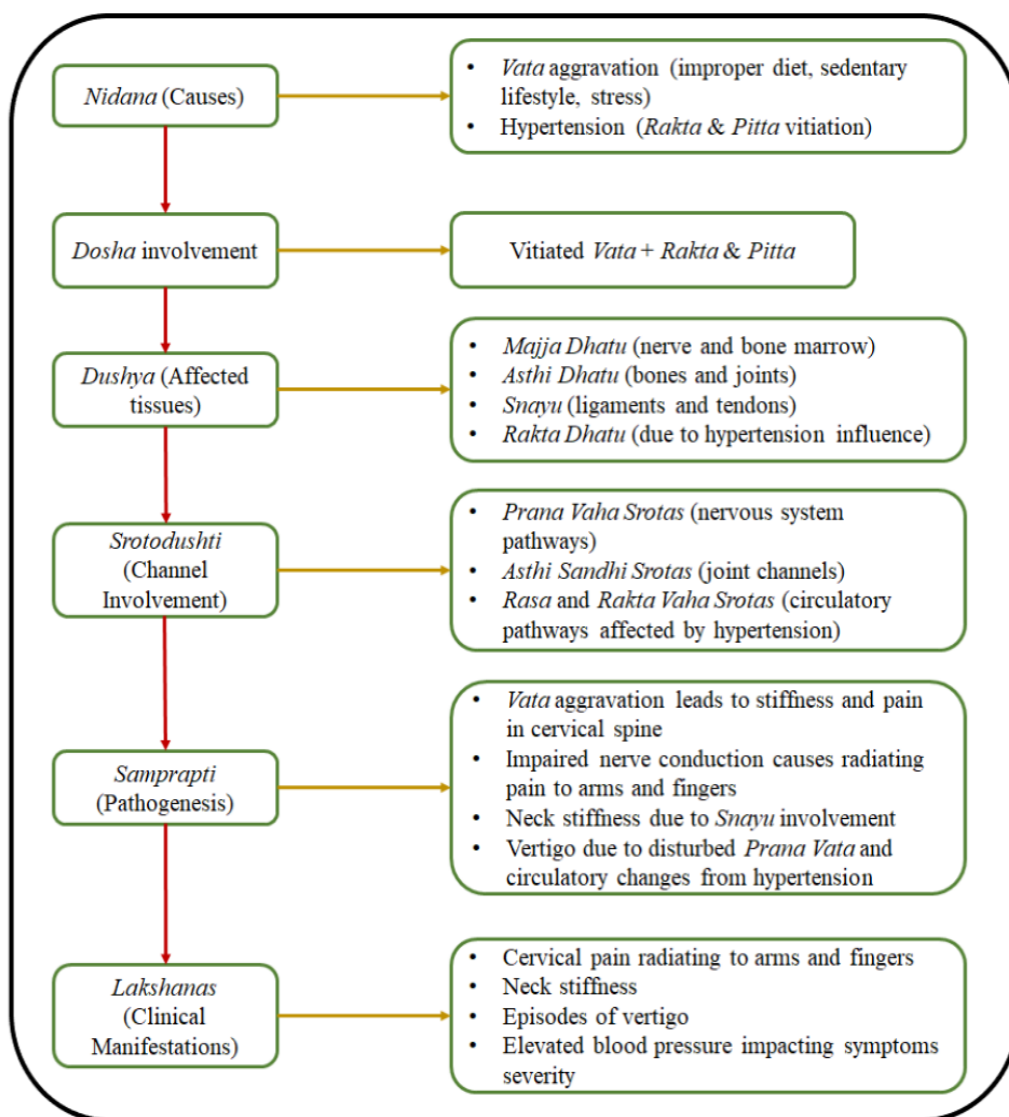
Hospital in Jalandhar, Punjab, India, on July 19, 2025. The patient reported symptoms including cervical pain (*Griva Shula*) radiating to the arms and fingers (*Bahu – hasta – sandhi vedana*) – Score: 6<sup>[17]</sup>, neck stiffness (*Griva – stambha*), and episodes of vertigo (*Bhrama*). He also had a comorbid diagnosis of hypertension, identified three years prior, and was on allopathic treatment with Atenolol 50 mg once daily. However, due to unsatisfactory clinical improvement, the patient discontinued allopathic therapy and sought *Ayurvedic* management. A thorough clinical evaluation was conducted, including assessment of vital signs mentioned in Table 1 and *Ashtasthana Pareeksha* findings in Table 2. Based on a detailed *Ayurvedic* assessment, an individualized treatment protocol was initiated, consisting of internal medication (*Aushadhi*), tailored dietary guidelines (*Ahar*), lifestyle modifications (*Vihar*), and a 10-day intensive *Panchakarma* therapy program. A comprehensive flowchart illustrating the *Samprapti* (pathogenesis) is provided in Figure 1.<sup>[14,15,16]</sup>

**Table 1: Vitals from each consult.**

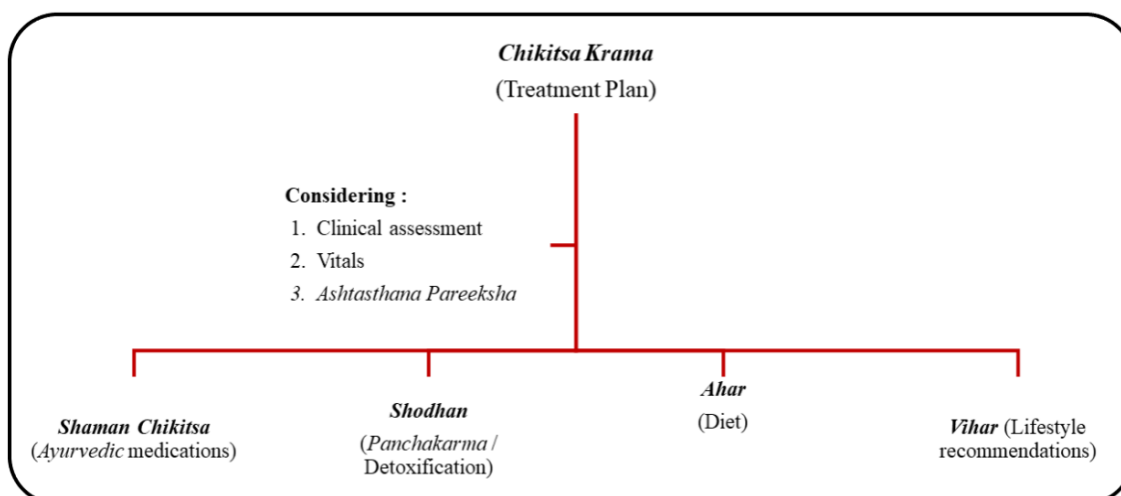
Date	Blood Pressure	Weight
19-07-2025	120/80 mm Hg	81.05 Kg
20-07-2025	120/80 mm Hg	81.10 Kg
21-07-2025	130/80 mm Hg	81.25 Kg
22-07-2025	140/80 mm Hg	81.35 Kg
23-07-2025	140/80 mm Hg	81.75 Kg
24-07-2025	130/80 mm Hg	81.15 Kg
25-07-2025	130/80 mm Hg	81.05 Kg
04-08-2025	130/70 mm Hg	79.40 Kg
05-08-2025	120/70 mm Hg	80.00 Kg

