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Case Study

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A CASE STUDY ON THE EFFECTIVENESS OF *AGNIKARMA* IN THE MANAGEMENT OF *KATISANDIGATA VATA* (LUMBAR SPONDYLOSIS)

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ABSTRACT

Lumbar Spondylosis, a degenerative disorder of the lumbar spine, is a common condition characterized by chronic lower back pain, which may radiate to the hips or lower limbs, often accompanied by stiffness and reduced mobility. Although primarily associated with aging, its incidence is increasingly seen in younger and middle-aged populations due to sedentary lifestyles, prolonged sitting, poor posture, excessive smoking, improper dietary habits, and genetic factors.[1] In Ayurvedic literature, Lumbar Spondylosis does not correspond directly to a single disease entity but shares clinical similarities with conditions like *Kati Shoola*, *Trika Sandhigata Vata*, and *Trika Shoola*. This review attempts to correlate Lumbar Spondylosis with *Trika Sandhigata Vata*, as described in classical Ayurvedic texts. The hallmark symptoms of *Ruka* (pain) and *Stambha* (stiffness) are well documented in these traditional sources. Conventional modern treatments—such as non-steroidal anti-inflammatory drugs (NSAIDs), muscle relaxants, corticosteroids, and surgical interventions—often provide only temporary symptomatic relief without addressing the root cause. In contrast, Ayurvedic management offers a holistic and individualized approach. Therapeutic modalities like *Abhyanga* (medicated oil massage), *Ruksha Swedana* (dry fomentation), *Patra Pinda Swedana* (leaf bundle fomentation), *Kati Basti* (localized oil retention), *Mridu Shodhana* (mild purgation), *Basti Karma* (medicated enemas), and *Nasya* (nasal therapy) are found to be effective in alleviating symptoms and improving the patient's overall quality of life. This integrative approach not only aims at symptom relief but also focuses on restoring functional ability and preventing recurrence.

KEYWORDS:

INTRODUCTION

Lumbar Spondylosis is a degenerative disorder affecting the lumbar spine, commonly associated with lower back pain, stiffness, and radiating discomfort toward the hips or lower limbs. The condition originates from intervertebral disc degeneration, leading to narrowing of disc spaces and compression of associated spinal nerves. Symptoms typically include pain, numbness, tingling sensations, and reduced mobility in the lower back and legs.[2][3][4]

The prevalence of lumbar spondylosis is approximately 13% in individuals during their third decade of life, increasing to nearly 85% by the age of 70 years in both men and women. It ranges from 15% in the fourth decade to 80% in those above 60 years of age. The highest incidence is observed in the age group of 45 to 65 years. This correlates with the *Madhyama* to *Vardhakya Avastha* (middle to old age), a period commonly associated with the natural predominance of *Vata Dosha*, thereby increasing susceptibility to *Vata Vyadhi* such as *Katigata Vata* (lumbar spondylosis).[5]

In Ayurveda, this condition closely resembles *Trika Sandhigata Vata* or *Kati Shoola*, as mentioned in classical texts. *Acharya Sushruta* has described such disorders arising due to factors like *Diwaswapna* (daytime sleep), improper sitting or lying posture, lifting heavy loads, and prolonged strain on the lower back, which aggravate *Vata* and *Kapha doshas*. These pathological factors lead to *Srotorodha* (obstruction of bodily channels) and *Dhatukshaya* (tissue depletion), resulting in pain and functional impairment.

Modern medical approaches—such as the use of analgesics, NSAIDs, physiotherapy, or surgical interventions—often provide only temporary symptomatic relief and do not offer long-term solutions or address the root cause of degeneration.[6]

In Ayurvedic practice, lumbar spondylosis is considered a manifestation of *Vata Vyadhi*, particularly associated with *Sandhigata Vata* affecting the lumbar region. Characteristic features include pain during movement, stiffness, difficulty in flexion-extension, and crepitus in

joints—aligning well with the clinical presentation of lumbar degeneration.

