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Case Report

Ayurvedic Management of Lumbar canal stenosis

Management of Katigraha Through Ayurveda – A Case Report

Swapnil Bhoyar[1], Dr. Sourabh Deshmukh[2], Dr. Trupti Thakre[3] and Utkarsha Khaire[4]

[1] *PG Scholar, Department of Kayachikitsa, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), DMIMSU Wardha*

[2] *Associate Professor and HOD, Department of Kayachikitsa, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), DMIMSU Wardha*

[3] *Assistant Professor, Department of Kaumarbhritya, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), DMIMSU Wardha*

[4] *PG Scholar, Department of Samhita and Siddhant, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), DMIMSU Wardha*

Abstract: The description of Katigraha is not available as a separate entity in the classics. It is described amongst the eighty by *Nanatmaja Vatavyadhi* in the Charak Samhita. *Ayurveda provides a* horizon for such patients with its miraculous treatments of *Panchakarma, Shamana, Rasayana, Agnikarma,* etc. Lumbar canal stenosis is an abnormal narrowing of the spinal canal in the lumbar region, resulting in a neurological deficit that produces symptoms like pain, numbness, paraesthesia, and loss of motor function. Abnormal weight distribution combined with soft tissue laxity and instability over a prolonged period allows for excessive joint play and buckling of the posterior annular fibres of the intervertebral disc (IVD). The main treatment protocol, according to *Ayurveda*, is the use of both purification and palliative treatment. This case report represents a 56-year-old male patient who came to the OPD complaining of pain in his lumbar, hip, and legs; tingling sensation; stiffness; and walking difficulty. At Kati Pradesh, the trauma caused by the fall led to the vitiation of Vata and kha- vaigunya. Additionally, Agnimandya was already there, which caused ama to develop. He was given both *Shodhana* and *Shamana Chikitsa*. There was a significant improvement in the symptoms, and the patient could do his routine work without any support. This case and its results show that this therapy is effective in lumbar canal stenosis and should be done in a large population. Patients with lumbar canal stenosis can be effectively treated with Panchkarma procedures and oral medications without surgical intervention.

Keywords: *Katigraha, SamanyajaVatavyadhi, NanatmajaVatavyadhi*, Lumbar Stenosis, Panchakarama.

***Corresponding Author**

Swapnil Bhoyar , PG Scholar, Department of Kayachikitsa, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), DMIMSU Wardha.

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1. INTRODUCTION

The description of Katigraha is not available as a separate entity in the classics. It is mentioned as one of the *Vatavyadhi* in *Charak Samhita* Eighty-nanatmaja *Vatavyadhi* has been mentioned in *Charak Samhita* [1]. It is derived from two words, *Kati* and *Graha*. It is a condition in which the vitiated *Vata* gets localized in the *Kati Pradesha,* producing pain and stiffness. *Ayurveda* provides a horizon for such patients with its miraculous treatments of *Panchakarma, Shamana, Rasayana, Agnikarma,* etc. *Basti* is the main treatment given for vitiated *Vayu* [2]. Charak has also started using *Ksheera Basti* processed with *Tikta Dravyas* with *Ghrita* for *Asthipradoshaja Vikaras*. In the management of *Asthipradoshaja Vyadhi*, Charak stated *Ksheera Basti* and *Sneha Basti.*[3] *Tikta Rasa* has *Laghu, Ruksha, Vishada,* and *Parusha Guna*. It also has properties like *Deepana*, *Pachana, Lekhana, Stanya Shodhana, and Kleda Meda Vasa Upashoshana* [4]. Lumbar canal stenosis is an abnormal narrowing of the spinal canal in the lumbar region that causes a restriction to the spinal canal, resulting in a neurological deficit producing symptoms like pain, numbness, paraesthesia, and loss of motor function [5]. It is a type of cauda equina compression with a lateral or anterioposterior diameter of the spinal cord narrowing with or without changes in the cross-sectional area. In this condition, the spinal canal is narrowed at the vertebral canal, a foramen between the vertebrae where the spinal cord or nerve root passes through. The prevalence of symptomatic lumbar canal stenosis was 9.3% overall, 10.1% in men, and 8.9% in women [6]. Acquired lumbar canal stenosis occurs due to joint degeneration related to the spinal cord and vertebra. It can occur congenitally or due to the outgrowth of some bones, herniated discs, tumors, thickened ligaments, spinal cord injuries, or arthritis. Hence, causes of lumbar canal stenosis are occupational overuse of joints, metabolic diseases (hyperparathyroidism, ochronosis, hemochromatosis), or neurological disorders (tabs, dorsal, etc.). Obesity is a major risk factor [7]. In modern medicine, the disease is managed by non-steroidal anti-inflammatory drugs, analgesic drugs, physiotherapy, and corticosteroids, but these drugs have many side effects [8]. The present article deals with a case of lumbar stenosis at L2-L3 & L5-S1 with disc bulge and disc protrusion, which was advised for surgery. It can be considered *Katigraha* in Ayurveda, a condition due to deranged *Vata Dosha*. Hence, its management includes *Vatahara* procedures according to Ayurveda like *Abhyanga*, *Kati Basti*, *Shatikshali Pinda Sweda*, *Mustadi Yapana Basti*, etc. As per Ayurveda, *shoola* (pain) occurs due to the vitiation of *Vata Dosha*. *Vata Dosha* is vitiated by *Srotorodha* (obstructions of channels) and *Dhatu Kshaya* (depletion of tissues). In *Kati Shoola, Apana Vata* (a vata located in the low back region) is mainly involved. So, the treatment aims to pacify vitiated *Vata Dosha*, especially *Apana Vata*; trauma due to heavy lifting and age-related degenerative changes may be the etiological factors in this case, causing aggravation of *Vata* at its site, i.e., *Trika* and *Kati Pradesha*. Therefore, these procedures were included with oral medications to pacify the Vata Dosha.