**Table 2: Ashtasthana Pareeksha of the patient.**

Parameters	Findings
<i>Nadi</i> (Pulse)	<i>Vataj Kaphaj</i>
<i>Mala</i> (Stool)	<i>Avikrit</i> (Normal)
<i>Mutra</i> (Urine)	<i>Avikrit</i> (Normal)
<i>Jiwha</i> (Tongue)	<i>Niraam</i> (Normal)
<i>Shabda</i> (Voice)	<i>Spasht</i> (Clear)
<i>Sparsha</i> (Touch)	<i>Anusheetoshna</i> (Normal)
<i>Akriti</i> (Face)	<i>Madhyam</i> (Normal)
<i>Drikk</i> (Eyes)	<i>Prakrit</i> (Normal)

Figure 1: *Samprapti* of this case.

## TREATMENT PLAN

I. *Shaman Chikitsa*

Based on the clinical evaluation, a detailed and patient-specific medication protocol was devised, as outlined in Table 3.

Table 3: Ayurvedic medicines prescribed.

Date	Medicines	Dosage with Anupana (Medium)
19-07-2025	Arthri Capsules	1 Cap BD (Adhobhakta with Koshna Jala )
	Go Flexi Capsule	1 Cap BD (Adhobhakta with Koshna Jala )
	Alokik Shakti Tablets	1 Cap BD (Adhobhakta with Koshna Jala )
	32 Herbs Tea	Twice a day
	Nervine Tonic	2 Teaspoon BD (Adhobhakta with Sama Matra Koshna Jala )
Adhobhakta with Koshna Jala - After Meals with Lukewarm Water		
Adhobhakta with Sama Matra Koshna Jala - After Meals with Equal Amount of Lukewarm Water		

## II. Shodhan

Following a thorough clinical evaluation, a customized Panchakarma treatment plan was developed for the patient. The regimen included therapies such as Greeva Basti, Abhyangam, Shirodhara, Shiropichu, Patrapottali

Pinda Sweden and Matra Basti specifically tailored to address the underlying condition effectively. Table 4 presents the detailed Panchakarma therapies administered during each 10-day session.

Table 4: Detailed 10-Day Panchakarma Therapy Schedule.

Day	Date	Panchakarma Therapies
Day 1	20-07-2025	Greeva Basti, Shirodhara, Abhyanga Sweden and Matra Basti
Day 2	21-07-2025	Greeva Basti, Shirodhara, Patrapottali Pinda Sweden and Matra Basti
Day 3	22-07-2025	Greeva Basti, Shiropichu, Abhyanga Sweden and Matra Basti
Day 4	23-07-2025	Greeva Basti, Shiropichu, Patrapottali Pinda Sweden and Matra Basti
Day 5	24-07-2025	Greeva Basti, Shirodhara, Abhyanga Sweden and Matra Basti
Day 6	25-07-2025	Greeva Basti, Shiropichu, Patrapottali Pinda Sweden and Matra Basti
Day 7	05-08-2025	Greeva Basti, Shirodhara and Patrapottali Pinda Sweden
Day 8	06-08-2025	Greeva Basti, Shirodhara, Patrapottali Pinda Sweden and Matra Basti
Day 9	07-08-2025	Greeva Basti, Shirodhara and Abhyanga Sweden
Day 10	08-08-2025	Greeva Basti, Shirodhara, Abhyanga Sweden and Kansya Therapy

### 1. Greeva Basti with Dhanwantaram and Murivenna oil<sup>[18]</sup>

Pre-Procedure (Purv Karma )	The patient was positioned comfortably with the neck exposed, the area was cleansed, and informed consent was obtained prior to the procedure.
	A leak-proof dough ring was prepared using warm flour and placed securely over the cervical region to contain the medicated oil.
Main Procedure (Pradhan Karma )	The medicated oil was mildly heated to about 40–45°C and poured into the dough ring over the cervical region, keeping the temperature consistently warm during the therapy
	The oil was retained for 30–45 minutes based on the patient's condition, with optional gentle massage performed post-procedure if indicated.
Post-Procedure (Paschat Karma )	After the oil and dough ring were removed, the area was cleaned with lukewarm water, the patient was advised rest with avoidance of cold exposure or strain, and a light, Vata-pacifying diet was recommended based on clinical assessment.

### 2. Shirodhara with Dhanwantaram oil<sup>[19]</sup>

Preparation	The Dhanwantaram oil was gently warmed using a water bath to approximately body temperature (39–40°C).
Pre-Procedure (Purv Karma )	The patient was positioned supine on the Shirodhara table and the eyes and ears were protected using cotton.
	A 5–10-minute gentle massage of the scalp, forehead, and shoulders was performed using a Dhanwantaram oil to facilitate relaxation.
Main Procedure (Pradhan Karma )	The Shirodhara vessel was positioned approximately 5 inches above the forehead, allowing a continuous stream of lukewarm Dhanwantaram oil end to flow steadily over the Ajna Chakra (forehead region).
	The oil was rhythmically poured from temple to temple for 45 minutes at a consistent temperature.
Post-Procedure (Paschat Karma )	The patient was rested for 15 minutes post-procedure, excess oil was removed with warm towels, followed by a warm herbal bath, and advised light diet and rest for the day.