Ayurvedic management emphasizes a holistic and individualized approach. Therapies such as *Snehana* (oleation), *Swedana* (fomentation), *Agnikarma* (thermal cauterization), *Viddhakarma* (therapeutic puncturing), and *Panchakarma* procedures are recommended.[7] Among these, *Agnikarma* is particularly effective due to its *Ushna* (hot), *Sukshma* (penetrative), and *Ashukari* (quick-acting) properties, which help in pacifying *Vata-Kapha doshas* and clearing obstructed channels. Additionally, *Snehana*, through its *Snigdha* (unctuous), *Guru* (heavy), and *Ushna* properties, nourishes the tissues and mitigates *Vata* aggravation, promoting strength and flexibility in the lumbar region.

PATIENT INFORMATION

CASE REPORT: A 50-year-old male patient reported to the outpatient department for the management of Lumbar Spondylosis, presenting with complaints of.

- Pain and stiffness in the lower back region
- Radiating pain toward the right lower limb
- Tingling sensation in the leg, Pain While Walking
- Difficulty in bending, standing for long durations, and performing routine activities

These symptoms had been progressively worsening over the past 6 months. The condition was assessed both before and after treatment. The treatment protocol was followed for a period of 15 days.

Patients with a history of chronic illnesses such as diabetes mellitus, hypertension, chronic renal failure (CRF), cardiac conditions, or respiratory disorders were excluded from the study.

HISTORY OF PAST ILLNESS

- No history of hypertension, diabetes mellitus, tuberculosis, or any other major systemic illness.
- No hereditary, congenital, or surgical illnesses were noted.

PERSONAL HISTORY

1. Diet: Mixed
2. Appetite: Regular
3. Bowel Movements: Once daily, normal
4. Micturition: 4–5 times/day, normal
5. Sleep: Disturbed

Examination of the Patient

General Examination

- General Condition (GC): Fair
- Pallor: Absent
- Icterus: Absent
- Lymphadenopathy: Absent
- Cyanosis: Absent
- Clubbing: Absent
- Edema: Absent

Vital Signs

- Blood Pressure (BP): 110/70 mmHg
- Pulse: 82 bpm, Regular
- Temperature: Afebrile (97.4°F)
- Respiratory Rate: 22/min

Systemic Examination

- Respiratory System (RS): AEBE clear
- Cardiovascular System (CVS): S1, S2 heard, no murmurs
- Central Nervous System (CNS): Conscious and well-oriented
- Per Abdomen (P/A): Soft, non-tender, no organomegaly

Local Examination

- **Inspection:** Normal spinal curvature observed; no visible swelling, mass, or deformity in the lumbar region.
- **Palpation:** Tenderness present over the lower lumbar spine.
- **Lumbar Spine Movements:** Painful during flexion, extension, and lateral bending.
- **Neurological Tests**
  - Straight Leg Raise Test (SLR): Positive on the right side, indicating nerve root irritation.
  - Femoral Nerve Stretch Test: Negative
  - Lasegue's Sign: Present
  - Reflexes: Normal
  - Motor and Sensory Function: Mild paresthesia noted in the right lower limb; motor strength preserved.

Investigations

- **X-ray Lumbar Spine:** Shows marginal osteophyte formation with reduced intervertebral disc space at L4-L5 level.
- **MRI Lumbar Spine:** Reveals mild posterior disc bulge at L4-L5 and L5-S1 levels with indentation over the thecal sac, without significant nerve root compression.
- **Routine Blood Investigations:** Within normal limits

Diagnosis

Based on clinical presentation and imaging findings, the patient was diagnosed with Lumbar Spondylosis due to degenerative changes in the lumbar spine.

TREATMENT PROTOCOL

Agnikarma Chikitsa and Kati Basti

a) *Agnikarma Chikitsa*

1. *Purva Karma* (Pre-procedure)

- The patient was appropriately assessed and counselled regarding the procedure.
- Written informed consent was obtained prior to the initiation of therapy.
- All routine investigations were found within normal limits.

