



MANAGEMENT OF LUMBAR DISC HERNIATION WITH CENTRAL CANAL STENOSIS THROUGH PANCHAKARMA & SHAMANA CHIKITSA- A CASE REPORT

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ABSTRACT:

Background: Lumbar disc herniation with central canal stenosis it can be easily to correlate with *Katigatavata* because of herniation involvement in specific lumber region. It is characterized by pain in the low back, thighs, legs, muscle spasm, abnormal gait. Its prevalence rate is high in people having age between 45-65years. **Aim and Objectives:** This study aimed to assess the efficacy of *Ayurvedic* Management, including *Shodhana* and *Shamana Chikitsa*, in the management of Lumbar disc herniation with central canal stenosis (*Katigatavata*). **Materials and Methods:** A single case study of a 43-years older obese man who has diffused disc bulge with stenosis in (L3-L4, L4-L5, L5-S1). He was presented with pain in the lumbar region, numbness in both legs with their restricted movements for 6 to 7months. He was treated with *Panchakarma* treatment, including *Udvaartana*, *Virechana Karma*, *Local Abhyanga*, *Kati Basti*, *Dashamoola Niruha Basti*, and *Anuvasana Basti*, followed by *Shamana Chikitsa*. The treatment was continued for consecutive 38 days. **Observation & Results:** Symptomatic assessment of the patient was carried out after 38 days. The satisfactory outcome was there. Improvement in symptoms like reduced pain in low back, thighs, legs and improvement in abnormal gait. **Discussion:** This case has successfully managed this condition by utilizing *Panchkarma* procedure & drugs having properties such as *Vatahara*, *Vedanasthapana*, *Shothahara*, *Shoola Prashamana*, *Pustikara*, *Shramahara* which showed promising results. **Conclusion:** The Ayurvedic management particular Panchakarma procedures gives significant relief in the management of Lumbar disc herniation with central canal stenosis (*Katigatavata*). **Keywords:** Lumbar disc herniation with central canal stenosis, *Katigatavata*, *Panchakarma*, *Virechana*, *Shamana Chikitsa*, *Vedanasthapana*, *Shothahara*.

INTRODUCTION:

Lumbar disc herniation is an injury to the intervertebral disc between vertebrae which acts as cushioning. Generally, it is caused due to excessive Lumbosacral strain or trauma to intervertebral joints, ligaments, and muscles by lifting or twisting. The degeneration of the outer ring, i.e., the annulus fibrosus due to an increase in age that results in the tear of the disc (postero-lateral or lateral direction), is the primary causative pathology of the Lumbar disc herniation. This type of pathology releases certain chemicals leading to inflammation, resulting in severe pain even in the absence of nerve root compression. It may generate symptoms such as low back pain, pricking pain in different parts of the body, significantly lower limbs, and physical disability.

One of the most important causes of spinal canal stenosis is disc herniation which is one of the most common and important causes of low back pain in various societies and has a Its prevalence rate is high in people having age between 45-65years¹

The most conclusive diagnostic tool for Lumbar disc herniation with central canal stenosis is an MRI scan that clearly shows soft tissue lesions in discs. Its treatment in contemporary science may vary from painkillers/ Analgesics, NSAID Corticosteroids, Muscle relaxants, Calcium and Vitamin D supplements, Lumbar Belt, Traction, Physiotherapy, and surgery. However, these measures have apparent side effects which limit their use for an extended period.² Further, progressive worsening of symptoms may result in Lumbar Canal Stenosis, which needs surgical intervention like Hemi facetectomy, Microdiscectomy, Laminectomy, Nucleoplasty or Disc excision, etc. risk.³ Therefore, many researchers are searching for alternative preventative and curative measures for the same in *Ayurveda*, i.e., Holistic science.

In Ayurveda, Lumbar disc herniation can be correlated with *Katigatavata* as its symptoms, e.g., radiating pain from Low back, thighs, legs to the buttocks; muscle spasm, weakness, tight hamstring muscles, and irregular gait occurred as a result of degenerative changes in vertebral bodies and associated joints of the lumbar spine also. Some symptoms also mimic the two clinical entities, i.e., *Katigraha & Gridhrasi*, mentioned in some ancient texts. According to ancient *Acharyas*, *Katigatavata* can be very well managed by *Panchakarma*, especially *Basti(Niruha & Anuvasana)*, which is considered superior treatment according to *Charaka*. As vitiated *Vata* in the Lumbar region occurs, it can be well controlled by this therapy administered in *Pakvashaya*.⁴

The present case study shows that the collaborative treatment approach based on *Shodhana & Shaman Chikitsa* in *Ayurveda* is potent in managing lumbar disc herniation with central canal stenosis (*Katigatavata*) without causing any undue effect.

