A Comprehensive Review on Greevastambha with Special Reference to Cervical Spondylosis

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***Abstract*—Greevastambha is one of the Vata-Kaphaja disorders described in Ayurvedic classics, characterized by stiffness and restricted movements of the neck region (Greeva Pradesha). The condition bears a close resemblance to Cervical Spondylosis in modern medical science, a degenerative disease of the cervical spine resulting from age-related changes in the intervertebral discs and vertebrae. The present review aims to correlate the Ayurvedic concept of Greevastambha with the biomedical understanding of cervical spondylosis, highlighting the etiology, pathophysiology, clinical manifestations, and both Ayurvedic and modern therapeutic modalities. Classical references have been compiled from Brihatrayees and Nighantus, while modern data were drawn from peer-reviewed scientific journals. Ayurveda emphasizes the correction of vitiated Vata and Kapha Dosha, enhancement of Srotoshodhana, and nourishment of Mamsa–Asthi–Majja Dhatus through Shamana and Shodhana therapies, such as Abhyanga, Swedana, Nasya, and Greeva Basti. Modern management focuses on analgesics, physiotherapy, and cervical traction. Integrative approaches involving both systems can yield better outcomes. This review concludes that the Ayurvedic understanding of Greevastambha provides a holistic approach to the management of cervical spondylosis by addressing not only symptom relief but also functional restoration and prevention of recurrence.**

***Index Terms*—Greevastambha, Cervical Spondylosis, Vata Vyadhi, Panchakarma, Greeva Basti, Ayurveda, Neck stiffness, Degenerative spine disease**

I. INTRODUCTION

Neck pain and stiffness are among the most prevalent musculoskeletal complaints in both the general and occupational population. In recent decades, due to the widespread use of computers, smartphones, and sedentary work patterns, the incidence of cervical spine disorders has increased significantly. Studies estimate that cervical spondylosis affects nearly 60–80% of adults above 40 years of age, with varying degrees of degenerative changes visible radiographically, even in asymptomatic individuals. While modern medicine attributes the condition to degenerative and mechanical stress of intervertebral discs and facet joints, Ayurveda provides a holistic and functional framework for understanding such disorders under the broad category of Vatavyadhi (neuromusculoskeletal diseases). [1]

In Ayurveda, the term Greevastambha is derived from "Greeva" (neck) and "Stambha" (stiffness or rigidity). The classical Ayurvedic texts — Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya — mention Stambha as a key manifestation of Vata-Kaphaja disorders, where deranged Vata produces rigidity, pain, and loss of function, while Kapha contributes heaviness, obstruction, and stiffness. When these vitiated doshas localize in the Greeva Pradesha, the result is Greevastambha — a clinical entity closely resembling Cervical Spondylosis in modern nosology. [2]

Cervical spondylosis is characterized by degenerative changes in the intervertebral discs, vertebral bodies, and surrounding soft tissues of the cervical spine. These changes cause neck pain, restricted movement, stiffness, and in advanced stages, nerve root compression or spinal cord involvement (radiculopathy or myelopathy). It is a chronic,

progressive condition commonly aggravated by poor posture, repetitive microtrauma, or age-related wear and tear. From an Ayurvedic standpoint, such degenerative pathology aligns with Dhatukshaya (tissue depletion) and Vata Prakopa (Vata aggravation), leading to functional deterioration of the Asthi, Majja, and Mamsa Dhatus.[3]

The modern lifestyle has introduced a new dimension of cervical spine disorders — commonly referred to as "Text Neck Syndrome" — caused by prolonged forward head posture while using mobile devices. This emerging occupational variant has increased the burden of neck stiffness and pain even among young adults and students. Ayurveda's preventive and lifestyle-based concepts, such as Dinacharya (daily regimen), correct posture (Sthira Sukhasana), Vata-pacifying diet, and periodic Snehana–Swedana (oleation and sudation), offer valuable tools for
The Ayurvedic approach to Greevastambha is comprehensive — focusing not only on symptomatic relief but also on addressing the root cause (Hetu), breaking the pathogenesis (Samprapti Vighatana), and restoring tissue balance through Shodhana (bio-purificatory), Shamana (palliative), and Rasayana (rejuvenative) therapies. Procedures such as Abhyanga (oleation), Swedana (fomentation), Nasya (nasal therapy), and Greeva Basti (localized oil pooling) are widely practiced for cervical disorders. These therapies enhance local circulation, reduce muscle stiffness, nourish deep tissues, and pacify aggravated Vata. The internal use of Guggulu, Rasna, Dashamoola, Ashwagandha, Guduchi, and Shallaki further aids anti-inflammatory and analgesic action, as supported by modern pharmacological studies.[5]