- The patient was placed in a prone position for comfort, and the most tender and painful lumbar area was identified and marked.
- The *Panchadhatu Shalaka* (multi-metallic cauterizing probe) and other necessary instruments were prepared.
- The site was thoroughly cleaned with distilled water and dried prior to thermal application.

2. *Pradhana Karma* (Main Procedure)

- The *Agnikarma* procedure was performed by gently placing the heated *Panchadhatu Shalaka* on the marked tender lumbar area.
- *Bindi* (dot)-type *Agnikarma* burns were created by maintaining contact for 10 seconds per point.
- Adequate spacing was maintained between successive *Samyak Dagdha Vranas* (therapeutic burn points).
- The procedure was continued until the signs of *Samyak Twak Dagdha Lakshana* (ideal thermal effect without blistering or scarring) appeared.
- An assistant was present to hold and comfort the patient during the process.

3. *Paschat Karma* (Post-procedure Care)

- Immediately after the procedure, a combination of *Ghrita* (medicated ghee), *Madhu* (honey), *Gritkumari* pulp (Aloe vera), and *Haridra* (turmeric powder) was applied to the treated site to relieve pain and promote healing.
- For the next 3–4 days, the patient was advised to apply coconut oil and aloe vera gel 2–3 times daily to aid healing and prevent scarring.
- Dietary and lifestyle guidance was provided with an emphasis on a *Vata*-pacifying diet, proper rest, and avoidance of heavy physical activity or improper posture.

Local Therapies

Agnikarma Chikitsa

Two sittings of *Agnikarma* were administered over a 15-day period at the most tender points in the lumbar region, as detailed previously. The procedure resulted in significant pain reduction without any post-procedure scarring, indicating *Samyak Dagdha Vrana Rahit Agnikarma*.

b) *Kati Basti*

As a local supportive therapy, *Kati Basti* was performed using *Sahacharadi Taila*, a classical *Vata*-pacifying oil widely indicated in *Vata Vyadhi* (neuromuscular and degenerative disorders).

The term *Kati* refers to the lumbar region, and *Basti* means container or retention. In this therapy, warm medicated oil is retained within a specially formed boundary (made of black gram dough) placed over the lumbar area. The procedure simultaneously provides *Snehana* (oleation) and *Swedana* (sudation) to the affected site, helping in the pacification of aggravated *Vata Dosha*, relieving stiffness, and improving local circulation.

Procedure Duration

- *Kati Basti* was carried out daily for 15 consecutive days, in conjunction with *Agnikarma* therapy.

This combination of *Agnikarma* and *Kati Basti* offered synergistic benefits, leading to notable relief in pain, stiffness, and radiating symptoms associated with Lumbar Spondylosis.

Palliative Treatment

As an internal supportive treatment, the patient was administered:

- *Panchatikta Ghrita Guggulu* – 250 mg
- Dosage: 2 tablets, twice daily with lukewarm water, after meals
- Duration: 30 days

This formulation is well-documented in *Ayurvedic* classics for managing *Vata-Kaphaja* disorders and degenerative conditions like Lumbar Spondylosis, owing to its *Shothahara* (anti-inflammatory), *Vatahara*, and *Rasayana* (rejuvenative) properties.

Assessment Criteria and Observations

Table 1 below outlines the clinical parameters and grading system used to assess the severity and improvement of symptoms associated with Lumbar Spondylosis before and after treatment.

Table 1: Grading Parameters Used for Clinical Assessment.