PATIENT INFORMATION:

It is a single Case study having Demographic details mentioned in Table No.1.

CLINICAL PRESENTATION OF THE PATIENT:

The chief & associated complaints of the patients are mentioned in table no.2.

PROGRESSION OF DISEASE:

The patient was apparently well before 6-7months, but the patient was obese and had a history of sudden falls, and the above symptoms developed. He adopted allopathic treatment for the same and got temporary relief. So, he came at Govt. Akhandanand Ayurved Hospital ,Bhadra, Ahmedabad for further treatment.

HISTORY OF THE PATIENT:

The detailed history of the patient is given as follows:

❖ **Family history:** No significant family history was found.

❖ **Past history:** History of fall down before eight months back. No other surgical history related to the disease was obtained.

❖ Personal history:

- **Ahara:** Vegetarian, Daily intake of oily, sweet, and fermented food
- **Vihara:** *Jagrana* (Night awakening), *Atishrama* (excessive exertion)
- **Nidra:** Interrupted sleep at night due to aggravation of the pain Daily habits of *Diwaswapna* just after meal
- **Vyasana:** Nil
- **Vyayam:** yes

CLINICAL EXAMINATIONS

❖ Ayurvedic examinations ;

Ayurvedic examinations of the patient are narrated in table no.3.

• SAMPRAPTI GHATAKA

1. **Dosha** -*Vata and Kapha*
2. **Dushya** -*Majjadhatu, Asthidhatu, Mansadhatu*
3. **Strotas**-*Majjavaha, Asthivaha, Mansavaha*
4. **Udbhavsthan** -*Pakvasahaya*
5. **Adhishthan**- *Sandhi, Asthi*
6. **Vyaktisthan**-*Katisthana*

❖ Modern examinations

✓ Inspection

- No kyphosis or scoliosis, but there was flattening lumbar lordosis
- No other abnormalities, e.g., spina bifida, or scar suggesting any spinal surgery

✓ Palpation

- Mild tenderness between the spines of the lumbar vertebrae, at the lumbosacral junction, and over the lumbar muscles after leaning forward
- Tenderness over the sacroiliac joints was absent
- There was Axial loading as, after application of pressure to the head, there was an aggravation of the back pain after Overlay

Specific Local examinations (Disease-specific examination) are given in Table No.4.

INVESTIGATION:

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RADIOLOGY RESULT

MRN	: 21000104857	Requested Date	: 04-11-2022 16:28
Name	: Dr.DIGVIJAY VAGHELA	Exam Date	: 14-03-2022
Age/Gender	: 44 Y 1 M 17 D/Male	Reported Date	: 14-03-2022 12:22
Department	: RADIOLOGY	Visit ID	:
Requested	:	Patient Type	: Outpatient
		Order number	: OR221-0115473

MRI LUMBER SPINE WITH SI JOINTS

MRI LUMBOSACRAL SPINE

Protocol: Sagittal and Axial T1 and T2 weighted sequences. Coronal STIR sequence.

OBSERVATIONS:

Loss of lumbar lordosis.

Early spondylotic changes are noted in form of anterior and posterior osteophytes formation.

L3-L4 level : Diffuse disc bulge,with posterocentral and right paracentral disc extrusion, ligamentum flavum hypertrophy causing central canal stenosis, bilateral lateral recess stenosis (right > left) causing indentation over right sided intrathecal nerve roots with loss of intraveneing CSF and resultant mild to moderate compression over right traversing nerve roots.

L4-L5 level : Early disc desiccation, diffuse disc bulge,with postero central disc protrusion, ligamentum flavum hypertrophy causing central canal stenosis, bilateral lateral recess stenosis and indentation over anterior thecal sac with resultant mild compression over right traversing nerve root and abutment over left traversing nerve root.