In contemporary biomedical care, cervical spondylosis is managed with analgesics, muscle relaxants, physiotherapy, traction, or surgery in severe cases. However, long-term pharmacological therapy may carry adverse effects, and surgical options are limited to advanced neurological involvement. Hence, integrative management combining Ayurveda and modern physiotherapeutic measures can provide synergistic benefit — addressing both structural and functional aspects of the disorder. [6]

Several recent studies (2010–2025) have evaluated the efficacy of Ayurvedic therapies for cervical spondylosis, demonstrating significant improvement in pain intensity (VAS), range of motion (ROM), and neck disability index (NDI) compared with standard conservative care. These studies emphasize that Ayurvedic interventions not only provide symptomatic relief but also promote long-term functional recovery, tissue nourishment, and improved quality of life. [7]

Thus, understanding Greevastambha in the light of cervical spondylosis bridges the gap between traditional wisdom and modern evidence-based medicine. It also underlines the relevance of Ayurveda in addressing the growing burden of lifestyle-induced degenerative spinal disorders. This review aims to compile classical references, recent clinical data, and mechanistic insights to present a comprehensive understanding of Greevastambha and its holistic management.

Aims and Objectives

- To review the classical Ayurvedic concept of Greevastambha.
- To correlate Greevastambha with cervical spondylosis from a modern medical perspective.
- To analyze the etiopathogenesis, clinical features, and management strategies in both systems.
- To suggest integrative approaches for effective management.

II. MATERIALS AND METHODS (REVIEW METHODOLOGY)

Sources of Data:
Primary Ayurvedic sources — Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya, Bhava Prakasha, Madhava Nidana, Chakradatta, and Nighantus.
Secondary sources — Published peer-reviewed journal articles (PubMed, AYUSH Portal, Google Scholar, ResearchGate), dissertations, and clinical trial reports.

III. REVIEW OF LITERATURE

A. Ayurvedic Review [8,9]

Nidāna – Samprāpti – Lakṣaṇa of Greevastambha

S. No.	Category	Description (Ayurvedic Concept)	Modern Correlation / Remarks
1	Nidāna (Etiological Factors)		
	1.1	Ati vyāyāma – excessive exertion or overuse of neck muscles	Repetitive strain, overuse injury
	1.2	Ati sthāna / ati āsana – prolonged standing or sitting in improper posture	Sedentary lifestyle, prolonged computer/mobile use
	1.3	Ativāta sevana – exposure to cold, dry wind	Cold weather aggravating muscle stiffness
	1.4	Rūkṣa–śīta āhāra sevana – intake of dry, cold, non-unctuous food	Poor nutrition, dehydration
	1.5	Vega-dhāraṇa – suppression of natural urges	Nervous system imbalance
	1.6	Abhighāta / injury – trauma to cervical region	Cervical strain, whiplash injury
	1.7	Jara (aging) – natural degeneration of Dhātus	Age-related disc degeneration
2	Doṣa	Vāta-Kapha predominance	Degenerative + inflammatory pathology
3	Dūṣya	Māṃsa, Asthi, Majjā Dhātus	Muscle, bone and marrow (disc) degeneration
4	Srotas involved	Māṃsa-vaha, Asthi-vaha, Majjā-vaha Srotas	Musculoskeletal and nervous pathways
5	Srotoduṣṭi type	Saṅga (obstruction) due to Kapha-Vāta vitiation	Nerve root compression, restricted motion
6	Udbhava Sthāna	Pakvāśaya (seat of Vāta)	Vata imbalance originating from colon
7	Ādhisthāna (Site of manifestation)	Greeva Pradeśa (cervical region)	Cervical spine & paraspinal musculature
8	Rogamārga	Madhyama (involving deeper tissues like Asthi, Majjā)	Deep-seated degenerative condition
9	Samprāpti (Pathogenesis)		
	9.1	Due to Nidānas, Vāta gets vitiated and Kapha obstructs its Gati	Mechanical obstruction to neural & vascular flow
	9.2	Leads to Saṅga & Āvaraṇa of Vāta by Kapha	Compression, inflammation, stiffness
	9.3	Results in Dhātu-Kṣaya of Māṃsa, Asthi, Majjā	Disc & joint degeneration
	9.4	Produces Stambha, Śūla, and Gaurava in Greeva region	Neck pain, stiffness, heaviness
10	Lakṣaṇa (Clinical Features)		
	10.1	Greeva Stambha – stiffness of neck	Reduced cervical motion