3. *Shiropichu with Dhanwantaram oil*<sup>[20]</sup>

<b>Preparation</b>	The <i>Dhanwantaram</i> oil was gently heated in a water bath to body temperature (around 39–40°C).
<b>Pre-Procedure (Purv Karma)</b>	The patient was comfortably positioned in a supine posture, and the hair was parted to expose the crown region.
<b>Main Procedure (Pradhan Karma)</b>	A sterile cotton pad was soaked in warm <i>Dhanwantaram</i> oil and placed over the crown of the head. Additional oil was added intermittently to keep the pad moist and ensure continuous absorption.
<b>Post-Procedure (Paschat Karma)</b>	The cotton pad was removed gently, and excess oil was wiped off with a clean cloth. The patient was advised to rest and avoid exposure to cold or wind.

4. *Abhyanga with Mahanarayana oil and Murivenna followed by Sarvang Swedan*<sup>[21]</sup>

<b>Pre - Procedure (Purv karma)</b>	The patient was evaluated based on <i>Prakriti</i> , <i>Vikriti</i> , <i>Agni</i> , <i>Bala</i> , and <i>Rog Avastha</i> prior to the procedure. The combination of <i>Mahanarayana</i> oil and <i>Murivenna</i> was gently warmed, required materials for <i>Swedan</i> were prepared, and the patient was comfortably seated in a warm, draft-free environment.
<b>Main Procedure (Pradhan karma)</b>	<i>Abhyangam</i> was performed using lukewarm oil with systematic strokes over the entire body to pacify <i>Vata</i> and enhance circulation. This was followed by <i>Sarvang Swedan</i> to induce perspiration and support detoxification.
<b>Post Procedure (Paschat Karma)</b>	Post-procedure, the patient was advised take rest, a lukewarm bath, light diet, and observed for relaxation and symptomatic relief.

5. *Patrapottali Pinda Sweden with Mahanarayana oil*<sup>[18]</sup>

<b>Preparation of Pottali (Boluses)</b>	Fresh <i>Eranda</i> , <i>Nirgundi</i> , and <i>Arka</i> leaves were washed, chopped, and sautéed in <i>Mahanarayana</i> oil until soft and aromatic. The mixture was then divided and wrapped in cotton cloth to form secure, leak - proof pottalis.
<b>Pre-Procedure (Purv Karma)</b>	The procedure was explained to the patient, informed consent was obtained, and the patient was positioned comfortably with the affected area exposed. The site was then cleaned and gently massaged with warm <i>Mahanarayana</i> oil for 5–10 minutes to promote absorption.
<b>Main Procedure (Pradhan Karma)</b>	The prepared pottalis were gently reheated with <i>Mahanarayana</i> oil, maintaining a temperature of approximately 40–45°C to prevent burns. Warm boluses were applied to the affected area with gentle tapping for 15–30 minutes, reheating alternately to maintain warmth while monitoring patient comfort.
<b>Post-Procedure (Paschat Karma)</b>	After the therapy, the area was cleaned to remove excess oil, and the patient was advised to rest for 30–60 minutes while avoiding cold, wind, strenuous activity, and following a light, <i>Vata</i> -pacifying diet.



## 6. MatraBasti with Sahcharadi oil<sup>[18]</sup>

<b>Preparation of Sneha</b>	<i>Sahacharadi</i> oil was prepared by boiling a decoction of <i>Sahachara</i> and other herbs in sesame oil until the oil reached <i>Sneha Siddhi</i> , after which it was filtered and stored in sterile containers.
<b>Pre - Procedure (Purv karma)</b>	The patient was evaluated for suitability, ensuring no contraindications, and informed consent was obtained. They were asked to empty the bowels and bladder and positioned in the left lateral ( <i>Simhasana</i> ) posture.
<b>Main Procedure (Pradhan karma)</b>	The enema nozzle was lubricated with warm oil and gently inserted 3–4 inches into the rectum, then 30–60 ml of warm <i>Sahacharadi</i> oil was slowly administered over 1–2 minutes. The patient was instructed to retain the oil for 15–30 minutes while remaining calm and still, with monitoring for any adverse reactions.
<b>Post Procedure (Paschat Karma)</b>	After retention, the patient evacuated naturally, the area was cleaned, rest was advised, and a light warm diet with activity restrictions was recommended.

### III. Ahar

In this case, a meticulously tailored diet was formulated to meet the patient's individual clinical requirements and support overall therapeutic outcomes. The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital included the following key recommendations.<sup>[22,23]</sup>

#### a) Pathya (allowed)

- Fresh and homemade food
- Millet diet

#### b) Apathya (Avoid)

- Wheat, Packed food, Refined food, Dairy food/ Animal food, Coffee and Tea
- Never eat after 8 PM
- In solid take small bite and chew 32 times
- In liquid take sip and drink slowly

#### c) Hydration

- Boil 3-4 litres of water, reduce it to half (2 litre) and consume
- Alkaline water - 3-4 times a day (2 litre)

- Herbal tea (32 herbs tea)
- Living water
- Turmeric water

#### d) Millet Meal

- Foxtail (*Setaria italica*)
- Barnyard (*Echinochloaesculenta*)
- Little (*Panicum sumatrense*)
- Kodo (*Paspalum scrobiculatum*)
- Browntop (*Urochloa ramosa*)
- Mota Anaj – Sorghum (*Sorghum bicolor*)

#### e) Special Instructions

- Brisk walking 30 min with barefoot
- Sit in sunlight for 1 hour
- 10 min slow walk after every meal
- One day fasting is recommended after every 15 days
- Get quality sleep (8 hours)
- Cook millets in a steel cookware using only mustard oil.
- Sit in *Vajrasana* after every meal

#### f) Meal Structure

Early Morning (5:45 AM)	Breakfast (09:00 - 10:00 AM)	Morning Snacks (11:00 AM)	Lunch (12:30 - 02:00 PM)	Evening Snacks (04:00 - 04:20 PM)	Dinner (06:15 - 07:30 PM)
<ul style="list-style-type: none"> <li>• 4 Crushed tulsi leaves + 1 gm ginger + 2 spoons of honey + hot water = on empty stomach / Herbal Tea</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Plate 1:</b> Seasonal fruits (4-5 types) + turmeric water + <i>Mugdayusha</i></li> <li>• <b>Plate 2:</b> Millet <i>Khichdi</i> / Millet <i>Poha</i> / Millet <i>Upma</i></li> </ul>	<ul style="list-style-type: none"> <li>• Red Juice (Beetroot, Carrot, Tomato &amp; Pomegranate) – 150 ml</li> <li>• Soaked Almonds (4-5)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Plate 1:</b> Steamed Salad</li> <li>• <b>Plate 2:</b> Fermented Millet Meal</li> </ul>	<ul style="list-style-type: none"> <li>• Green Juice (Spinach, Fenugreek, Bathua, Amaranth, Mint, Coriander, Curry leaves &amp; betel leaves) – 100 – 150 ml</li> <li>• Soaked Almonds (4-5)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Plate 1:</b> Steamed Salad</li> <li>• <b>Plate 2:</b> Green Vegetable Soup</li> </ul>
<b>Green Vegetable Soup:</b> <ul style="list-style-type: none"> <li>• Spinach, Peas, Carrots, Cabbage, Capsicum, Ghee, Zucchini, Cucumber, Green Gram, etc. (10 grams each)</li> <li>• Add Ginger, Garlic and Black Salt</li> <li>• Grind &amp; boil for a minute</li> <li>• Add lemon as per taste &amp; serve</li> </ul>					
<b>Plate 1:</b> Patient Weight X 10  <b>Plate 2:</b> Patient Weight X 5					