Parameter	Grade 0	Grade 1	Grade 2	Grade 3
Pain (VAS Scale)	No pain	Mild (1–3)	Moderate (4–7)	Severe (8–10)
Stiffness	No stiffness	Occasional (<30 min)	Present after prolonged sitting/walking (≈30 min)	Persistent throughout the day and night
Flexion	Rarely restricted	Occasionally restricted	Frequently restricted	Almost constantly restricted
Extension	Rarely restricted	Occasionally restricted	Frequently restricted	Almost constantly restricted
Lateral Movement	Rarely restricted	Occasionally restricted	Frequently restricted	Almost constantly restricted
Tingling/Numbness	Absent	Occasionally	Lasting up to 1 hour	Lasting up to 2 hours

		present		
Pain During Walking	Occasional pain	Moderate pain while walking	Severe pain with difficulty walking	—

These criteria were used for baseline assessment, followed by post-treatment evaluation, to monitor the efficacy of the treatment protocol which included *Agnikarma, Kati Basti, and Panchatikta Ghrita Guggulu.*

OBSERVATION

Assessment of the Overall Effect of Therapy

The patient underwent a structured treatment protocol for Lumbar Spondylosis, which included Agnikarma, Kati Basti, and Panchatikta Ghrita Guggulu. Clinical parameters were evaluated at regular intervals to monitor progress. The observations recorded on Day 1, Day 7, Day 15, and Day 30 are presented below.

Table 2: Effect of Therapy on Symptoms.

Symptoms	Day 1	Day 7	Day 15	Day 30
Lumbar Stiffness	3	2	2	1
Flexion of Spine	3	2	2	1
Extension of Spine	3	2	2	1
Lateral Movement	3	2	2	1
Tingling Sensation	2	1	1	1
Pain While Walking	3	2	1	0

The observations clearly indicate a progressive improvement in all clinical symptoms associated with Lumbar Spondylosis over the 30-day treatment period. Notably, the pain while walking and tingling sensation showed marked reduction by Day 15 and were nearly absent by Day 30.

RESULT

Based on the prognosis and clinical observation, it was noted that the symptom *"pain while walking"*, which was graded as Grade III on Day 1 (initial assessment), showed significant improvement to Grade I (mild) by Day 15 and achieved complete relief by Day 30.

Similarly, tingling sensation, initially graded as Grade II, reduced to Grade I by the end of the treatment period.

Other parameters, such as stiffness and limitations in spinal movements—including flexion, extension, and lateral movements—which were initially noted as Grade III (severe) on Day 1, improved to Grade II (moderate) by Day 15 and further to Grade I (mild) by Day 30.

These results suggest that the combined approach of *Agnikarma* therapy and *Shamana Chikitsa* (oral palliative therapy with *Panchatikta Ghrita Guggulu*) was effective in the management of *Katigata Vata*, with specific reference to Lumbar Spondylosis.

DISCUSSION

In the present single-case clinical study, a patient presenting with lower back pain, severe stiffness, restricted lateral spinal movement, and difficulty in walking was clinically diagnosed with *Katigata Vata* (Lumbar Spondylosis), based on classical *Ayurvedic* and modern diagnostic parameters.

Modern medicine offers treatment options such as NSAIDs, steroids, and surgical interventions, which may provide only temporary symptomatic relief and are often associated with side effects or incomplete resolution.

In this study, an integrated *Ayurvedic* approach was adopted. The patient received.

- *Agnikarma* therapy using a modified *Agnikarma* device, administered twice at 15-day intervals
- Oral administration of *Panchatikta Ghrita Guggulu*, 250 mg, two tablets twice daily for 30 days

This treatment protocol proved effective in reducing symptoms such as pain while walking, tingling sensation, local tenderness, stiffness, and restricted spinal mobility associated with Lumbar Spondylosis.

Probable Mode of Action of *Agnikarma Chikitsa* in Lumbar Spondylosis

The mechanism of action of *Agnikarma Chikitsa* in the management of Lumbar Spondylosis can be understood through both Ayurvedic principles and modern neurophysiological perspectives.

From a neurophysiological standpoint, the afferent spinothalamic tracts play a key role in transmitting pain, pressure, and temperature sensations. The lateral spinothalamic tract, comprising Aδ and C fibers, conducts pain and temperature signals, while the ventral spinothalamic tract conveys pressure stimuli, mediated by Ruffini endings.