	10.2	Greeva Śūla – pain in neck	Axial neck pain
	10.3	Manya-graha – rigidity of neck muscles	Paraspinal spasm
	10.4	Shiro-gaurava – heaviness of head	Muscle tension headache
	10.5	Bhrama – giddiness	Cervical vertigo due to vertebral artery compression
	10.6	Bahuvyāma asamarthata – inability to lift arms freely	Radiculopathy, nerve impingement
11	Upaśaya / Anupaśaya	Relief with Snehana, Swedana, Nasya; aggravation with cold & exertion	Moist heat and oil therapy beneficial; cold exposure worsens symptoms

B. Modern Review

Definition:

Cervical spondylosis is a degenerative condition of the cervical spine involving intervertebral discs, vertebral bodies, ligaments, and facet joints, leading to stiffness, pain, and neurological symptoms. [10]

Etiopathogenesis: [11]

- Age-related degenerative disc dehydration
- Osteophyte formation at vertebral margins
- Ligamentous hypertrophy
- Foraminal narrowing causing nerve root compression

Clinical Features: [12]

- Pain and stiffness in the neck
- Radiation to shoulder or upper limb
- Paresthesia or numbness
- Reduced neck movement
- In advanced cases: radiculopathy or myelopathy

Etiopathogenesis (Comparative Correlation)

Ayurvedic View	Modern Correlation
Vata-Kapha vitiation	Degenerative and inflammatory changes
Srotorodha (obstruction)	Foraminal narrowing and nerve compression
Dhatu Kshaya (Mamsa–Asthi–Majja)	Disc degeneration and osteophyte formation
Rukshata & Stambha	Dryness, stiffness, reduced flexibility
Bhrama and Shiro Gaurava	Vertebrobasilar insufficiency due to cervical compression

Management in Ayurveda [13,14]

1. Nidana Parivarjana (Avoidance of Causative Factors)

Avoid prolonged sitting, cold exposure, improper posture, and suppression of natural urges.

2. Shamana Chikitsa (Palliative Treatment)

Internal Medications:

- Yogaraja Guggulu, Trayodashanga Guggulu, Simhanada Guggulu – Vata-Kapha pacifying.
- Dashamoola Kwatha, Rasna Saptaka Kwatha – anti-inflammatory and analgesic.
- Ashwagandha Churna, Guduchi, Guggulu, Shallaki – Rasayana and anti-inflammatory action.

3. Bahya Chikitsa (External Therapy) [15]

- Abhyanga: With medicated oils like Mahanarayana Taila, Bala Taila, Ksheerabala Taila.
- Swedana: Nadi Sweda or Patrapinda Sweda to reduce stiffness.
- Greeva Basti: Retention of medicated oil (Balashwagandhadi Taila, Karpasastyadi Taila) on cervical region for 30 minutes daily for 7–14 days.
- Nasya: Administration of Anu Taila or Ksheerabala Taila in the nostrils.
- Matra Basti: For chronic cases, to pacify systemic Vata.

4. Shodhana Chikitsa (Purificatory Therapy) [16]

- In chronic cases, Snehana–Swedana followed by Mridu Virechana or Basti therapy is advised.

Modern Management [17]

- Physiotherapy: Neck strengthening exercises, isometric exercises, and traction.
- Medications: NSAIDs, muscle relaxants, vitamin B complex.
- Lifestyle modifications: Ergonomic posture, yoga, regular mild exercise.
- Surgery: Indicated only for progressive neurological deficits or myelopathy.

Recent Research and New Insights (2010–2025)

1. Trends in Clinical Research

Recent years have shown a surge in Ayurvedic clinical trials focusing on degenerative musculoskeletal disorders, especially cervical spondylosis (Manyastambha / Greevastambha). Between 2010 and 2025, over 30 clinical and observational studies have been published in AYU Journal, JAIMS, J-AIM, IJAPR, and other indexed journals. These studies demonstrate statistically significant improvement in neck pain, cervical mobility, and quality of life following Ayurvedic interventions such as Greeva Basti, Nasya, Abhyanga, Patrapinda Swedana, and internal Rasayana therapy. [18]

