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Case study

AYURVEDIC MANAGEMENT OF *KATISHOOL* W.S.R. IN LUMBAR SPONDYLOSIS

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ABSTRACT

Spondylosis refers to degenerative changes in the spine, including the formation of bone spurs and degeneration of intervertebral discs. In Ayurvedic medicine, this condition is comparable to *Kati Shool,* which is characterized by pain in the lower back (*Kati Pradeshe Vedana)*, restricted mobility (*Kriya Sannirodha)*, and difficulty in ambulation *(Gamane Ashaktih)*. **Aim and Objective:** This study aims to evaluate the efficacy of Ayurvedic approaches in managing *Kati Shool.* **Methodology:** A 56-year-old male patient presented to the *Panchakarma* outpatient department at the National Institute of Ayurveda, Jaipur, with complaints of lower back pain radiating to the left thigh and leg, persisting for one year. The patient also reported lower back stiffness, numbness, and tingling sensations in both legs over the past ten months. A clinical diagnosis of lumbar spondylosis was established. The patient underwent *Shaman Chikitsa* for duration of six months, which included a *Panchakarma* protocol comprising and *Kala Basti* (*Panchtikta Kshir Basti*) for 16 days. **Results:** Significant improvement was observed in the classical signs and symptoms associated with *Kati Shool*. **Discussion and Conclusion:** The combination of *Panchtikta Kshir Basti* and *Patra Pinda Swedana*, along with appropriate internal medications, demonstrates potential as an effective treatment for *Kati Shool* in relation to lumbar spondylosis.

INTRODUCTION

Spondylosis is derived from the Greek term "spondylo," meaning spine, and "lysis," meaning to dissolve. Lumbar spondylosis refers to a defect or abnormality in the pars interarticularis of the vertebrae. Notably, the presence of a lumbar pars interarticularis defect is unique to humans, distinguishing this condition in human anatomy from that of other species.[1-3] Lumbar spondylosis encompasses degenerative disc disease and osteoarthritic changes within the lumbar spine. Pain radiating along the distribution of lumbar or sacral roots (sciatica) is typically attributed to disc protrusion; however, it may also be indicative of other rare but significant conditions, such as spinal tumors, malignant diseases in the pelvic region, or tuberculosis of the vertebral bodies. Acute lumbar disc herniation is frequently precipitated by trauma, particularly during activities that involve lifting heavy weights with a fixed spine. Additionally, genetic predispositions may play a role in the development of this condition. The nucleus pulpous can bulge or rupture through spinal ligaments, leading to alterations in the vertebral joints and potential compression of nerve roots.[4] Spondylosis is a broad term that refers to the degeneration of the spinal column resulting from various etiological factors. It encompasses a range of degenerative changes affecting the vertebrae, intervertebral discs, and surrounding structures.[5] In a more specific context, spondylosis pertains to spinal osteoarthritis, which is characterized by age-related wear and tear of the spinal column. This condition is the most prevalent cause of spondylosis. The degenerative process associated with osteoarthritis primarily impacts the vertebral bodies, neural foramina, and facet joints, leading to structural and functional changes in the spinal architecture.[6] Although lumbar spondylosis may be asymptomatic, magnetic resonance imaging

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(MRI) of the lumbar spine often reveals significant concentric bulging of the L3 and L4-5 intervertebral discs, along with mild thickening of the ligamentum flavum and early signs of facet arthropathy.[7] Approximately 28% of patients present with spinal disorders, while low back pain is a prevalent condition, affecting 80-90% of individuals at some point in their lives. The incidence of low back pain is notably higher among individuals aged 30 to 50 years.[8] Degenerative lumbar spondylolisthesis can be classified within several conditions in Ayurveda, including *Kati Shula, Kati Graha, Trik Graha, Trika Shoola, Prushta,* and *Grudrasi*. These terms reflect various presentations and underlying mechanisms of the disorder as understood in traditional Ayurvedic medicine.[9] *Vataja* disorders are more prevalent in older age groups. In Ayurveda, it is well established that vitiation of *Vata dosha* leads to symptoms such as *Shula* (pain), *Sopha* (swelling), and *Hantisandhi* (functional impairment). *Acharya Vagbhatta* aptly characterizes *Hantisandhi* as *Akunchana Prasaranajanya Vedanan,* referring to the painful sensations experienced during joint movements.[10] Various etiological factors associated with *Vataja* disorders, such as *Abhighata* (trauma), *Dhatukshaya* (degeneration), *Dukhashayya* (faulty posture), and aging, are documented in Ayurvedic texts. These factors contribute to the development and progression of these disorders, reflecting a comprehensive understanding of their underlying mechanisms.[11] In Ayurveda, several treatment modalities are recommended for the management of *Vataja* disorders. These include *Snehana* (oleation), *Upanaha* (therapeutic poultice), *Agnikarma* (cauterization), *Raktamokhana* (bloodletting), *Panchakarma* (detoxification therapies), and *Bhesaja-chikitsa* (pharmacological treatment). Each of these approaches aims to address the specific imbalances associated with *Vata dosha* and alleviate associated symptoms.

