



ISSN: 0975-833X

Available online at <http://www.journalcra.com>

INTERNATIONAL JOURNAL
OF CURRENT RESEARCH

International Journal of Current Research
Vol. 10, Issue, 09, pp.73571-73574, September, 2018

DOI: <https://doi.org/10.24941/ijcr.32288.09.2018>

RESEARCH ARTICLE

AYURVEDIC MANAGEMENT OF DEGENERATIVE LUMBAR SPINAL CANAL STENOSIS: A CASE REPORT

*Vaidya Yogesh Kumar Pandey and Dr. Neha Kaushik

Department of Kayachikitsa, CBP Ayurveda Charak Sansthan, Khera Dabar, Najafgarh, New Delhi, India

ARTICLE INFO

Article History:

Received 19th June, 2018
Received in revised form
24th July, 2018
Accepted 25th August, 2018
Published online 30th September, 2018

Key Words:

Lumbar spinal canal stenosis,
Sciatica,
Vatvyadhi

ABSTRACT

a) **Introduction**-Lumbar spinal stenosis (LSS) is a degenerative condition described as narrowed lumbar spinal canal with neurogenic claudication, consisting of back and buttock or leg pain induced by walking or standing and relieved by sitting. It adversely affects quality of life of the patients. There is lack of improvement with modern medicines. There are chances of recurrence due to surgical decompression.
b) Patient has severe stretching pain in right leg up to toe with right lower limb claudication since 1 month. Patient walks with a stick and has limping gait. Straight leg raising (SLR) test is positive right at 45° and left at 60°.
c) In ayurvedic clinic it is diagnosed as kati asthi sandhi gata vata (vata disorder involving vertebrae, intervertebral joints and surrounding connective tissues of lumbar region). He was treated for three months with a combined treatment of oral ayurvedic drugs tryodashanga guggulu, ajmodadi churna, balarishta and rasna saptaka kwath along with Panchakarma procedures - Patra pind sweda (PPS) and kati basti with panchaguna tail along with **Kala basti regimen** of niruha basti (decoction based enema) with rasna erandadi kwath and anuvasana basti (oil based enema) with dhanwantar tail for 16 days.
Patients condition was assessed for symptoms of kati asthi sandhi gata vata and visual analogue scale (VAS) for pain, Fukushima lumbar spinal stenosis scale (FLS-25), and 6 min walking test (6MWT).
d) There was substantial improvement in symptoms of the patient. The assessment scales showed marked improvement measured before and after the treatment. This study shows that the cases of degenerative LSS may be successfully managed with ayurvedic treatment.

Copyright © 2018, Vaidya Yogesh Kumar Pandey and Neha Kaushik. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Vaidya Yogesh Kumar Pandey and Dr. Neha Kaushik, 2018. "Ayurvedic management of degenerative lumbar spinal canal stenosis: A case report", International Journal of Current Research, 10, (09), 73571-73574.

INTRODUCTION

Lumbar spinal stenosis (LSS) is a degenerative condition of lower back described as narrowed lumbar spinal canal with neurogenic claudication, consisting of back and buttock or leg pain induced by walking or standing and relieved by sitting. Focal weakness, sensory loss, or reflex changes may occur when spinal stenosis is associated with neural foraminal narrowing and radiculopathy. Neural foraminal narrowing with radiculopathy is a common consequence of osteoarthritic processes that cause lumbar spinal stenosis including osteophytes (Harrison, 2008). According to the study of Global Burden of Disease 2010 it is estimated that LBP is ranked highest in terms of YLDs (years lived with disability) and sixth in terms of overall burden DALYs (disability adjusted life years) The global point prevalence of LBP is 9.4%. It was higher in men compared to women. Prevalence peaked at around 80yrs of age (Hoy, 2010).

There is unsatisfactory improvement in symptoms with the modern medicines and rate of recurrence is high with the surgical interventions. So there is a need and scope of ayurvedic treatment which can improve the quality of life hampered due to associated pain and to limit the further degeneration of spine. In case of *kati asthi sandhi gata vata, dhatu kshaya* (direct stress related insult at the Kati region and lack of nutritional support to the *asthis, sandhis* and surrounding *snayus* together) lead to *vata prakope in asthivaha srotasa*. *Asthi dushti* lead to formation of *adhyasthi* (marginal osteophytes) which along with local inflammation (*shotha*) narrows the neural foramina causing stenosis of spine (*sankoch*) due to *vata prakope* (vitiation of *vata*), *sankoch* causes *marga avrodh* (physical barrier) to the *vata* which further suppresses its functions. This lead to the symptoms of numbness(*suptata*), stiffness (*stambha*) and restriction in movement (*gati avrodh*). We present a case that was successfully treated on the line of Ayurvedic management of *kati asthi sandhi gata vata*.