L5-S1 level : Early disc desiccation, diffuse disc bulge, ligamentum flavum hypertrophy causing bilateral lateral recess stenosis and indentation over anterior thecal sac with resultant abutment of bilateral traversing nerve root.

There is no evidence of any pre and paravertebral soft tissue abnormality.

There is no evidence of any abnormal hyperintensity noted in coronal STIR images along both SI joints.

Spinal canal measurements are as follows:

L1 - L2: 13.8 mm

L4 - L5:8.9 mm

L2 - L3:14.9 mm

L5 - S1: 9.5 mm

L3 - L4: 9.3 mm

MRI LUMBER SPINE WITH SI JOINT (14/03/2022)

DIAGNOSIS: Lumbar disc herniation with central canal stenosis (*Katigatavata*)

Table No.1: Demographic details of the patient

S.N.	Demographic details of patient	Information
1	Name of patient	A.B.C.
2	Age	43yrs
3	Sex	Male
4	Residence	Paldi, Ahmedabad
5	Occupation	Doctor
6	D. O. A	10-02-2023
7	D. O. D	20-03-2023

Table No.2: Complaints of the patient

S.N.	Nature of Complaint	Duration
A	Chief Complaints :	
1	Pain in lumbar region	Since 6-7months
2	Numbness in both legs	
3	Stiffness in lumbar region	

4	Restricted movements of both legs	
B	Associated complaints	Since 6-7 months
1	Difficulty while walking	
2	Disturbed sleep due to pain	

Table No.3: Ashtavidha Pariksha

S.N.	Head	Observations
1	<i>Nadi</i>	74/min, Niyamit
2	<i>Mala</i>	Asamyak(Once Per day, sometime constipation)
3	<i>Mutra</i>	Samyak(6-7times/day, 1-2times/night)
4	<i>Jivha</i>	Nirama
5	<i>Drika</i>	Spashta
6	<i>Shabda</i>	Spashta
7	<i>Sparsha</i>	Anushnasheeta
8	<i>Akruti</i>	Pravara

Table No.4: Local examination specific to Disease

S.N.	Type of examination	Rt. Leg	Lt. leg
1	SLRT	30°	40°
2	Sciatic notch tenderness	+++	++

Table No.5: Type of Panchakarma Chikitsa*Virechana karma: (10/02/2023 to 01/03/2023)*

DATE	KARMA	MEDICINE	DOSE	DURATION
10/2/2023 To 15/02/2023	<i>Dipana and Pachana</i>	<i>Trikatu Churna</i>	3gms BD with <i>Ghrita</i> before meal	5days
	<i>Udavartana</i>	<i>Triphala churna, Trikatu churna, yava churna</i>	QS	

16/02/2023 To 20/02/2023	<i>Sodhanartha Snehapana in Vardhamana Krama</i>	<i>Tripahala ghruta</i>	16/02-30ml 17/02-60ml 18/02-90ml 19/02-120ml 20/02-140ml early morning (6:30- 7:00am) at empty stomach with Luke warm water	5days
21/02/2023 To 24/02/2023	<i>Abhyanga and Swedana</i>	<i>Abhyanga with Nirgundi Taila and Nadi Swedana</i>		30 minutes for 4days
24/02/2023	<i>Virechan karma Vega-16</i>	<i>Trivrutta Churna Triphala Kwatha Aragwadha Phalamajja Phant</i>	<i>Trivrutta churna-10gms Triphala kwatha- 150ml Aragwadha phala majja phant-100ml</i>	1day
25/02/2023 to 01/03/2023 (5days)	<i>Samsarjana krama as of Madhyama Shuddhi</i>	Date 25/02/2023 26/02/2023 27/02/2023 28/02/2023 01/03/2023	Morning - Peya Vilepi Akrita Mudga Yusha Krita Mudga Yusha	Evening Peya Vilepi Akrita Mudga Yusha Krita Mudga Yusha Samanya Bhojan

Kala Basti and Kati Basti: (05/03/2023 to 20/03/2023)