2. MATERIALS AND METHODS

It is a single case study. The patient provided informed consent in his native tongue.

3. CASE REPORT

A 57-year-old male patient was brought to Mahatma Gandhi Ayurved College, Hospital and Research Centre, Salod, presenting with complaints of *Katishoola* (pain in lumbar region), *Kati to Ubhaya Prapada shoola* (radiating pain from lumbar region to both lower limbs), tingling sensation in both lower limbs, stiffness in the lumbar region, *Sakashta Chankramana* (unable to walk) and *Sakashta Utkatasana* (unable to sit). The patient had been suffering from the same complaint for 4 months. But in the last 2 months, the severity of symptoms has increased. All routine hematological investigations were within normal limits. MRI reveals LS Spine suggested lumbar stenosis at L2-L3 & L5-S1 with disc bulge and disc protrusion (Figure 2, 3). All vitals were stable (Table 1).

Table 1: Ayurvedic Examination

Ashtavidha Pariksha	Dashavidha Parishka
Nadi – Vata-pittaj	*Prakriti-Vata Pradhan kaphaj*
Mala – Samyak	*Vikriti- Pittaj*
Mutra – Samyak	*Sara-Rakta, Asthi*
Jivha – Niram	*Samhanan- Madhayam*
Shabda – Spashta	*Pramana- Madhayam*
Sparsha – Anushnasheet	*Satmaya- Katu Rasa*
Druk – No pallor or icterus	*Ahara shakti- Uttam*
Akriti – Madhyam	*Vyayam shakati- Alpa*
	Vaya -Madhayam

Shows the Ayurvedic examination of katigraha by Ashtavidha Pariksha and Dashavidha Pariksha. The patient's prakriti was vatapradhan kaphanubadhi. He used to take more katu rasatmaka Sahara in Sahara, like spicy food. At Kati Pradesh, the trauma caused by the fall led to the vitiation of Vata and kha vaigunya. Additionally, Agnimandya was already there, which caused ama to develop. This was tainted. Due to ama's preexisting effects, vata adopted sthana sandhya in Kati Pradesh, resulting in katigraha. Date of admission: 5/2/2022/; treatment was administered over 8 days.