*Corresponding author: Vaidya Yogesh Kumar Pandey,
Department of Kayachikitsa, CBP Ayurveda Charak Sansthan, Khera Dabar,
Najafgarh, New Delhi, India.

Presenting complaints: A 38yr old Indian, married, nonsmoking, nonalcoholic male consulted in Out-Patient Department of Ch. Brahm Prakash Ayurveda Charak Sansthana (CBPACS) for severe stretching pain in right leg up to toe and numbness in plantar region of right foot including toes since 1 month. Patient was unable to walk or lie straight and was not able to perform his daily personal work. Patient has no significant medical, family and psychosocial history. Patient is a teacher by profession and has standing job for 6 hours. Patient is suffering from mild pain in lower back and right leg off and on which started in 2007 while lifting his kids when he suddenly got stuck. Although the stiffness subsided within half an hour but these types of painful attacks repeated several times before this severe episode of pain. Patient took some pain killers whenever required for past 5yrs along with exercises (details of the treatment are not available). The case was subsequently admitted in male kayachikitsa ward of CBPACS on 27th September 2017.

anxious with pain, tenderness + at right lower back with restricted movement of right leg.

- SLR- right + at 45°.
Left + at 60°.
- VAS score – 10.
- FLS-25 score- 77

Patient had a moderate appetite, *mandagni* (suppressed digestive functions), *Krura Kostha* (bowel hard to purgate) with normal micturition. The tongue was coated, the voice was clear. Patient had *Vatakapha prakriti* with *Madhyam* (medium) *Sara* (purest body tissue), *Madhyam Samhanana* (medium body built), *Sama Pramana* (normal body proportion), *Madhyam Satmya* (homologation), *Madhyam Satva* (mental strength), *Avara Vyayamshakti* (least capability to carry on physical activities), *Madhyam Aharshakti* and *Jaranshakti* (medium food intake and digestive power). *Asthivaha sroto dushti* (*asthi kashya*) was found.

Table 1. Timeline of the case

Year	Clinical events and interventions
14 th September 2017	<ul style="list-style-type: none"> • Patient experienced a sudden jerk at lower back when he got up from the chair. (after Sitting for 1 hour). This subsided after half an hour.
15 th September 2017	<ul style="list-style-type: none"> • In the morning he was unable to get up from the bed. • There was extreme pain and stiffness at lower back and right hip region. • Patient consulted local therapist who applied some plaster over his back for 5 days (details not available). There was relief in stiffness and he was able to walk a little.
15/9/2017- 26/9/2017	<ul style="list-style-type: none"> • He experienced pain and stiffness in right leg and numbness at planter surface of right foot. Onset – acute on chronic. Duration – continuous. Nature- severe. Aggravating factors- long sitting, walking for long distances Relieving factors- walking, left lateral bending, bending knees. Variation - increases in evening.
27/9/ 2017	<ul style="list-style-type: none"> • Patient came to CBPACS in kayachikitsa O.P.D where was advised admission in kayachikitsa male ward. • Pt. was given haritki churna 5gm at night.
28/9/2017	<ul style="list-style-type: none"> • Vas score assessment done. • SLR -Rt.+at 45° -Lt.+ at 60°. - Lasegue’s test bilaterally negative. • 6 min walking test was done. • Pin prick was done to assess sensory deficit. • Therapeutic intervention- - Tryodashang guggulu. - Ajmodadi churna. - Balarishta. - Rasna saptaka kwath. • Panchkarma procedures- - Patra pinda pottali swedana, - Kati basti with panchguna tail. - Kala basti (Niruha -Rasna Erandadi kwath Anuvasana - Dhanvantara tail) for 16 days.
13/10/2017	<p>Post treatment assessment was done for-</p> <ul style="list-style-type: none"> • VAS score. • SLR -Rt.+at 60° -Lt.+ at 60°. • Lasegue’s test bilaterally negative. • 6 min walking test. • Pin prick test for sensory deficit. • Pt. was discharged on – - Tryodashang guggulu. - Ajmodadi churna. - Balarishta. - Rasna saptaka kwath.