#### IV. Vihar<sup>[22, 23]</sup>

- Meditation:** The patient was advised to practise Meditation daily for 30 minutes atleast.
- Yoga:** Perform *Sukshm Pranayam* and *Sukhasan* for 40 minutes daily
- Sleep:** Ensure 6-8 hours of uninterrupted and deep sleep.
- Walking:** Brisk walk for 30 minutes in barefoot.
- Daily Routine:** The patient was also advised to follow a structured routine.

#### OBSERVATION AND RESULT

Throughout the course of treatment, the patient demonstrated consistent clinical improvement, with quality of life evaluations indicating significant enhancements in both physical and emotional health. Substantial symptomatic relief was observed by the end of the treatment period. A comparative analysis of clinical symptoms before and after treatment is presented in Table 5.

**Table 5: Comparative Analysis of Symptoms Pre- and Post-Treatment.**

Symptoms before treatment	Symptoms after treatment
Cervical pain radiating to the arms and fingers ( <i>Bahu-hasta-sandhi vedana</i> ) - Score: 6	Relieved Gradually - Score: 1
Neck stiffness ( <i>Griva-stambha</i> )	Relieved
Episodes of vertigo ( <i>Bhrama</i> )	Relieved

#### DISCUSSION

This case study presents a 51-year-old male with a known history of Cervical Spondylosis (*Vata Vyadhi*) who sought intensive care at Jeena Sikho Lifecare Limited. Hospital. He also had a comorbid diagnosis of hypertension, identified three years prior, and was on allopathic treatment with Atenolol 50 mg once daily. However, due to unsatisfactory clinical improvement, the patient discontinued allopathic therapy and sought *Ayurvedic* management. The patient exhibited clinical features including cervical pain radiating to the arms and fingers, neck stiffness, and episodes of vertigo.

A comprehensive evaluation was performed, incorporating vital parameters, *Ashtasthana Pareeksha*, and relevant laboratory investigations to formulate a personalized treatment plan. The integrative management approach consisted of *Nidan Parivarjan* and condition-specific interventions across *Ahar*, *Vihar*, *Shaman Chikitsa*, and *Shodhan* modalities.

##### 1. *Nidan Parivarjan*

As part of the treatment strategy, the patient was advised to avoid heavy, oily, fermented, and excessively spicy foods. Dietary recommendations focused on maintaining a *Vata*-appropriate plan with restricted intake of salt, protein, and potassium, alongside strict control of blood glucose and blood pressure, and avoidance of nephrotoxic substances. Additional lifestyle guidance included maintaining adequate hydration, refraining from strenuous activity, and abstaining from alcohol and tobacco, while adhering to a structured daily routine. This integrative approach reflects the *Ayurvedic* principle of *Nidan Parivarjan*, targeting the removal of causative factors to preserve renal function and enhance clinical outcomes.<sup>[22,23]</sup>

##### 2. *Samprapti*

A comprehensive flowchart illustrating the *Samprapti* (pathogenesis) is provided in Figure 1.<sup>[14,15,16,24]</sup>

The *Samprapti* outlines the etiopathological progression of *Vata Vyadhi*, presenting a flowchart that illustrates the *Ayurvedic* understanding of cervical spine disorders. It highlights the aggravation of *Vata*, along with the vitiation of *Rakta* and *Pitta*, often triggered by factors such as poor diet, sedentary lifestyle, stress, and hypertension. The condition involves *Majja*, *Asthi*, *Snayu*, and *Rakta Dhatus*, and affects multiple *srotas* such as *Prana Vaha*, *Asthi Sandhi*, *Rasa*, and *Rakta Vaha*. These disruptions lead to pathogenesis characterized by cervical stiffness, radiating pain, nerve conduction issues, and vertigo. Clinically, patients present with neck stiffness, radiating pain to the arms and fingers, vertigo episodes, and hypertension-induced symptom severity.

##### 3. *Ahar*

The dietary regimen focuses on light, easily digestible, and nutritionally balanced meals spread across six intervals throughout the day. The routine begins with *Tulsi* – ginger water or herbal tea in the early morning, followed by seasonal fruits and millet-based preparations for breakfast. Midday and evening snacks include fresh vegetable juices (such as beetroot or leafy greens) and soaked almonds. Lunch and dinner consist of steamed salads, fermented millet dishes, and green vegetable soups made with low-potassium ingredients like spinach, zucchini, and carrots. This approach enhances digestion, aids detoxification, and aligns with *Ayurvedic* principles to balance the *Doshas* and support renal function. Meals were to be consumed before 8 PM, with an emphasis on including health – promoting beverages such as herbal teas, turmeric water, and naturally energized water.<sup>[22, 23]</sup>

##### 4. *Vihar*

The patient was guided to adopt targeted lifestyle modifications to support overall well-being. This included practicing daily meditation to alleviate stress and improve mental focus, alongside a tailored *yoga* regimen to enhance physical flexibility, relaxation, and emotional balance. Emphasis was also placed on ensuring 6–8 hours of quality, uninterrupted sleep and

maintaining a structured, consistent daily routine to promote holistic health and equilibrium.<sup>[22, 23]</sup>

## 5. Chikitsa

A comprehensive therapeutic plan was formulated by the physician, encompassing both *Shodhan* and *Shaman Chikitsa*. Based on a detailed clinical evaluation, a personalized *Panchakarma* protocol was designed, including interventions such as *Abhyangam*, *Shirodhara*, *Shiropichu*, *Patra pottali Pinda Sweda* and *Matra Basti* with the objective of targeting the underlying pathology and restoring systemic homeostasis.