4. SYSTEMIC EXAMINATION

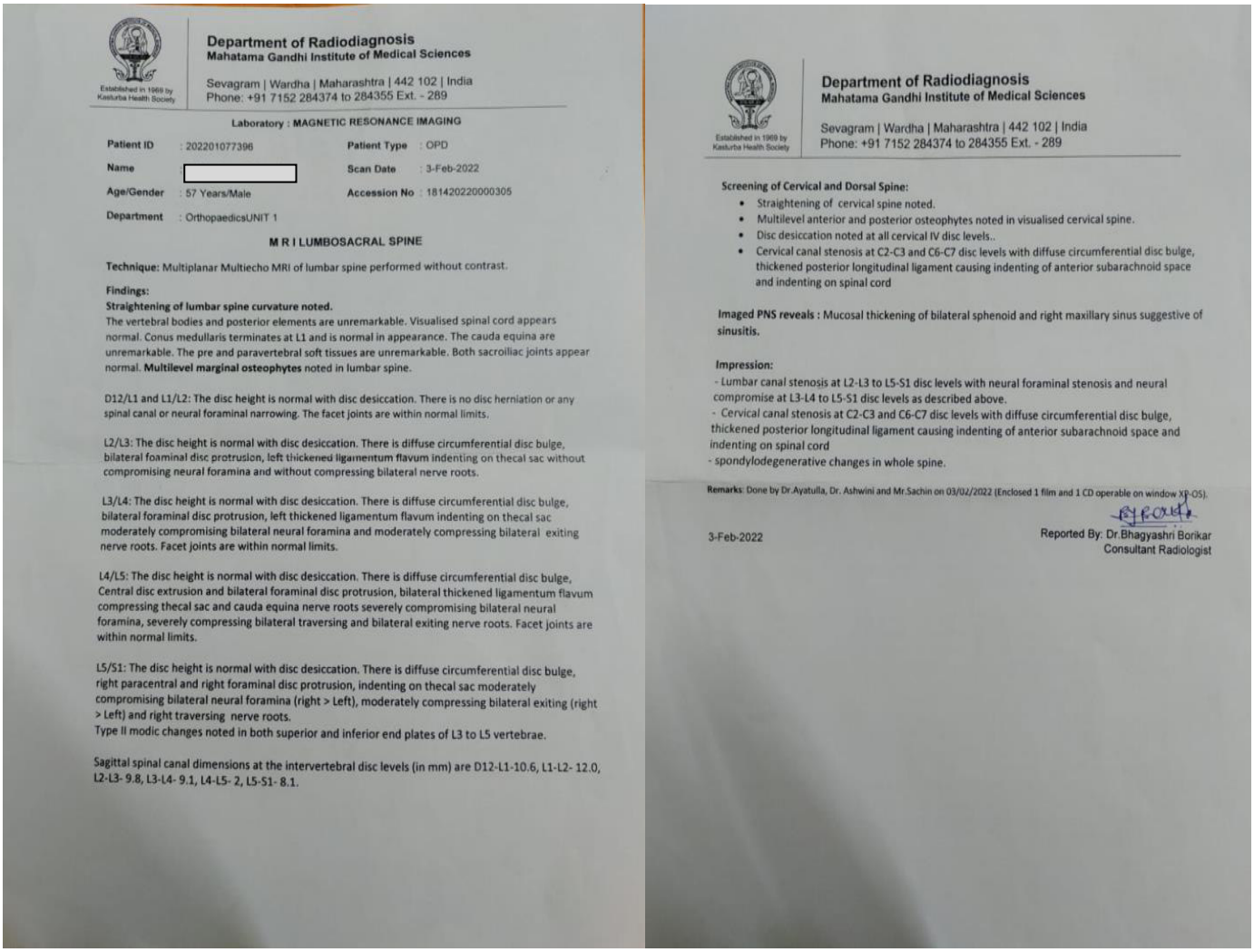
Respiratory System–chest bilaterally symmetrical, no abnormal sounds heard S1S2 Cardiovascular System normal GIT System-Soft, non-tender, non-palpable System Musculoskeletal:

1. Inspection: no scoliosis, lordosis, or kyphosis. No swelling, no scar marks, no color change.
2. Palpation - no tenderness, no local temp. raised
3. ROM of Hip: TABLE-1.1
4. Positive Stoop Test

Table 1.1: ROM of Hip	
HIP ROM	**BEFORE T/t**
Flexion	
Right	20
Left	30
Extension of the hip joint	
Right	0
Left	0
External rotation of the hip joint	
Right	5
Left	10
Internal rotation of the hip Joint	
Right	5
Left	10
SLRT	
Right Leg	15
Left Leg	30
Abduction	
Right	5
Left	10
Adduction	
Right	5
Left	10

Table 1.2. Spine	
Forward flexion of the spine	10
Extension of spine	0
Lateral flexion	
Right	5
Left	5

Fig 1: MRI LS SPINE



Department of Radiodiagnosis
Mahatama Gandhi Institute of Medical Sciences
Sevagram | Wardha | Maharashtra | 442 102 | India
Phone: +91 7152 284374 to 284355 Ext. - 289

Laboratory : MAGNETIC RESONANCE IMAGING

Patient ID : 202201077396 Patient Type : OPD
Name [redacted] Scan Date : 3-Feb-2022
Age/Gender : 57 Years/Male Accession No : 181420220000305
Department : OrthopaedicsUNIT 1

M R I LUMBOSACRAL SPINE

Technique: Multiplanar Multiecho MRI of lumbar spine performed without contrast.