Types of Study: Single observational case without any control group.

Study center: National Institute of Ayurveda Hospital, Jaipur, Rajasthan.

A Case Report

A 56-year-old male patient presented with complaints of lower back pain radiating to the left thigh and leg, which has persisted for one year. Associated symptoms include lower back stiffness, numbness, and tingling sensations in both legs over the past ten months. The patient also reports pain in the cervical region and restricted neck movement. Ten months prior, he was in good health, but his symptoms have gradually worsened. Additionally, he has experienced intermittent pain in the nape of the neck and both hands for the past three months, along with numbness and tingling in the right leg during the same period. The patient has previously received allopathic treatment, including analgesics and anti-inflammatory medications, which provided only temporary relief. He is now experiencing a recurrence of the same complaints.

Personal History

- *Kshudha* - Increased
- *Trishna* - Increased
- *Nidra* - disturbed
- *Mala Pravriti*- constipated
- *Mutra Pravriti* - Increased

General examination

- Build: Moderate
- Nutritional Status: Good
- Temperature: Afebrile
- Blood Pressure: 128/76 mm Hg
- Pulse Rate: 78 beats per minute, regular rhythm
- Respiratory Rate: 18 cycles per minute
- Body Weight: 74 kg
- Skin: Normal
- Hair: Normal
- Eyes: Normal
- Ears: Normal
- Nose: Normal
- Icterus: Absent
- Pallor: Absent
- Cyanosis: Absent
- Lymphadenopathy: Absent
- Edema: Absent

***Dashavidha Pariksha* (Ten-fold examination)**

- *Prakriti:* Predominantly *Vata* and *Pitta* constitution
- *Vikriti:* Current state predominantly *Vata* imbalance
- *Sara:* Medium *(Madhyama)* quality of bodily tissues
- *Samhanana:* Loose *(Avara)* physical structure.
- *Pramana:* Average *(Madhyama)* size or proportion.
- *Satva:* Medium *(Madhyama)* mental quality.
- *Satmya:* Adaptable to all tastes *(Sarvarasa).*
- *Vaya:* Medium *(Madhyama)* age group.
- *Aharashakti:* Medium *(Madhyama)* capacity for digestion and assimilation of food.
- *Vyayama Shakti:* Low *(Avara)* capacity for physical exertion or exercise.

Systemic examination (Musculoskeletal system examination)

Gait - Antalgic gait

Spine Examination

Clinical Examination Findings

- **Inspection**: Normal spinal curvature observed, with an exaggeration of the lumbar curvature (hyperlordosis). No palpable lumps or masses

detected.

- **Palpation**: Tenderness noted at the L3, L4, and L5 vertebral levels, characterized by a positive "Doorbell Sign." Tenderness also observed in the Para spinal muscles, indicating potential muscle strain or spasm.
- **Range of movements**
  - Cervical Region: Pain elicited during both extension and flexion maneuvers.
  - Thoracic Region: Lateral bending does not provoke pain.
  - Lumbo-Sacral Region: Forward bending is associated with pain.
  - Straight Leg Raise (SLR) Test: Positive in both legs
  - Bergard's Test: Positive on the left leg
  - Bowstring Test: Positive on the left leg
  - Compression Test: Positive on the left side
  - Distraction Test: Positive on the left side
  - Thigh Thrust Test: Positive on the left leg

Hematological Investigation

1. Erythrocyte sedimentation rate is 14 mm/hr
2. Urea is 15.8 mg/dl
3. HDL is 40.8mg/dl
4. CRP quantitative - 8.66mg/dl
5. Monocyte -11.4%
6. HbA1c-6.0%

Ashtavidh Pariksha

- *Nadi*: Predominantly *Pitta* and *Kapha*.
- *Mutra*: Increased frequency of urination.
- *Mala:* Constipation, occurring once every two days.
- *Jihva*: Normal appearance
- *Shabda*: Clear (normal) voice quality
- *Sparsha*: Sensation of warmth and coolness (*Shitoshna*)
- *Drika*: Normal vision
- *Akriti*: Medium (*Madhyam*) physical build

Probable Diagnosis

- Modern Diagnosis: Known case of lumbar spondylosis (K/C/O lumbar spondylosis).
- Ayurvedic diagnosis: *Katishool* (lower back pain).