- *GreevaBasti* was administered using *Dhanwantaram* oil and *Murivenna*. When used in *GreevaBasti*, *Dhanwantaram* and *Murivenna* oils provide localized *Vata* pacification, deep nourishment of cervical joints, pain relief, and improved flexibility. The warm retention of these medicated oils allows for deeper absorption, effectively addressing degenerative changes and disorders like cervical spondylosis and *Greeva Graha*.<sup>[25, 26]</sup>
- *Abhyanga* was done using *Mahanarayana* oil and *Murivenna*. This oil is rich in *Vata*-pacifying ingredients like *Ashwagandha* (*Withania somnifera*), *Bala* (*Sida cordifolia*), and *Dashamoola*, which help in reducing *Shotha* (inflammation), *Vedana* (pain), and improving *Snigdhatva* (unctuousness) of the *Dhatu*s (body tissues). The massage facilitates *Srotoshodhana* (cleansing of body channels), promotes lymphatic drainage, and enhances local blood circulation, which helps in resolving *Granthi* (abnormal growths) and softening hard masses.<sup>[26, 27]</sup> *Swedana* promotes *Srotoshodhana* (channel cleansing), facilitates removal of *Ama* (toxins), and enhances tissue metabolism by stimulating *Agni* at both *Jatharagni* (digestive) and *Dhatvagni* (tissue) levels.<sup>[28]</sup>
- *Shirodhara* and *Shiropichu* with *Dhanwantaram* oil helps pacify aggravated *Vata*, calms the nervous system, improves sleep, and reduces stress, which are key factors in managing *Vata Vyadhi*. The warm, continuous oil flow enhances circulation, supports joint lubrication, and helps slow down degenerative changes in the nervous and musculoskeletal systems.<sup>[25]</sup>
- *Patrapottali Pinda Sweda* with *Eranda*, *Nirgundi*, and *Arka* leaves in *Mahanarayana* oil effectively pacifies *Vata*, reduces inflammation, relieves pain, and relaxes stiff muscles. The therapy enhances circulation, promotes tissue healing, and deeply nourishes joints and nerves, making it beneficial in managing *Vata Vyadhi*.<sup>[29]</sup>

- *Matra Basti* with *Sahacharadi* oil helps pacify aggravated *Vata*, lubricates the colon, and nourishes the nervous system, thereby relieving pain, stiffness, and weakness associated with *Vata Vyadhi*. It also supports joint health, enhances mobility, and strengthens the lower back and limbs by improving neuromuscular coordination and reducing degeneration.<sup>[30]</sup>

A carefully structured *Shaman Chikitsa* (palliative treatment) protocol was recommended by the physician. A comprehensive overview of the *Ayurvedic* formulations used in this case is provided in Table 6. *Shunthi* (*Zingiber officinale*) and *Ashwagandha* (*Withania somnifera*) are the principal herbs commonly incorporated in *Ayurvedic* formulations. Their therapeutic efficacy is determined by their *Ras Panchak* – a comprehensive analysis of taste (*Rasa*), qualities (*Guna*), potency (*Virya*), post-digestive effect (*Vipaka*), and specific action (*Prabhava*) – as follows.<sup>[31]</sup>

### Shunthi (*Zingiber officinale*)

- *Shunthi* has a *Rasa* (taste) that is *Kashaya* (astringent) and *Katu* (pungent). Its *Guna* (qualities) are *Laghu* (light) and *Ruksha* (dry), with a *Virya* (potency) that is *Ushna* (hot). The *Vipaka* (post-digestive effect) is *Katu* (pungent). Its *Prabhava* (special effect) includes *Deepana* (digestive stimulant), *Vata*-pacifying, and anti-inflammatory properties.<sup>[31, 32]</sup>
- *Shunthi*'s warming and digestive properties help pacify aggravated *Vata*, reduce inflammation and pain, and improve joint mobility, making it effective in managing symptoms of *Vata Vyadhi*.<sup>[32]</sup>

### Ashwagandha (*Withania somnifera*)

- *Ashwagandha* possesses a *Rasa* (taste) that is primarily *Madhura* (sweet) with some *Katu* (pungent). It has *Guru* (heavy) and *Snigdha* (unctuous) *Guna* (qualities), and an *Ushna* (hot) *Virya* (potency). The *Vipaka* (post-digestive effect) is *Madhura* (sweet). Its *Prabhava* (special effect) includes *Rasayana* (rejuvenative), *Balya* (strengthening), and *Vata*-pacifying actions.<sup>[31, 33]</sup>
- *Ashwagandha* helps balance aggravated *Vata* by providing strength (*Balya*), nourishment (*Brimhana*), and rejuvenation (*Rasayana*), while reducing inflammation and muscle weakness, thus improving mobility and overall resilience in *Vata Vyadhi*.<sup>[33]</sup>



Table 6: Detailed description of medicines prescribed.