Clinical Findings

Patient had severe pain in low back mostly at the Lt. hip joint radiating towards the thigh and calf muscles. Pt. often experienced maximum pain and stiffness in lower back and left leg at the mid night on bed when he was unable to move himself. Slowly patient became incapable of doing his daily his daily work. On Physical examination: patient was found to be

MRI scan of lumbosacral spine was suggestive of degenerative changes with postero-central disc extrusion with cranial migration and a small annular tear at L3-L4. Other significant findings were:

- Right paracentral extrusion showing caudal migration at L4-L5 causing anterior thecal sac indentation with mild secondary canal stenosis.

Table 2. Ayurvedic management for the case of *kati asthi sandhi gata vata*

Intervention	Details	Dose	Anupana	Treatment duration
Oral medication				
1. <i>Haritki churna</i>	<i>Powder of Haritki (Terminalia chebula Retz.)</i>	5 gm at night	Luke warm water	1 day
2. <i>Tryodashanga guggulu</i>	<i>Guggulu</i> <i>Commifora Mukul</i> (Burseraceae)	1 gm twice a day	Luke warm water	16 days
3. <i>Rasna saptaka kwath</i>	<i>Rasna</i> <i>Pluchea lanceolata Arn.</i> (compositae)	1 gm thrice a day.	Luke warm water	16 days
4. <i>Balarishta</i>	<i>Bala</i> <i>Sida cordifolia L.</i> (malvaceae)	15 ml twice a day with equal amount of water.	Water	16 days

Table 3. Panchakarma procedures for the case of *kati asthi sandhi gata vata*

Panchakarma procedures	Method of preparation	Method of administration	Duration of treatment
1. <i>Sarvanga PPS</i>	Leaves of <i>vatahara dravyas</i> are cooked and tied in a cotton cloth in the form of pottali.	The warm pottali is dipped in <i>panchaguna tail</i> and applied over the body massaged for 15 min.	16 days.
2. <i>Kati basti</i>	cavity made at centre region of lower back by the paste of <i>urad</i> . (<i>Vigna mungo L.</i>)	Warm <i>Panchaguna tail</i> is filled in the cavity repeatedly for 45 min.	16 days
3. <i>Rasna Erandadi Niruha basti</i>	300ml	Given with <i>basti yantra</i> before meals.	Total 6 <i>basti</i> in <i>kala basti</i> manner
4. <i>Dhanvantara tail anuvasana basti</i>	75 ml mixed with rock salt	Given after meals with <i>basti yantra</i> .	Total 10 <i>basti</i> in <i>kala basti</i> manner.

Table 4. BT and AT comparison of LSS

Domain	Instrument	BT	AT
Pain	VAS	10	4
Severity of symptoms	FLS-25 Score	77	34
Capacity /endurance	6MWT	50m	324m
Sensory loss	Pin prick test	-Medial lower leg(L4) – 0 -lateral lower leg (L5) - 1 -sole of the foot (S1) - 2	-Medial lower leg (L4)- 0 -lateral lower leg (L5) - 1 -sole of the foot (S1) - 1

VAS =Visual analogue scale(0mm- 100mm), FLS-25= Fukushima lumbar spinal stenosis scale, NRS= numerical rating scale (0-10), 6 MWT= 6 min walking test, Pin prick test = (0- normal, 1- present but decreased, 2- absent),BT= Before treatment, AT= After treatment.

- Severe right lateral recess stenosis with compression of the cauda equina nerve roots and right L5 traversing nerve root (see Table 1).

Diagnostic focus and assessment: Patient had complaints of pain and stiffness in left leg up to toes along with numbness in the past 1 month. Symptoms exaggerate after inactivity. Patient already had his MRI done. Diagnostic tool used are FLS-25 questionnaire, 6MWT and pin prick examination for sensory deficit. Quality of life of the patient got hampered considerably hence 6MWT was assessed along with FLS-25 questionnaire which is specific for spinal canal stenosis. Differential diagnosis included cauda equina syndrome, osteoarthritis of lower back. MRI scan reveals degenerative lumbar spondyloarthropathy, and compression of the cauda equina nerve roots but there was no saddle anesthesia (numbness around the anus and inguinal region) found and bladder habits were normal. This rules out cauda equina syndrome.

The patient is provisionally diagnosed to be suffering from *katiasthisandhi gata vata* on basis of presence of *asthiparva bheda* (pain in articulating bones), *sandhi shoola* (pain in joints), *mamsa bala kshaya* (muscle atrophy and loss of muscle power), *satata ruka* (continuous pain). Cardinal symptoms of *sandhigata vata* viz *prasarana akunchanayo vedana* (pain during flexion and extension of leg) is also present. Differential diagnosis of the disease is *gridhrasi* and *sandhigata vata*. As pain is continuous and non-fluctuating (*spandate muhu*) and there are signs of inflammation (*shoth*) which is not mentioned in *gridhrasi*, *gridhrasi* was ruled out. Prognosis of degenerative LSS worsens as it may involve bladder.