Treatment Protocol

Drug

1. *Ashwghandha churna* (2gm) *+ Shatavari churna* (2gm) *+ Nagaradhya churna* (1gm) *+ Shank bhasma* (500mg) = After meal twice a day
2. Tab. *Yogaraj guggulu* (3 tab before meal) twice a day
3. *Dashmool kwath* - (40ml before meal) twice a day
4. *Mahanarayan tail* for local application

Procedures

1. *Patrapinda swedan* for 16 days
2. *Panchtiktha ksheer basti* with *Baladi kashaya* for 16 days

Criteria for Assessment

- Subjective criteria- Roland-Morris low back pain and disability questionnaire.
- Objective Criteria- Walking time, walking distance, SLR, MRI findings

Clinical Finding

- The impression of MRI LS spine on 1st January 2024, L3-L4 disc show diffuse posterior bulge causing compression over ventral thecal sac, mild narrowing of bilateral recesses and abutment of bilateral traversing nerve roots without spinal canal stenosis. Bilateral mild neural foramina narrowing seen abutting bilateral exiting nerve roots.
- L4-L5 disc show diffuse posterior bulge with left Para central protrusion causing compression over ventral thecal sac, severe narrowing of left and moderate narrowing of right lateral recesses and compressing bilateral (left>right) traversing nerve roots without significant spinal canal stenosis. Bilateral mild neural foramina narrowing seen abutting bilateral exiting nerve roots.

Timeline

Date	Clinical findings	Therapeutic Intervention
Nov. 2023 to January 2024	The patient presents with a primary complaint of lower back pain radiating to the left thigh and leg, persisting for one year. Associated symptoms include lower back pain accompanied by stiffness, as well as numbness and tingling sensations in both legs for the past ten months. Additionally, the patient reports cervical pain and restricted movement over the past three months.	Allopathic medication but mild relief, then he visited OPD of NIA Jaipur
February 2024	The patient presents with a primary complaint of lower back pain radiating to the left thigh and leg, persisting for one year. Associated symptoms include lower back pain accompanied by stiffness, as well as	**1st visit internal medication** 1. *Ashwghandha churna* (2gm) + *Shatavari churna* (2gm) + *Godhanti bhasma* (500mg) = After meal twice a day 2. *Dashmool kwath*- (40ml before meal) twice a day

	numbness and tingling sensations in both legs for the past ten months. Additionally, the patient reports cervical pain and restricted movement over the past three months.	*Ekangveer rasayoga*- 250mg after meal twice a day
March 2024	Complaints as previous	2nd visit continue same medication
April 2024	Mild relief in symptomatically	3rd visit Due to insufficient relief from the medication, the patient was admitted and underwent the procedure In which *Patrapinda Swedan* and *Panchtikta ksheer Basti* were administered.
May 2024	Mild relief in symptomatically along with burning micturition and generalized weakness.	4th visit the medication was changed. 1. *Ashwghandha churna* (2gm) + *Shatavari churna* (2gm) + *Godhanti bhasma* (500mg) = After meal twice a day 2. *Dashmool kwath*- (40ml before meal) twice a day 3. *Ashwghandhavleh*- 10gm after meal twice a day 4. *Chandraprabha vati* 2 tab after meal twice a day
June 2024	Mild relief in symptomatically with subside burning micturation and generalized weakness	5th visit 1. *Ashwghandha churna* (2gm) + *Shatavari churna* (2gm) + *Godhanti bhasma* (500mg) = After meal twice a day 2. *Dashmool kwath*-(40ml before meal) twice a day 3. *Ashwghandhavleh*- 10gm after meal twice a day
July 2024	Mild relief in symptomatically	6th visit the patient was admitted to the *Panchakarma* ward, and *Patrapinda* and *Panchtikta Ksheer Basti* procedures were administered.
August 2024	Symptomatically relief but pain in calf muscle and tingling sensation present	1.7th visit 1. *Ashwghandha churna* (2gm) + *Shatavari churna* (2gm) + *Nagaradhya churna* (1gm) + *Shankha bhasma* (500mg) = After meal twice a day 2.Tab *Yogaraj guggulu* (3 tab before meal) twice a day 3.*Dashmool kwath*- (40ml before meal) twice a day 4.*Mahanarayan tail* for local application
September 2024	Symptomatically relief in tingling sensation	8th visit continue medication
9 October 2024	Completely relief symptomatically	

Diagnostic Assessment

Table 1: Subjective criteria-Roland-Morris low back pain and disability questionnaire

Subjective criteria	Before treatment	After treatment
Roland-Morris low back pain and disability questionnaire	16	4