Findings:
Straightening of lumbar spine curvature noted.
The vertebral bodies and posterior elements are unremarkable. Visualised spinal cord appears normal. Conus medullaris terminates at L1 and is normal in appearance. The cauda equina are unremarkable. The pre and paravertebral soft tissues are unremarkable. Both sacroiliac joints appear normal. **Multilevel marginal osteophytes** noted in lumbar spine.

D12/L1 and L1/L2: The disc height is normal with disc desiccation. There is no disc herniation or any spinal canal or neural foraminal narrowing. The facet joints are within normal limits.

L2/L3: The disc height is normal with disc desiccation. There is diffuse circumferential disc bulge, bilateral foaminal disc protrusion, left thickened ligamentum flavum indenting on thecal sac without compromising neural foramina and without compressing bilateral nerve roots.

L3/L4: The disc height is normal with disc desiccation. There is diffuse circumferential disc bulge, bilateral foraminal disc protrusion, left thickened ligamentum flavum indenting on thecal sac moderately compromising bilateral neural foramina and moderately compressing bilateral exiting nerve roots. Facet joints are within normal limits.

L4/L5: The disc height is normal with disc desiccation. There is diffuse circumferential disc bulge, Central disc extrusion and bilateral foraminal disc protrusion, bilateral thickened ligamentum flavum compressing thecal sac and cauda equina nerve roots severely compromising bilateral neural foramina, severely compressing bilateral traversing and bilateral exiting nerve roots. Facet joints are within normal limits.

L5/S1: The disc height is normal with disc desiccation. There is diffuse circumferential disc bulge, right paracentral and right foraminal disc protrusion, indenting on thecal sac moderately compromising bilateral neural foramina (right > Left), moderately compressing bilateral exiting (right > Left) and right traversing nerve roots.
Type II modic changes noted in both superior and inferior end plates of L3 to L5 vertebrae.

Sagittal spinal canal dimensions at the intervertebral disc levels (in mm) are D12-L1-10.6, L1-L2- 12.0, L2-L3- 9.8, L3-L4- 9.1, L4-L5- 2, L5-S1- 8.1.

Department of Radiodiagnosis
Mahatama Gandhi Institute of Medical Sciences
Sevagram | Wardha | Maharashtra | 442 102 | India
Phone: +91 7152 284374 to 284355 Ext. - 289

Screening of Cervical and Dorsal Spine:
- Straightening of cervical spine noted.
- Multilevel anterior and posterior osteophytes noted in visualised cervical spine.
- Disc desiccation noted at all cervical IV disc levels..
- Cervical canal stenosis at C2-C3 and C6-C7 disc levels with diffuse circumferential disc bulge, thickened posterior longitudinal ligament causing indenting of anterior subarachnoid space and indenting on spinal cord

Imaged PNS reveals : Mucosal thickening of bilateral sphenoid and right maxillary sinus suggestive of **sinusitis.**

Impression:
- Lumbar canal stenosis at L2-L3 to L5-S1 disc levels with neural foraminal stenosis and neural compromise at L3-L4 to L5-S1 disc levels as described above.
- Cervical canal stenosis at C2-C3 and C6-C7 disc levels with diffuse circumferential disc bulge, thickened posterior longitudinal ligament causing indenting of anterior subarachnoid space and indenting on spinal cord
- spondylodegenerative changes in whole spine.

Remarks: Done by Dr.Ayatulla, Dr. Ashwini and Mr.Sachin on 03/02/2022 (Enclosed 1 film and 1 CD operable on window XP-OS).

3-Feb-2022

Reported By: Dr.Bhagyashri Borikar
Consultant Radiologist

Fig 2: MRI REPORTS

5. TREATMENT PLAN

The patient was admitted to IPD, and both *Shodhana* (Table 2) and *Shamana Chikitsa* (Table 3) were started.

