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Case Study

AYURVEDIC MANAGEMENT OF LUMBAR RADICULOPATHY WITH ASYMMETRIC PARAPARESIS

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ABSTRACT

Lumbar radiculopathy is a common cause of lower limb pain, sensory disturbances, motor weakness, and functional disability resulting from compression of the lumbar nerve roots. In severe cases, it may present with paraparesis, significantly impairing mobility and quality of life. Although surgical decompression is often recommended, it may not be feasible for all patients because of associated risks, cost, and patient preference. In Ayurveda, the clinical presentation can be correlated with *Gridhrasi, Katigraha*, and *Vatavyadhi* involving *Sira, Snayu,* and *Kandara*. A 35-year-old female presented with low back pain radiating to both lower limbs, numbness, asymmetric paraparesis, gait impairment, and restricted lumbar movements. MRI revealed lumbar disc pathology with nerve root compression, consistent with lumbar radiculopathy. The patient was managed with individualised Ayurvedic treatment comprising internal medications and external therapeutic procedures aimed at *Vatanulomana, Amapachana, Sothahara,* and *Brṃhaṇa.* Following treatment, significant improvement was observed in pain, muscle strength, sensory symptoms, gait, and functional status. Clinical outcome measures, including the Visual Analogue Scale (VAS), Straight Leg Raise Test (SLRT), and Oswestry Disability Index (ODI), showed significant improvement, with sustained clinical benefits observed during follow-up. This case suggests that Ayurvedic management may serve as an effective conservative approach for lumbar radiculopathy with asymmetric paraparesis.

INTRODUCTION

Lumbar radiculopathy is a common musculoskeletal and neurological disorder caused by compression or irritation of one or more lumbosacral nerve roots, presenting with low back pain radiating to the lower limbs, sensory disturbances, motor weakness, and reflex abnormalities, affecting 9.9%–25% of the general population.[1,2] In severe cases, progressive nerve root involvement may result in asymmetric paraparesis, leading to marked gait impairment and functional disability.[3] Although conventional management, including analgesics, physiotherapy, epidural steroid injections, and surgery, provides symptomatic relief, recurrence and persistent neurological deficits remain common, highlighting the need for effective conservative treatment strategies.[1]

Based on its cardinal clinical features, lumbar radiculopathy can be correlated with *Gridhrasi* described in Ayurvedic classics. According to *Acharya Charaka*, *Gridhrasi* is characterised by pain, stiffness, pricking, and pulsatile sensations originating from the *Sphik* (gluteal region) and extending through the waist, back, thigh, lower leg, and foot.[4] Various treatment modalities are explained in Ayurveda, which describes various therapeutic approaches for *Gridhrasi*, including general management of *Vatavyadhi* and disease-specific interventions aimed at correcting *Vata* dysfunction and restoring functional capacity.[5] offering a promising complementary framework for improving quality of life. In this context, the present case report describes a 35-year-old multiparous female with chronic progressive lumbar radiculopathy with bilateral lower limb involvement and significant functional impairment, managed through an Ayurvedic therapeutic protocol.

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Presenting Complaints

A 35-year-old female presented with low back pain radiating to both lower limbs (left more than right), associated with numbness, weakness, and difficulty in walking for 1 year, with worsening weakness over the preceding 6 months. The pain was severe and required support for ambulation. She had a history of a sprain while lifting a heavy weight during the second trimester of her third pregnancy 5 years earlier. Seven months after caesarean delivery, she developed low back pain and gait difficulty, which progressively worsened, particularly with prolonged standing and household activities. Over the past year, the condition progressed with bilateral radicular pain, numbness, weakness, and increasing gait difficulty.

Personal history

Bowel: Irregular, constipated

Appetite: Low

Micturition:4-5 times/day

Sleep: Reduced

Obstetric history

$G_3P_5A_2L_3$

Locomotor System

Short-stepping gait with support. Lumbar flexion and extension were restricted. Left hip, knee, and ankle movements were restricted. Grade II tenderness was present over the lumbar spinous processes and left sacroiliac joint. SLR was not performed on the left due to pain and weakness and was positive at 30° on the right.

CNS Examination

Higher mental functions were intact.

Motor System

Asymmetric paraparesis (Left > Right). Muscle power: left lower limb 3/5, right lower limb 4/5. Hypotonia was present in the left lower limb.

Sensory System

Diminished superficial pain, deep sensation, and proprioception over the left lower limb.

Reflexes

Left knee-jerk and plantar reflex were diminished.

Investigations

ESR -21mm/hr

MRI lumbosacral spine 12/4/2024

Diffuse disc bulges at the L4–L5 and L5–S1 levels, indenting the anterior thecal sac. The L4–L5 disc bulge was associated with narrowing of the bilateral neural foramina. A mild diffuse disc bulge was also noted at the L3–L4 level. Additionally, a small area of marrow oedema was observed in the superior aspect of the right sacral ala.