Medicines	Ingredients	Therapeutic Effects
Arthri Capsules	<b>Nirgundi</b> ( <i>Vitex negundo</i> ), <b>Nishoth</b> ( <i>Operculina turpethum</i> ), <b>Shunthi</b> ( <i>Zingiber officinale</i> ), <b>Punarnava</b> ( <i>Boerhavia diffusa</i> ), <b>Guduchi</b> ( <i>Tinospora cordifolia</i> ), <b>Surjana</b> ( <i>Moringa oleifera</i> ), <b>Haritaki</b> ( <i>Terminalia chebula</i> ), <b>Rasna</b> ( <i>Pluchea lanceolata</i> ), <b>Shuddh Guggul</b> ( <i>Commiphora mukul</i> ).	Supports <i>Sandhi sukha</i> (joint comfort), <i>Chalana shakti</i> (mobility), <i>Asthi dhatu poshan</i> (cartilage health) and <i>Shothahara</i> (reduces inflammation)
Go Flexi Capsule	<b>Ashwagandha Powder</b> ( <i>Withania somnifera</i> ), <b>Shunthi</b> ( <i>Zingiber officinale</i> ), <b>Aloevera satva</b> ( <i>Aloe barbadensis</i> ), <b>Suranjan mitha</b> ( <i>Colchicum luteum</i> ), <b>Kuchla Shuddh</b> ( <i>Strychnos nux-vomica</i> ).	Helps <i>Sandhi vedana haran</i> (relieve joint discomfort), <i>Asthi balya</i> (strengthen bones), <i>Chalana shakti vridhhi</i> (enhance mobility), <i>Vata shaman</i> (balance <i>Vata</i> ), <i>Dinamcharya sahayak</i> (support daily activity)
Alokik Shakti Tablets	<b>Kesar</b> ( <i>Crocus sativus</i> ), <b>Loh Bhasam</b> , <b>Shuddh Kuchla</b> , <b>Swarn Makshik Bhasam</b> , <b>Ashwagandha</b> ( <i>Withania somnifera</i> ), <b>Mukta Shukti Bhasam</b> , <b>Shatawari</b> ( <i>Asparagus racemosus</i> ), <b>Shankhpushpi</b> ( <i>Convolvulus prostratus</i> ), <b>Peepal</b> ( <i>Ficus religiosa</i> ), <b>Papita Sat</b> ( <i>Carica papaya</i> ), <b>Tulsi</b> ( <i>Ocimum tenuiflorum</i> ), <b>Pudina</b> ( <i>Mentha</i> ), <b>Lavang</b> ( <i>Syzygium aromaticum</i> ), <b>Dalchini</b> ( <i>Cinnamomum verum</i> ), <b>Kshudra Ela</b> ( <i>Elettaria cardamomum</i> ), <b>Tej Patta</b> ( <i>Cinnamomum tamala</i> ), <b>Shunthi</b> ( <i>Zingiber officinale</i> ), <b>Brihat Ela</b> ( <i>Amomum subulatum</i> ), <b>Haridra</b> ( <i>Curcuma longa</i> ), <b>Ajwain</b> ( <i>Trachyspermum ammi</i> )	Naturally <i>Oja vridhhi</i> (boosts energy), <i>Vyadhi kshamatva vardhan</i> (supports immunity), <i>Agni Deepan</i> (aids digestion) and <i>Medha vardhan</i> (sharpens mental focus)
32 Herbs Tea	<b>Gauzaban</b> ( <i>Borago officinalis</i> ), <b>Kulanjan</b> ( <i>Alpinia galanga</i> ), <b>Brihat Ela</b> ( <i>Amomum subulatum</i> ), <b>Lavang</b> ( <i>Syzygium aromaticum</i> ), <b>Badiyan Khtayi</b> ( <i>Illicium verum</i> ), <b>Banafsha</b> ( <i>Viola odorata</i> ), <b>Jufa</b> ( <i>Hyssopus officinalis</i> ), <b>Ashwagandha</b> ( <i>Withania somnifera</i> ), <b>Yashtimadhu</b> ( <i>Glycyrrhiza glabra</i> ), <b>Punarnava</b> ( <i>Boerhavia diffusa</i> ), <b>Brahmi</b> ( <i>Bacopa monnieri</i> ), <b>Chitrak</b> ( <i>Plumbago zeylanica</i> ), <b>Krishna Marich</b> ( <i>Piper nigrum</i> ), <b>Adoosa</b> ( <i>Justicia adhatoda</i> / <i>Adhatoda vasica</i> ), <b>Saunf</b> ( <i>Foeniculum vulgare</i> ), <b>Shankh Pushpi</b> ( <i>Convolvulus pluricaulis</i> ), <b>Arjun</b> ( <i>Terminalia arjuna</i> ), <b>Tulsi</b> ( <i>Ocimum sanctum</i> ), <b>Motha</b> ( <i>Cyperus rotundus</i> ), <b>Senaye</b> ( <i>Cassia angustifolia</i> ), <b>Shunthi</b> ( <i>Zingiber officinale</i> ), <b>Majeeth</b> ( <i>Rubia cordifolia</i> ), <b>Sarfoka</b> ( <i>Tephrosia purpurea</i> ), <b>Dalchini</b> ( <i>Cinnamomum zeylanicum</i> ), <b>Gulab</b> ( <i>Rosa damascena</i> ), <b>Green Tea</b> ( <i>Camellia sinensis</i> ), <b>Guduchi</b> ( <i>Tinospora cordifolia</i> ), <b>Tej Patta</b> ( <i>Cinnamomum tamala</i> ), <b>Rakt Chandan</b> ( <i>Pterocarpus santalinus</i> ), <b>Shweta Chandan</b> ( <i>Santalum album</i> ) and <b>Pudina</b> ( <i>Mentha spicata</i> )	<i>Ojo Vardhaka</i> (supports natural immunity), <i>Medohara</i> (aids fat loss), <i>Agni Deepan</i> (improves digestion) and <i>Shodhan</i> (promotes detoxification)
Nervine Tonic	<b>Ashwagandha</b> ( <i>Withania somnifera</i> ), <b>Musli</b> ( <i>Chlorophytum borivillianum</i> ), <b>Mejeeth</b> ( <i>Rubia cordifolia</i> ), <b>Haritaki</b> ( <i>Terminalia chebula</i> ), <b>Haridra</b> ( <i>Curcuma longa</i> ), <b>Rasna</b> ( <i>Pluchea lanceolata</i> ), <b>Vidari</b> ( <i>Pueraria tuberosa</i> ), <b>Arjun Chaal</b> ( <i>Terminalia arjuna</i> ), <b>Nagarmotha</b> ( <i>Cyperus rotundus</i> ), <b>Nishoth</b> ( <i>Operculina turpethum</i> ), <b>Sariwa</b> ( <i>Hemidesmus indicus</i> ), <b>Shweta Chandan</b> ( <i>Santalum album</i> ), <b>Rakta Chandan</b> ( <i>Pterocarpus santalinus</i> ), <b>Chitrak mool</b> ( <i>Plumbago zeylanica</i> ), <b>Brahmi</b> ( <i>Bacopa monnieri</i> ), <b>Shatawari</b> ( <i>Asparagus racemosus</i> ), <b>Shunthi</b> ( <i>Zingiber officinale</i> ), <b>Sounf</b> ( <i>Foeniculum vulgare</i> ), <b>Renuka</b> ( <i>Vitex agnus-castus</i> ).	<i>Majja dhatu poshan</i> (supports nerve health), <i>Medha vardhan</i> (enhances focus and memory), <i>Manas shanti</i> (reduces stress), <i>Oja vridhhi</i> (boosts energy), <i>Ama pachana</i> (aids natural detoxification)

## FUTURE RESEARCH ASPECTS

### 1. Rigorous Clinical Trials & Safety Reporting

Future research on *Ayurvedic* management of cervical spondylosis should focus on conducting well-designed randomized controlled trials with proper safety reporting and ethical disclosures to strengthen clinical evidence and ensure treatment reliability.<sup>[34]</sup>