S.N.	Type of Panchakarma Chikitsa	Drug	Time of administration	Duration
1	Local Abhyang	Nirgundi taila Q.S	Morning	15 days
2	KatiBasti	Bala taila QS	Morning	15 days
3	Dashmoola-Niruha Basti	Honey(60gm) , Saindhava(10gm) and Dashmoola taila(120ml), Putoyavani kalka (40gm), Decoction prepared with Dashamoola (200ml)	Morning (Before lunch)	15 days (Alternate day with Niruha & Anuvasana Basti)
4	Anuvasana Basti	Dashmoola taila(80ml)	Afternoon (After lunch)	

Table No. 6: Shamana Chikitsa

S.N.	Medicine	Dose	Frequency	Time of administration	Anupana	Duration
1	Tab. Shallaki	2tab(500mg)	BD	after food	lukewarm water	15days

2	<i>Avipattikar Churna</i>	10gm	HS	before bed	lukewarm water	15days
3	<i>Punarnavadi Guggulu</i>	3 tab(300gm)	BD	before food	lukewarm water	15days
4	<i>Dashmoola Kwath</i>	40ml	BD	1 hour before food	-	15days

Table No.7: Therapeutic outcome

S. N.	Assessment of subjective parameters	Gradation	Before Rx	After Rx (54 Days)
1	Pain in lumbar region (<i>Katishula</i>)		4	0
	No pain	0		
	Bearable pain relieved without medication	1		
	Moderate pain relieved by medication	2		
	Severe pain with disturbed routine work and relieved by strong analgesics	3		
	The patient cannot tolerate	4		
2	Stiffness in lumber region (<i>Katigraha</i>)		4	0
	No stiffness	0		
	Stiffness for few minutes after sitting for a long duration but relieved by mild movements	1		
	Stiffness more than 1hr or more than once in a day, but routine work is not disturbed	2		
	Stiffness lasting for more than 1hr or many times a day mildly affecting daily routine	3		
	An episode of stiffness lasting for 2-6hrs daily routine is hampered severely	4		
3	Numbness in both legs(<i>Suptata</i>)		3	0
	No numbness	0		
	Occasionally once a day for few minutes	1		
	Daily once a day for few minutes	2		
	Daily 2 or more times /30-60minutes	3		

	Daily more than 1hour and many times a day	4		
4	Restricted movements of both legs		4	0
	No restriction of movement	0		
	Restriction in any one movement	1		
	Restriction in any two movements	2		
	Restriction in any three movements	3		
	Restriction in any four movements	4		
5	Difficulty while walking & bending	-	Present	Absent
6	Disturbed sleep due to pain	-	Present	Absent

Table No. 8: Assessment of objective variables

S.N.	Assessment of Objective Variables	Before Treatment		After Treatment(54 Days)	
		Right Leg	Left Leg	Right Leg	Left Leg
1	SLRT	30°	40°	90°	90°
2	Sciatic notch tenderness	+++	Absent	++	Absent

THERAPEUTIC INTERVENTION:

The treatment (*Panchakarma & Shamana Chikitsa*) is given in tables no.5 & 6, respectively.

THERAPEUTIC OUTCOME:

Observations: noted and improvement in symptoms are shown in table no 7 & 8. After the successful intervention of all treatment, the patient got complete relief from all signs & symptoms of Lumbar disc herniation with central canal stenosis, such as Pain in the lumbar region, Numbness in both legs, and restricted movements of both legs expressively after 54 days *Ayurveda*.

DISCUSSION:

Clinical features of Lumbar disc herniation with central canal stenosis include gradual pain in the Lumbar region worsening in the morning, Painful movements, Stiffness, Tingling sensation, Numbness & those resembling *Katigatavata* in *Ayurveda* that explores the co-relation between these two ailments. The *Ayurvedic* concept of pathogenesis (*Samprapti*) can be explained as follows: Vitiated *Vata* diminishes *Shleshak Kapha* that causes degeneration of *Asthi, Mamsa & Majja Dhatu* to produce symptoms of *Katigatavata*.⁵ The probable mechanism of action of the planned treatment protocol in this patient can be explained as follows:

✓ Mode of action of Panchakarma Chikitsa

Udvartana Karma helps in *Medovilayana* and remove *Avarana of Kapha* on *Vata dosha*. *Triphala* have *Kashaya Rasa, Ruksha, Sara Guna, Anushana Virya, Rasayana, Tridosahara, Dipana, Medohara* properties. These properties help to remove *Srotorodha* caused by excessive *Medodhatu*.