Table 2: *Shodhana Chikitsa*

Sr.No.	Date	Treatment	Drug	Dose	Duration
1.	5/2/2022 -11/2/2022	*Sarvanga Snehana*	*Ksheerabala taila*	50 ml	7 days
2.	5/2/2022 -11/2/2022	*Sarvanga Swedana*	*Shashtikshali*	Q.S.	7 days
3.	5/2/2022 -11/2/2022	*Kati Basti*	*Dashmoola taila*	Q. S	7 days
4.	5/2/2022 -11/2/2022	*Yoga Basti*	*Ksheerabala taila*	50 ml	3 days
		Anuvasana	*Saindhava*	10 gm	4 days
		Niruha	*Madhu*	40 gm	
		(Ananaha kala)	*Ksheerabala taila*	50 ml	
			Shatpushpa churna	10 gm	
			Bala churna	10 gm	
			Shilajit Vati	10 gm	
			Mustadi kwath	200 ml	
			Mansa rasa	100 ml	

Table 3 – *Shamana Chikitsa*

Sr. No.	Date	Medicine	Dose	Anupama	Duration
1.	5/2/2022 -11/2/2022	Cap. Standard	2 tabs twice a day after meals	Lukewarm water	7 days
2.	5/2/2022 -11/2/2022	Cap. Palsineuron	1 tab thrice a day after meals	Lukewarm water	7 days
3.	5/2/2022 -11/2/2022	Ajamansa Rasayana	2 tsf twice a day before meals	Lukewarm milk	7 days

Lepa with *Dashanga*, *Shunthi*, *Rasna*, and *Agnimantha Kalka* at the site was given for local application.

This (Table 4) shows the before-treatment and after-treatment observations with percentile results.

Table 4 - Observations and Results			
Tests	**Before T/T**	**After T/T**	**Percentile Result**
VAS Score	08	02	60%
SLRT			
Right Leg	15	60	75%
Left Leg	30	80	62.5%
Abduction			
Right	5	20	75%
Left	10	30	66.33%
Adduction			
Right	5	10	50%
Left	10	20	50%
Spine:			
Forward flexion of the spine	10	40	75%
Extension of spine	0	20	20%
Lateral flexion			
Right	5	10	50%
Left	5	15	75%

Table 5- Result before and after treatment			
Hip Rom	**Before T/t**	**After T/t**	
Flexion			
Right	20	80	75%
Left	30	90	66.33%
Extension of the hip joint			
Right	0	10	10%
Left	0	10	10%
External rotation of the hip joint			
Right	5	30	83.34%
Left	10	40	75%
Internal rotation of the hip Joint			
Right	5	20	75%
Left	10	30	66.33%
P Value: < 0.01	n = 1		

The patient is symptomatically improved. The subjective parameters show improvement in the clinical symptoms. There is no deterioration in compression in the lumbar vertebra and the degree of canal stenosis. So, this treatment is helpful in lumbar canal stenosis to prevent further complications in lumbar canal stenosis. And studies will be done on the large population.