### 2. Personalized *Ayurveda* through Data Analysis

Expanding the statistical analysis of personalized patient data in *Vataja* disorders like *Grivastambha* (cervical spondylosis) can enhance understanding of disease progression and support the development of precision treatment strategies aligned with *Ayurveda*'s individualized approach.<sup>[35]</sup>

### 3. Translational and Reverse Pharmacology Approaches

Promoting the role of *Vaidya* (Scientists) and integrated MD-PhD programs can bridge *Ayurveda* and modern biomedical research by enabling practitioners to conduct evidence-based translational studies and explore *Ayurvedic* formulations through reverse pharmacology.<sup>[36]</sup>

### 4. Integration with Modern Diagnostic Tools and AI

Integrating modern imaging and AI tools, such as deep learning-based MRI analysis, into *Ayurvedic* research could enable objective monitoring of structural changes and help evaluate the impact of *Ayurvedic* therapies on cervical spondylosis over time.<sup>[37]</sup>

### 5. System-based Evidence and Mechanistic Insights: Network Pharmacology

Applying network pharmacology to *Ayurvedic* herbs used in *Vata Vyadhi* can reveal their multi-target neuro-regulatory actions, offering deeper insight into their mechanisms and therapeutic synergy.<sup>[38]</sup>

### 6. Combining Tradition with Modern Practice (AYUSH-Inspired Clinical Integration)

Collaborating with research institutions like AVP Research Foundation can help clinically and biochemically validate traditional *Ayurvedic* therapies—such as *Panchakarma*, *Rasayana*, and *ayurvedic* treatments—for cervical spondylosis through practice-based evidence.<sup>[34]</sup>

## CONCLUSION

This case study of a 51-year-old male suffering from *Grivastambha* (Cervical Spondylosis) due to *Vata Vyadhi* demonstrates the efficacy of a personalized *Ayurvedic* integrative approach, combining *Nidan Parivarjan*, *Ahar-Vihar*, *Shaman*, and *Shodhan Chikitsa* modalities. The targeted *Panchakarma* treatments including *Greeva Basti*, *Abhyanga*, *Shirodhara*, *Patra pottali Pinda Sweda*, and *Matra Basti* effectively pacified aggravated *Vata*, alleviated inflammation, nourished the musculoskeletal and nervous systems, and enhanced joint flexibility.

**Significant symptomatic relief was observed** with marked **reduction in cervical pain, stiffness, and vertigo episodes**, alongside **improvements in neck mobility and overall quality of life**. The use of herbs like *Shunthi* and *Ashwagandha*, possessing potent *Vata-shamaka* and *Rasayana* properties, further supported tissue regeneration, muscle strength, and systemic balance. This case underscores *Ayurveda*'s holistic capacity to address the pathogenesis of *Vata Vyadhi* by correcting *Dosha* imbalance, promoting *Dhatu Samya*, and restoring *Srotoshodhana*, thus offering a promising, non-invasive, and patient-centric therapeutic strategy for managing cervical spondylosis.

## REFERENCE

- McCormack, B. M., & Weinstein, P. R. Cervical spondylosis. An update. western Journal of Medicine, 1996; 165(1-2): 43.
- Lestini, W. F., & Wiesel, S. W. The pathogenesis of cervical spondylosis. Clinical Orthopaedics and Related Research (1976-2007), 1989; 239: 69-93.
- Binder A. I. Cervical spondylosis and neck pain. BMJ (Clinical research ed.), 2007; 334(7592): 527–531. <https://doi.org/10.1136/bmj.39127.608299.80>
- Singh, S., Kumar, D., & Kumar, S. Risk factors in cervical spondylosis. Journal of clinical orthopaedics and trauma, 2014; 5(4): 221-226.
- Ferrara, L. A. The biomechanics of cervical spondylosis. Advances in orthopedics, 2012; 2012(1): 493605.
- Zhang, Q., & Ding, H. Meta-analysis of resting-state fMRI in cervical spondylosis patients using AES-SDM. Frontiers in neurology, 2024; 15: 1439939. <https://doi.org/10.3389/fneur.2024.1439939>
- Cheng, L., Zhang, J., Xi, H., Li, M., Hu, S., Yuan, W., Wang, P., Chen, L., Zhan, L., & Jia, X. Abnormalities of brain structure and function in cervical spondylosis: a multi-modal voxel-based meta-analysis. Frontiers in neuroscience, 2024; 18: 1415411. <https://doi.org/10.3389/fnins.2024.1415411>
- Zhang, Q., Chen, X., He, Z., Wu, L., Wang, K., Sun, J., & Shen, H. Pathology-guided AI system for accurate segmentation and diagnosis of cervical spondylosis. IEEE Journal of Biomedical and Health Informatics, 2025. <https://arxiv.org/abs/2503.06114v2>
- Yeshna, Singh, M., Monika, Kumar, A., Garg, V., & Jhawar, V. Pathophysiology and emerging therapeutic strategies for cervical spondylosis: The role of pro-inflammatory mediators, kinase inhibitors, and Organogel based drug delivery systems. International immunopharmacology, 2025; 151: 114350. <https://doi.org/10.1016/j.intimp.2025.114350>
- Lv, J., Mei, J., Feng, X., Tian, X., & Sun, L. Clinical efficacy and safety of posterior minimally invasive surgery in cervical spondylosis: a systematic review. Journal of orthopaedic surgery and research, 2022; 17(1): 389. <https://doi.org/10.1186/s13018-022-03274-3>
- Ling, J., Thirumavalavan, J., Shin, C., Lee, T. M., Marco, R. A. W., & Hirase, T. Postoperative Rehabilitation to Improve Outcomes After Cervical Spine Fusion for Degenerative Cervical Spondylosis: A Systematic Review. Cureus, 2023; 15(5): e39081. <https://doi.org/10.7759/cureus.39081>
- Chen, Q., Wang, Z., & Zhang, S. Exploring the latest advancements in physical therapy techniques for treating cervical spondylosis patients: A narrative review. Biomolecules & biomedicine, 2023; 23(5): 752–759. <https://doi.org/10.17305/bb.2023.9049>