When therapeutic heat is applied through *Agnikarma*, it elevates the perception of temperature and pressure at the targeted site. According to the gate control theory of pain modulation, this increased sensory input inhibits the conduction of pain signals to the brain, thereby

producing analgesic effects. This provides a scientific rationale for the pain-relieving action of *Agnikarma*.

Additionally, the counter-irritation mechanism is likely involved. The localized application of heat causes mild irritation of superficial sensory nerve endings, which paradoxically results in decreased pain perception—a phenomenon widely acknowledged in both traditional and modern pain therapies.

Another important hypothesis suggests that chronic pain in degenerative conditions like Lumbar Spondylosis may be due to the accumulation of metabolic waste products in local tissues caused by impaired circulation. The thermogenic action of *Agnikarma* induces vasodilation, enhancing local blood flow, facilitating the clearance of inflammatory mediators and waste products, and promoting tissue repair.

Moreover, the heat-induced muscle relaxation contributes to relief from stiffness and spasms commonly seen in *Katigata Vata*, further improving mobility and function in the lumbar spine.

Thus, *Agnikarma* not only offers symptomatic relief but also addresses the root pathophysiology through multiple synergistic mechanisms, making it an effective intervention for Lumbar Spondylosis within the framework of *Ayurveda* and integrative medicine.[10,11]

Pharmacological Basis of *Panchatikta Ghrita Guggulu*

The formulation *Panchatikta Ghrita Guggulu* is composed of herbs predominantly possessing *Tikta Rasa* (bitter taste), which are rich in the *Vayu* and *Akasha Mahabhutas*. Due to this elemental predominance, these herbs exhibit a natural affinity (*Satmya*) toward *Asthi Dhatu* (bone tissue), which is primarily affected in degenerative conditions such as Lumbar Spondylosis (*Katigata Vata*).[12][13]

The *Tikta Rasa* components in this formulation exhibit *adaptogenic*, *Vatashamaka* (Vata-pacifying), and *Rasayana* (rejuvenative) properties. These attributes make the formulation highly effective in promoting *Dhatu Pushti* (tissue nourishment) and enhancing *Dhatwagni* (tissue metabolism).

Furthermore, *Panchatikta Ghrita Guggulu* exerts the following actions.

- *Pachana Karma* – Enhances digestion and metabolism
- *Srotoshodhana* – Clears obstructed channels (*Srotorodha*)
- *Vataghna* and *Shoolaghna* – Alleviates *Vata*-induced pain and inflammation

It has demonstrated clinical efficacy in both primary types of *Katigata Vata*:

- *Dhatukshayajanya* – Degeneration due to tissue depletion
- *Margavarodhajanya* – Degeneration due to obstruction and vitiated *Vata*

Thus, *Panchatikta Ghrita Guggulu* plays a dual role—offering both pathogenesis reversal and symptomatic relief in the management of Lumbar Spondylosis.

CONCLUSION

The integrated *Ayurvedic* treatment approach, combining *Agnikarma* therapy with the internal administration of *Panchatikta Ghrita Guggulu*, demonstrated clinically significant outcomes in the management of Lumbar Spondylosis (*Katigata Vata*).

Key observations included.

- Mild relief in stiffness
- Moderate improvement in lower back pain and spinal flexibility
- Marked improvement in lumbar movements and overall mobility

The patient's symptoms—including pain, stiffness, and restricted spinal motion—were effectively managed through this individualized *Ayurvedic* regimen.

Given the favorable results in this single-case observation, the combined therapeutic strategy of *Agnikarma* and *Shamana Chikitsa* (oral palliative treatment) may be considered a safe and effective modality for managing Lumbar Spondylosis. However, to validate these findings and establish broader clinical applicability, further research involving a larger sample size and extended follow-up duration is strongly recommended.

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