6. DISCUSSION

Katigraha may have influenced the patient in the current lumbar spondylosis case because he has a history of trauma from a few years ago. *Snehana* helps to reduce stiffness and improve the movements of the joints. *Ksheerbala Taila* suppresses nerve inflammation due to its *Sheeta* property, promotes nerve regeneration, and strengthens muscles due to its *Balya* and *Brimhana* properties. It helps with the wear and tear of nervous and muscular tissues. *Bala* having *Madhura Rasa* and *Vipaka*, which is *Vata* and *Pitta Shamaka*, gives strength to tissues, is good for sense organs, and pleases the mind. It nourishes the body. It is said to affect all eighty chronic conditions of *Vata* origin [9]. *Shashtikshali Pinda Swedana* was done for 7 days, which reduces pain, and stiffness and improves the movements of the joints. This helps to reduce the pain and stiffness and improve the overall state of being. *Kati Basti* alleviates pain, reduces stiffness, strengthens the back muscles, and nourishes the muscles and nerves.[10] *Dashmoola Taila* is *Madhura, Kashaya Rasa, Guru Guna, Ushna Virya,* and *Katu Vipaki* that pacify the *Tridoshas* [11]. *Basti* is considered the best treatment for managing *Vata*. It is *Vata Shamaka, which* strengthens tissues, rejuvenates health, and prevents any recurrence. This *Sneha Basti* helps to eliminate the vitiation of *Vata*. *Lepa* consisted of drugs like *Dashanga*, *Shunthi*, *Rasna,* and *Agnimantha Kalka*. *Dashanga Lepa* is seen acting topically and reducing the *Shotha*, *Vedana, and Visha Prabhav*. All drugs (like *Shirish*, *Tagara*, *Yashtimadhu*, etc.) except *Raktachandan* in *Dashanga Churna* have *Laghu Guna,* which makes the drugs easy to penetrate the skin and act locally. *Shirisha* has anti-inflammatory, antioxidant properties, anti-allergic activity, and analgesic activity. *Yashtimadhu* has anti-inflammatory and antimicrobial activity and wound and ulcer healing properties. *Raktachandana* contains anti-inflammatory properties. *Ela* has anti-inflammatory, analgesic, and antioxidant properties. *Haridra* has anti-inflammatory, anticarcinogenic, and antimicrobial properties. The absorbent effect of *Kashaya Tikta Rasa* helps in reducing *shotha*. *Rasna* reduces inflammation and joint pain due to its anti-inflammatory and analgesic properties. The *Ushna Virya* of *Agnimantha* pacifies the *Vata Dosha*. In diseases influenced by the aggravation of *Vata* and *Vatakapha*, the utility of *Agnimantha* is beneficial.[12] Cap. Shabdard contains *Shallaki*, *Shunthi*, *Punarnava*, *Nirgundi,* and *Ashwagandha*, which possess analgesic and antiarthritic properties responsible for their analgesic and anti-inflammatory activities. *Nirgundi* has *Shoola* and *Shothahar Prabhava*. *Shunthi* is from *Amapachaka*. *Punarnava* acts as a *Shothahara* and liver protective. It acts as a *Vedanasthapana* due to its *Tikta Rasa, Katu Vipaka,* and *Ushna Virya; the* drug pacifies vitiated *Kapha* and *Vata Dosha*,

resulting in a reduction of *Shotha, Shoola,* and other related symptoms. The pacified *Vata* in the *Sandhi* helps to rearrange *Shleshaka Kapha* and thereby improves the symptoms of the disease. It also reduces the pain and inflammation without affecting the gastric mucosa. Cap. Palsineuron consists of Mahavata Vidhwansak Rasa, which improves metabolic processes in the central nervous system and PNS. It activates the neuromuscular communication.[13] Sameerpannaga Rasa improves tissue oxidation and regulates blood supply in affected areas.[14] Ekangveera Rasa: This medication promotes the healing damaged nerves and blood vessels.[15] Sootshekhara Rasa provides nutritional support for faster healing of damaged organelles. *Lajjalu* has a regenerative effect on neuro-lesions. *Ajamoda* is *Vatahara*, *Shoolahara, and Nidrakaraka*. Ajamamsa Rasayanam is a very famous Ayurvedic medicine mentioned in Sahasrayoga. It is used to treat *Vata* disorders like loss of strength, hemiplegia, etc., and is prepared in ghee and jam form. It helps you gain weight. It is useful to promote bone and joint strength and is an excellent anti-inflammatory and analgesic medicine.[16]

7. CONCLUSION

The Ayurvedic therapeutic principle for Vata is snehan swedana and basti. The overall effect of the therapy above demonstrates that lumbar canal stenosis can be effectively cured with a collaborative approach of various Panchakarma procedures such as Basti, Kati Vasti, and Shamana Chikitsa without causing any adverse events, and it may be an alternative lumbar canal stenosis therapy in the current era. This study focuses solely on the presentation of a particular case. This case and its results show that this therapy is successful in lumbar canal stenosis and should be used in a large population. Katigraha (lumbar canal stenosis) patients can be effectively treated with oral medications and panchakarma therapy.

8. AUTHORS CONTRIBUTION STATEMENT

Swapnil Bhoyar created the notion and theory given. Utkarsha Khaire carried out the calculations. Sourabh Deshmukh and Trupti Thakre confirmed the analytical techniques. Swapnil Bhoyar was encouraged by Sourbh Deshmukh to research [a certain issue], and he oversaw the research's conclusions. Each author contributed to the final manuscript and discussed the findings.

9. PATIENTS CONSENT

Written informed consent was obtained from the patient consents, including her permission to take pictures and use them for publication in the journal.

10. CONFLICT OF INTEREST

Conflict of interest declared none.

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