13. Ren, Z., Cheng, X., Xu, J., Niu, T., & Long, H. Causal associations of cognition, intelligence, education, health and lifestyle factors with cervical spondylosis: A Mendelian randomization study. *Frontiers in Genetics*, 2024; 15. <https://doi.org/10.3389/fgene.2024.1297213>
14. Singh, S. K., & Rajoria, K. *Ayurvedic* management in cervical spondylotic myelopathy. *Journal of Ayurveda and integrative medicine*, 2017; 8(1): 49-53.
15. Gawas, C. P., Pathrikar, A. A., Paradkar, H. S., & Kamat, N. *Ayurvedic* management of cervical spondylosis: a case study. *Int J AYUSH Case Rep.*, 2021; 5(1): 27-33.
16. Mahajan, B., Dhindhime, R., & Kirte, M. *Ayurvedic* Management Of Cervical Spondylosis: A Case Study, 2023.
17. Huskisson, E. C. Measurement of pain. *The lancet*, 1974; 304(7889): 1127-1131.
18. Kumawat, A. R., & Mangal, G. Evaluation of combined efficacy of NirgundiPatraPindaSwedana, GreevaBasti and MatraBasti in the management of cervical spondylosis: A case report. *World Journal of Pharmaceutical Research*, 2019; 8(2): 1253-1264. <https://doi.org/10.20959/wjpr20192-14166>
19. Divya, K., Tripathi, J. S., & Tiwari, S. K. An appraisal of the mechanism of action of shirodhara. *Annals of Ayurvedic Medicine*, 2013; 2(3): 114-117.
20. Gupta, A. K., & Gupta, T. Standard operative procedure and probable mode of action shiropichu. *wjpmr*, 2020; 6: 291-3.
21. Sharma, N., Kumar, A., & Asit, P. Abhyanga: A Conceptual Review. *World J Pharm Res.*, 2015; 4(11).
22. Acharya, M., Chaudhary, G., Richa, & Yadav, P. Alleviating rheumatoid arthritis (Aamvata) through *Ayurvedic* medicine and *Panchakarma*: A case study. *World Journal of Advance Healthcare Research*, 2025; 9(6): 336-345.
23. Hospital & Institute of Integrated Medical Sciences. (HIIMS). What is DIP Diet? How does it help cure kidney disease? HIIMS. <https://hiims.in/blog/dip-diet-for-kidneys/>
24. Asiwali, K., Sharma, M. M., Prakash, V., & Bishnoi, N. Understanding the concept of SandhigataVata through *Samprapti* and Shatkriya Kala. *Journal of Ayurveda and Integrated Medical Sciences*, 2024, December 8; 9(9): 158-161. <https://www.jaims.in/jaims/article/view/3571>
25. Brindha, T. R., Prabhu, K., Jones, S., Janaki, C. S., Sheriff, D., Kumar, H. M., ... & Lakshmi, D. The GC-MS Study of the *Ayurvedic* Formulation "DhanwantharamThailam" Used for Rheumatism. *Journal of Pharmacy and Bioallied Sciences*, 2024; 16(2): S1829-S1832.
26. Sharma, A., Babele, S., Shukla, K., & Mahajan, S. C. Comparative Assessment of Some Physicochemical Properties of Marketed *Ayurvedic Mahanarayan* Massage Oils. *Current Research in Pharmaceutical Sciences*, 2018; 254-257.
27. Mahesh, S. A comprehensive review of *Murivenna*, an *Ayurveda* formulation.
28. Mahata, M., & Biswas, P. Importance of Swedan Therapy And Its Contraindication-A Conceptual Study. *World*, 2024; 3(1).
29. Gupta, S., Sharma, R., & Gupta, A. EFFICACY OF PATRA PINDA SWEDANA IN MANAGING CERVICAL SPONDYLOSIS.
30. Kumar, S., Rampp, T., Kessler, C., Jeitler, M., Dobos, G. J., Lütke, R., ... & Michalsen, A. Effectiveness of *Ayurvedic* massage (sahacharaditaila) in patients with chronic low back pain: a randomized controlled trial. *The Journal of Alternative and Complementary Medicine*, 2017; 23(2): 109-115.
31. Bhola, S., & Rao, M. P. Are Rasapanchaka physical effects or pharmacological effects? A detailed review. *World Journal of Pharmaceutical Research*, 2016; 404-15.
32. Byadgi, P. S., Kanashetti, D. S., Tiwari, R., Maurya, B. N., Rana, M., Dwivedi, V. K., ... & Dwivedi, K. N. Shunthi (*Zingiberofficinale*Rosc.): A miraculous medicinal plant. *Int J Adv Res Med Chem.*, 2021; 3(1): 8-13.
33. Singh, N., Bhalla, M., de Jager, P., & Gilca, M. An overview on ashwagandha: a Rasayana (rejuvenator) of *Ayurveda*. *African journal of traditional, complementary and alternative medicines*, 2011; 8(5S).
34. Ponnaiah, M., Elumalai, R., Muthappan, S., Jaisankar, S., Bagepally, B. S., Sivaprakasam, S., & Parasuraman, G. Adverse events in India's Ayush interventions for cervical and lumbar spondylosis: a systematic review. *European journal of medical research*, 2024; 29(1): 396. <https://doi.org/10.1186/s40001-024-01985-3>
35. Khatri, V., Jani, D., Singh, S., & Tinani, K. *Ayurvedic* insights on linkage between Grivastambha (cervical spondylosis) to patient outcomes: A statistical analysis of personalized data. *International Journal of Ayurveda and Pharma Research*, 2024; 12(11): 29-34. <https://doi.org/10.47070/ijapr.v12i11.3435>
36. Vaidya A. D. An advocacy for Vaidya-Scientists in *Ayurvedic* research. *Journal of Ayurveda and integrative medicine*, 2010; 1(1): 6-8. <https://doi.org/10.4103/0975-9476.59818>
37. Shastri, P., Sonawane, B., Mohan, K., Kumarasami, N., Sripadraj, R., Anandakumar, D., Keerthana, R., Mounigasri, M., Kaviya, S. P., Venkatesh, K. P., Subramanian, B., & Sivasailam, K. AI and deep learning for automated segmentation and quantitative measurement of spinal structures in MRI (Version 3) [Preprint]. *arXiv*, 2025, March 19. <https://doi.org/10.48550/arXiv.2503.11281>
38. Choudhary, N., & Singh, V. Neuromodulators in food ingredients: Insights from network pharmacological evaluation of *Ayurvedic* herbs

[Preprint]. arXiv, 2021, August 22.  
<https://doi.org/10.48550/arXiv.2108.09747>