2. Recent Research Points

Focus Area	Recent Research Findings (2010–2025)	Implications
Ayurvedic Panchakarma efficacy	Randomized trials (2020–2024) show that Greeva Basti with *Ksheerabala Taila* or *Mahanarayana Taila* provides significant relief in pain, stiffness, and restricted movement compared to physiotherapy alone.	Confirms clinical efficacy of localized Snehana–Swedana combination for Vata-Kapha disorders.
Comparative trials	Comparative studies (JAIMS, 2024; AYU, 2023) found that Greeva Basti + Nasya group had faster improvement in cervical disability index (CDI) and neck range of motion than only Greeva Basti.	Multimodal therapy enhances outcomes.
Objective parameter assessment	Recent trials (2021–2025) used goniometric range of motion, NDI (Neck Disability Index), and VAS (Visual Analog Scale) as standardized outcomes.	Shows trend toward evidence-based assessment in Ayurvedic trials.
Imaging correlation studies	MRI-based pilot studies (2022–2024) from Indian integrative medicine institutes reported reduction in disc bulge and inflammation after combined Ayurveda–physiotherapy regimen.	Suggests possible structural improvement, not only symptomatic relief.
Herbal pharmacology	Phytochemical studies identified anti-inflammatory and neuroprotective effects of Guggulu (Commiphora mukul), Shallaki (Boswellia serrata), and Ashwagandha (Withania somnifera).	Provides molecular support for Ayurvedic formulations in cervical spondylosis.
Neurovascular impact	Studies from AYUSH-funded projects (2023–2025) measured blood flow changes in vertebral arteries before and after Greeva Basti via Doppler imaging — showing mild perfusion improvement.	Suggests possible enhancement in cervical microcirculation through local therapy.
Yoga and posture therapy integration	Integrative trials combining Ayurvedic Panchakarma with Yoga neck exercises demonstrated additive benefit in pain and posture correction.	Supports multidisciplinary rehabilitation.
Digital ergonomics in prevention	Recent public health studies (2024–2025) highlight "Text Neck Syndrome" in young adults due to smartphone posture — Ayurveda's preventive regimen (*Vyayama, Dinacharya, Vata-shamana diet*) is highly relevant.	Expands preventive aspect of Ayurveda in cervical health.

3. Emerging Mechanistic Insights [19,20]

Biomechanical correlation:

Abhyanga and Swedana increase local microcirculation, reduce muscular stiffness, and

improve elasticity of fascia — correlating with the modern goal of myofascial release therapy.

Anti-inflammatory pathways:

Guggulu, Shallaki, and Rasna exhibit COX-2 inhibition, TNF-α and IL-6 downregulation, and antioxidant action, reducing inflammation and degenerative changes.

Neuroprotective effect:

Ashwagandha and Bala possess neurotrophic properties that may aid nerve repair and modulate neurotransmitter imbalance (GABAergic support).

Vata–Kapha balancing mechanisms:

Modern interpretation aligns with modulation of neuro-muscular excitability (Vata) and edematous / adhesive pathology (Kapha).

Psychosomatic component:

Chronic cervical pain is linked with anxiety and sleep disorders. Nasya and Abhyanga improve sleep and mental relaxation — reducing sympathetic overdrive associated with cervical myalgia.

Research Gaps and Future Directions

- Need for large multicentric randomized controlled trials (RCTs) to validate efficacy and safety.
- Standardization of Panchakarma parameters — duration, temperature, oil quantity, and procedural steps.
- Biomarker-based studies — to explore inflammatory, oxidative stress, and cartilage turnover markers pre- and post-therapy.
- Integration of imaging endpoints (MRI, Doppler, thermography) in Ayurveda trials.
- Pharmacovigilance and safety monitoring in combined Ayurveda–modern drug use.
- Cost-effectiveness studies comparing Ayurvedic therapy with long-term pharmacotherapy.

IV. DISCUSSION

The present review attempts to correlate Greevastambha, a classical Vata–Kaphaja Vyadhi, with Cervical Spondylosis, a modern degenerative cervical spine disorder. Ayurveda views every disease through a holistic lens — encompassing Dosha, Dhatu, Srotas, and Agni — whereas modern medicine focuses on tissue-level pathology and neuro-musculoskeletal biomechanics. When interpreted together, both systems converge in understanding the multifactorial nature of this disease. [21]

In Greevastambha, the predominance of Vata (responsible for movement and dryness) and Kapha (responsible for heaviness and stability) explains the simultaneous occurrence of pain, stiffness, and restricted mobility. The underlying Srotorodha (channel obstruction) and Dhatu Kshaya (tissue depletion) correlate well with disc dehydration, osteophyte formation, and nerve compression seen in cervical spondylosis. The Adhishthana (site) being Madhyama Rogamarga (involving deeper tissues) explains the chronic, relapsing, and degenerative nature of the condition. [22]

1. Ayurvedic–Modern Pathophysiological Correlation

Ayurvedic Concept	Modern Equivalent	Functional Interpretation
Vata–Kapha Prakopa	Degenerative + inflammatory changes	Imbalance of lubrication and movement
Srotorodha	Foraminal narrowing, vascular compression	Obstruction of nutrient and nerve flow
Dhatu Kshaya (Asthi, Majja)	Disc & joint degeneration	Structural instability
Rukshata & Stambha	Reduced elasticity, stiffness	Loss of hydration & mobility
Avrita Vata by Kapha	Nerve root compression	Pain and tingling sensation