Samprathighataka

From an Ayurvedic perspective, findings correspond to *Vata-Kaphaja Gridhrasi*

Dosha: Vata- Apana, Vyana, Kapha

Dooshya: Kandara, Sira, Snayu

Agni: Mandhagni

Adhishtana: Kateepradesha;

Rogamarga: Madhyama; Vyadhyavastha- Purana

Internal Medicines

S.No.	Name of medicine	Dose	Time	Duration
1.	*Gandharvahastadi kashyam*	90ml BD	Before food	30 days
2.	*Punarnavadi kashayam*	90ml BD	After food	30 days
3.	*Misraka* Sneham Capsule	2-0-0	After food	30 days
4.	*Chandrapraba Gulika*	1-0-1	With *Gandharvahasthadi kashayam*	30 days
5.	*Avipathy choornam*	5g TDS with honey	After food	30 days
6	*Dhanwantharam* Tab	2-0-2	After food	30 days
7	*Vilwadi Gulika*	1-0-1	After food	30 days

Treatment Procedures

S.No	Treatment procedure	Medicines used	Duration
1.	*Lepanam*	*Jadamayadi+ Chenchyalyam, Chenninayakam, Kathu, Kannaram, Muru, Kunthirikkam + Dhanyamlam*	30 days
2.	*Vasthi*	*Amruthotharam kashyam 60ml + Vaiswanara choornam 10g* *Amruthotharam kashayam 160ml* *Vaiswanara choornam 20g*	20 days
3	Massage	Over lumbar spine and paraspinal muscles	7 days

Discharge Medicines

- *Gandharvahastadi kashyam* 90ml BD
- *Misraka sneham* Cap 2-0-0 With *Kashayam*

- *Punarnavadi ksm* 90ml BD After food
- Tab *Chandraprabha* 2 BD
- *Nimbamritha eranda tailam* Cap 1 bd with *Kashayam*
- *Lepanam* with special *Choornam Kathu, Kannaram, Muru, Chenchellyaam, Chenninayakam, Kunthirikkam* 3 times /day.

OBSERVATION AND RESULT

S.No.	Assessment criteria	Before treatment	After completion treatment Protocol	After a follow-up of 1 month
1.	VAS score	9/10	3/10	2/10
2	SLR degree	20° (left) 60°(right)	40°(left) 70°(right)	60°(left) 90°(right)
3	ODI score- Oswestry Disability Index	42%	18 %	14%
4	MRC Scale	Left 3/5 Right 4/5	Left 4/5 Right 5/5	Left 4/5 Right 5/5

After 30 days of treatment, the patient showed marked clinical improvement, with reduced pain, numbness, and weakness along with significant improvement in gait.

DISCUSSION

Lumbar radiculopathy with asymmetric paraparesis is characterised by nerve root compression, resulting in pain, sensory disturbances, muscle weakness, and functional disability. In Ayurveda, the condition can be correlated with *Gridhrasi*, where *Vata* plays the predominant role, [4] often associated with *Kapha and Ama*.[5] During the initial one week, drugs with *Pachana*, *Deepana,* and *Ama pachana, Sothahara* properties were administered. As inflammation is highly associated with the pathogenesis of disc degeneration, disc prolapse and associated pain mechanism and muscle spasm these medicines were opted.

Vasti is the most important for the management of *Vatavyadhi*. *Amruthotharam Kashayam*, owing to its *Deepana, Pachana, Vata Kapha Shamana, Amapachana*, and *Sothahara* properties, may help reduce *Ama* and inflammation in *Gridhrasi*.[6] It was administered along with *Vaishwanara Choorna*, which possesses *Vatanulomana, Vibandhahara, Shoolahara*, and *Sothahara* actions. Rich in *Katu–Tikta Rasa* and *Katu Vipaka*, the formulation helps correct *Apana Vata* dysfunction, relieve *Srotorodha*, and alleviate pain, numbness, and weakness associated with *Avaranajanya Vata, Kapha*, and *Ama.*[7] Its documented anti-inflammatory, antioxidant, analgesic, and immunomodulatory activities may further contribute to reducing nerve root inflammation and improving functional recovery, with significant reduction in low back pain, radicular symptoms, and sensory disturbances.[8]

Jadamayadi Choorna, along with a specially formulated *Choorna*, was administered for its *Shothahara* effect, which may reduce inflammation and alleviate pain by modulating inflammatory mediators.[9] Infrared therapy and therapeutic massage were administered as adjunctive modalities to improve local circulation, reduce muscle spasm and pain, promote tissue relaxation, and enhance functional mobility

Internal Medication

Gandharvahastadi Kashayam was used as a *Pachana Deepana* therapy. Its *Vatanulomana* and mild *Virechana* actions may help restore *Apana Vata* function, contributing to pain relief and improved functional mobility.[10] *Punarnavadi Kashayam* was administered for its potent *Sothahara* action,[11] helping to reduce inflammatory mediators and oxidative stress, oedema, and inflammation around the affected nerve root.[12] *Chandraprabha Gulika* provided *Tridoshahara, Shothahara,* and *Rasayana* effects, supporting tissue repair and functional recovery.[13] *Dhanwantaram Gulika* was administered specifically during the period of *Vasti*, where its *Vata-hara, Shoolahara*, and *Srotoshodhana* properties supported the action of *Vasti* by relieving pain, stiffness, and neuromuscular involvement during this phase. *Vilwadi Gulika* with honey was also prescribed as an adjuvant to support *Amapachana* and alleviate *Kapha Vata* predominance.[14] *Avipattikara Choorna*[15] and *Misraka Sneham*[16] were administered to achieve *Anulomana* and mild *Virechana*. The *Eranda Taila* present in *Misraka Sneham* provides a mild laxative effect, facilitating *Vatanulomana, Pachana*, *Deepana* and *Srotoshodhana,* thereby helping to restore normal *Apana Vata* function.

Nimbamruthadi Erandam[17] is a classical formulation indicated for *Vata-Kaphaja* disorders such as *Gridhrasi*. Its major ingredients, *Nimba (Azadirachta indica), Guduchi (Tinospora cordifolia),* and *Eranda (Ricinus communis*), through ricinoleic acid, exert anti-inflammatory and *Vatahara* actions and possess anti-inflammatory and analgesic properties.[18]

CONCLUSION

This case suggests that Ayurvedic treatment may be effective in the management of lumbar disc bulge with radiculopathy by reducing pain, improving functional ability, and enhancing mobility. Significant improvement in the degree of SLRT and ODI score, VAS Score, and relief obtained after treatment was sustained during the follow-up period.

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