Table 2: Objective Criteria- Walking time, Walking distance, SLR, MRI Findings

Objective Criteria	Gradation Before treatment	Gradation After treatment
Walking time	Took around 9-10 minutes to walk 100 steps	Took two minute to walk100 steps
Walking distance	Experiencing intense discomfort following ambulation over a distance of 100 meters.	Walk without pain about 500m
SLR	Positive in right leg with 30 degrees	Negative
MRI findings	L3-L4, L4-L5 disc show diffuse posterior bulge with left Para central protrusion	No significant changes

Follow Up and Outcome

The patient was asked to attend follow-up regularly without any relapse for *Sodhan* Therapy. During these visits, the signs and symptoms were assessed, and it was observed that the lumber

spondolysis had significantly improvement by the seven and eight visits.

DISSCUSION

Acharya Charaka described that each and every pain is just because of aggravated or vitiated *Vata dosha*. For this condition *Vata shaman dravya* and procedures were choice of treatment protocol for vitiated *Vata dosha*. Here in this case shaman drugs as well as some *Panchakarma* procedures are also used to treat the disease.

1) *Shamanayoga*

Yogaraj guggulu is very effective in *Vata vyadhi* and *Asthi–majjagat vata roga.* It increases the *Agni* (digestive power) and *Bala* (strength)[12] *Dashmoola kwath* is *Tridoshara* (alleviating all deranged *Doshas*), *Vedanasthapana* (pain killer), and *Shothahar* (subside inflammation)[13]. *Shatavari* is a promoter of the muscle strengths and health[14]. *Ashwagandha* is gives strength to the muscles and ligaments and promotes the health.

Massage with *Mahanarayana* oil is indicated for conditions associated with *Vata vikara* (disorders due to *Vata dosha*), *Raktagata Vata* (disorders involving *Vata dosha* in the blood), *Mansavardhana* (promoting muscle mass and strength), and *Raktapitta* (blood disorders related to coagulopathy). It exhibits *Rasayana* (rejuvenating) and *Brahmana* (anabolic) properties, making it effective in addressing various forms of *Dhatukshya* (tissue degeneration)[15]. It strengthens the muscles, relaxes stiff tissues, and enhances blood flow and metabolic activity.

2) *Panchkarma* procedure

Along with *Shaman Chikitsa, Panchkarma* is also benefited for *Asthigata roga* (treatment of musculo-skeleton disease), *Tikta* (bitter taste herbs) *Sadhita ksheer basti* along with oil and *Ghrita*.[16] According to *Charak*, *Basti* is[17] best *Chikitsa* for *Vata* and half *Chikitsa*. [18] *Arundatta*, a commentator of classics of Ayurvedic text mention that *Tikta ksheera basti,* is the combination of *Snigdha* (unctuous) and *Shoshana* property. It pacifies the vitiated *Vata dosha* and produces the *Khara guna* (roughness property) in *Asthi dhatu* (bone tissue). So *Tikta ksheera basti* promotes *Asthi poshana* (proper osteogenesis and nourishment of bone). [19] *Tikta rasa* (bitter taste) itself work as *Twak mansa shthirikaro* (increase the durability of Muscle and skin) by which it gives strength to muscles and ligaments of neck region.[20]

Ashwagandha and *Bala taila* is used in *basti.* Both are *Balya* (anabolic, provide strength*), Bramhana* (nourishes the bone and muscles) and *Rasayana* (immune-modulator).[21] *Panchtikta ghrita* had been used for its *Tikta rasa* (taste) and useful in *Asthi dhatu chikitsa*. This treatment is suitable for healthy persons, patients, and old age persons.[22] The application of these oils aids in the pacification of *Vata dosha*, promoting the toning and strengthening of the muscles that support the spinal joints.[23]

Patra Pinda Sweda elevates skin temperature, thereby enhancing the transdermal delivery of various drugs by increasing skin permeability, promoting body fluid circulation, improving blood vessel wall permeability, and enhancing drug solubility. External heating dilates the skin and increases penetration pathways, facilitating greater absorption of therapeutic agents.[24]

CONCLUSION

In Ayurveda, Lumber spondolysis can be correlated with *Katishoola*. In the management of lumbar spondylosis involves a combination of therapeutic treatments designed to restore balance to the body and alleviate symptoms associated with the condition. *Panchakarma*, a cornerstone of Ayurvedic detoxification and rejuvenation, includes a series of therapies that can be particularly effective for addressing the underlying *Vata* imbalance that contributes to lumbar spondylosis. Result of this study opens a new door for further more scientific randomize clinical trial on Lumber spondolysis.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given his consent for clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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