Virechana karma: patient has suffering from *Katigraha, Katishoola, Ubhaya Pada Stabdhta* with *Sarira Bhar Vriddhi* which is the symptoms of *Kaphaavrita Vata* and *Meda Dhatvagnimandya*. In this condition *Virechana* remove *Avarana of Kapha Dosha*, and do *Vata anulomana*.

Abhyanga (local massage) is one of the *Procedure*, which acts on the roots of *Mamsavahasrotas* (channels carrying muscle nutrients and waste), *Snayu, Twak, and Raktavahini*. It may thus nourish the superficial and deep muscles and make the joint stable. It acts on *Sparshnendriya*, which is the seat of *Vayu*. *Abhyanga* with *Nirgundi Taila* induces analgesic, anti-inflammatory effects. It is indicated in muscle spasm, joint stiffness, backache present in Lumbar disc herniation with central canal stenosis.

Kati Basti with *Bala taila* A longer (approximately 30 to 45 minutes) results in more hot fomentation and acetyl chloride release. Warming has a calming effect via sensory neurons endings and induces vasodilation which reduces muscle spasm and pain associated with tonic muscle contraction. Vasodilation is caused by hot fomentation which promotes the flow of blood and nourishment to the organ and finally helps the tropical drug to reach the target tissue or organ. Sweating flushes toxins from the body and relaxes the tissues resulting in an overall improvement in muscle spasms and pain. Increased peripheral circulation aids in the reduction of oedema, which can aid in the reduction of inflammation, reduces pain, and aids in faster healing.⁶

Niruh Basti is very useful in Lumbar disc herniation with central canal stenosis as it removes *Kapha Avarana* over *Vata* and corrects the vitiated *Vata Dosha* in *Pakwashaya*; it also helps to treat constipation as well as relieves oedema, inflammation, necrosis in the affected regions due to its *Srotoshodhana* effect induced by *Vata Kaphahara* properties of drugs used for decoction. *Anuvasana Basti* with *Dashmoola Taila* is absorbed and spread throughout the body up to subtle channels due to *ushna virya katu Vipaka* and it reduce pain, stiffness and inflammation due to *Vata kapha Shamaka* property.⁷

✓ Mode of action of Shamana Chikitsa:

- *Punarnava Guggulu* pacifies *Vata Dosha* and *Kapha Dosha* due to its *Ushna Veerya*. According *Bharat Bhaishajya Ratnakara* it used in *Graghrasi, Jangha-Uru-Prushtha-Trika Ruja* so it can better effect in Lumber disc herniation with central canal stenosis (*Katigatavata*).⁸
- *Tab Shallaki* prevents excessive joint wear and tear by inhibiting degradation of Glycosaminoglycans, i.e., the structural element of joint cartilage that maintains the normal lubrication, acts as a shock absorber, and facilitates the normal structure and smooth function of the joint. Boswellic acid, an essential active ingredient in *Shallaki*, helps to reduce inflammation of a joint by targeting key enzymes that facilitate the release of pro-inflammatory chemicals in the joints and associated structures and induces analgesic effect. These actions may be carried out due to *Laghu, Rooksha Guna, Kashaya, Tikta & Madhura, Rasa & Katu Vipaka*.⁹
- *Avipattikar Churna* is an antioxidant drug having anti-inflammatory properties that fight free radical damage and reduce inflammation. It induces *Mrudu Virechana* without provoking *Vata Dosha* and relieves Constipation. It also balances *Vata* and *Kapha* due to *Kashaya, Katu Rasa, Ushna Veerya, & Katu Vipaka*.¹⁰
- *Dashamoola Kwatha* It can also treat conditions caused by *Avrutta Vata, Anubandhya Vata* or *Paratantra Vata*, which are the different types of vitiations of *Vata*. These involve the obstruction and deviation of *Vata* by other *Doshas* and *Ama*. As *Vata* is the main *Dosha* involved in a disc herniation *Dashamoola Kwatha* can be used in the treatment of this condition.¹¹

CONCLUSION

- This case study revealed that *Katigatvata* could be successfully managed with *Shodhana* and *Shamana Chikitsa* based on Ayurveda results' fundamentals. No, the undue side effect was generated due to this treatment protocol. In the future, further clinical trials with the same protocol should be planned in a large population.

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