This correlation establishes that Greevastambha is not merely a symptom complex but a systemic manifestation of functional and structural degeneration driven by Vata vitiation. Ayurveda, therefore, provides a multidimensional strategy — targeting both the local pathology (stiffness and pain) and systemic imbalance (Dhatu Kshaya and Agnimandya). [23]

2. Therapeutic Integration and Mechanistic Understanding [24,25]

Ayurvedic management of Greevastambha involves both Shodhana (bio-purificatory) and Shamana (palliative) approaches. The most effective and widely studied among them are Snehana (oleation), Swedana (fomentation), Nasya (nasal therapy), and Greeva Basti (localized oil pooling). Modern clinical and mechanistic research supports these therapies through several biological explanations:

- Improved microcirculation: Local heat and oil application through Abhyanga and Swedana enhance tissue perfusion and lymphatic drainage, reducing muscular stiffness and ischemia.
- Anti-inflammatory and analgesic effects: Herbal oils such as Mahanarayana Taila, Ksheerabala Taila, and Bala Ashwagandhadi Taila contain phytoconstituents like alkaloids, steroids, and flavonoids, which reduce prostaglandin synthesis and cytokine activity (IL-6, TNF-α).
- Neuro-muscular relaxation: Warm oil acts as a superficial neuromodulator, decreasing local sympathetic tone and improving flexibility.
- Nasya (nasal route): Nasya introduces medicated oil to the nasal mucosa, influencing the Shiras (head and neck region) through olfactory and trigeminal pathways, leading to improved vascular tone, mucosal lubrication, and neurological relaxation.
- Rasayana Chikitsa: Herbs such as Ashwagandha, Guduchi, Guggulu, and Shallaki exhibit antioxidant and anti-aging properties that counteract oxidative stress and cartilage degeneration.
- Integrative modern approach: When Panchakarma procedures are combined with physiotherapy, posture correction, and ergonomic training, outcomes are superior in terms of pain reduction, cervical mobility, and relapse prevention.

Preventive and Lifestyle Dimensions

Ayurveda emphasizes prevention through Nidana Parivarjana (avoidance of causative factors). Improper posture, excessive gadget use, cold exposure, and stress aggravate Vata and Kapha. Corrective measures such as Dinacharya, neck-specific Vyayama, periodic Snehana–Swedana, and maintaining proper ergonomics can prevent recurrence. In today's context of digital lifestyles, this preventive aspect of Ayurveda is extremely relevant for younger populations prone to "Text Neck Syndrome." [26]

V. CONCLUSION

Greevastambha, as described in Ayurvedic classics, is a Vata–Kaphaja disorder primarily affecting the cervical region, characterized by pain, stiffness, and restricted neck movements. Its pathogenesis involves Vata-Kapha vitiation, Srotorodha, and Dhatu Kshaya affecting Mamsa, Asthi, and Majja Dhatus. When correlated with the modern condition of Cervical Spondylosis, both pathologies share remarkable similarities in etiology, progression, and clinical features. The Ayurvedic management of Greevastambha offers a comprehensive and sustainable therapeutic model — targeting root causes rather than merely suppressing symptoms. Snehana, Swedana, Nasya, and Greeva Basti not only provide immediate symptomatic relief but also improve local circulation, muscle tone, and nerve conduction. Internal medicines like Yogaraja Guggulu, Dashamoola Kwatha, Ashwagandha, and Rasna complement external therapies by pacifying aggravated Vata and rejuvenating tissues. Integration of these therapies with modern physiotherapy and yoga results in synergistic benefits, leading to faster recovery, improved functionality, and reduced relapse. Recent research (2010–2025) further supports the clinical efficacy and safety of Ayurvedic interventions in cervical spondylosis. However, the majority of available studies are small and lack standardization; thus, high-quality randomized controlled trials with imaging, biochemical, and functional outcomes are urgently required. Additionally, incorporation of Ayurveda-based preventive measures in modern ergonomic and occupational health frameworks can reduce disease burden at the population level. In summary, the concept of Greevastambha provides a timeless Ayurvedic framework for understanding and managing cervical spondylosis. By addressing the root pathophysiology, restoring tissue balance, and emphasizing preventive lifestyle measures, Ayurveda offers an integrative, patient-centered, and cost-effective approach to one of the most common musculoskeletal disorders of modern life.

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