Neurogenic claudication of lower limb further increases the risk.

Follow up and outcomes: The patient was re-examined for the pain, stiffness and numbness. Response was found on the parameters as shown in table 3. Patient is able to perform his daily activities without any assistance. Constipation has subsided. Functional capacity and global condition of the patient was improved.

DISCUSSION

This case of *kati asthi sandhi gata vata* was treated on the lines *vata shamana* (pacifying *vata*) without *kapha kashaya* (further loss of *kaphaja gunas*) and simultaneously improvising the state of *agni* (normalizing the metabolic activities) which in turn lead to *sroto shudhi* (releasing obstruction in the channels). The condition of the patient is considered *sama* as appetite is decreased and the bowel is constipated (which is the main symptom of *ama avastha*) before and after the onset of the symptoms. Patient came across excess of physical exertion of long standing during teaching because if his profession vitiates *vata* due to *kashaya of rasadi dhatus* (Shastri, 2011). This *prakupita vata* along with the *gunas of kapha* (which were increased in the body due to decreased metabolism) reaches the site of *kha vaigunya* (favourable site of pathogenesis). Vitiating *vata* reduced the *gunas of kapha* (specially *ruksha guna* suppresses the *snigdha guna* of *kapha*) leads to *kapha kashaya* which causes *rukshata* in *asthi dhatu*, absence of *sleshma* in all its places including *sandhis* except *amashaya*,

weakness in joints (*sandhi shaithilya*), also *vata prakope* in *asthi dhatu* causes *asthiparva bheda* (pain in articulating bones), *sandhi shoala* (pain in joints), *mamsa bala kshya* (muscle atrophy and loss of muscle power), *aswapana* (disturbed sleep due to pain), *stata ruka* (continuous pain). Simultaneously, with direct *asthi vaha sroto dushti* (*ati sanshobhata*, *asthinama* *ati vighatanata*) lead to the mal formation of *asthis* over one another (marginal osteophytes) with pain in *asthis* and when *snayus* gets effected by *doshas* causes *suptata* (numbness). Since, *doshas* in this case found *kha vaigunya* at *kati Pradesh* (lumbar region), *sthana samshraya* (accumulation of *vikrita doshas*) occurred in the *asthi*, *sandhi*, *snayus* (bones, joints and other connective tissues) of *kati* region. In the treatment initially *haritki churna* was given (5gm at night) for *vatanulomana* and to subside *vibandha*. This will ignite agni.

Ajmodadi churna contains ajmoda (*Trachyspermum ammi* Linn.) is *vata kapha shamaka*, *trikatu* (*maricha*, *pippali*, *shunthi*), *haritki* (*Terminalia chebula* Retz) and *lavana* (*saindhava*) useful in *aama anubandha vata* (*vata* mixed with *aama*) and a good *vibandh hara* and *shula prashamana* (pain relieving) (Trikam, 2012).

Tryodashanga guggulu contain *rasna* known as best *vatahara* (*vata haranama agrayama*), (Shastri, 2007)

- *Shunthi* (*zingiber officinale* Rosc.) has *snigdha guna* and *usna virya* alleviates *vata* and *kapha*. Also, it is anti-inflammatory (*shotha hara*), nerve stimulant (*nadi utejaka*) will reduce the numbness of foot (Sharma, 2009).
- *Nishoth* (*operculina turpethum* Linn.) indicated in *jrna vibandha* and *shotha hara*. Due to *tikta katu rasa* and *usna virya* reduces *srotas avrodha* (Sharma, 2009).
- *Guduchi* (*Tinospora cordifolia* Willd.) due to *itsnigdha guna*, *tikta rasa* act as *tridosha shamaka*. Also, it acts as a analgesic (*vedena shamaka*). It also has *rasayana* properties which strengthen the *dhatu*s (tissues) provide *bala* (nutrition) to the spine (Sharma, 2009).
- *Guggulu* (*Commifora Mukul* L.) will pacify *vata* and also improves the microcirculation *vata* (various tendon and ligament disorders), *asthigatavata* (disorders of bone), *majjagatavata* (disorders of bone marrow), *khanjavata* (limping disorders), and various *vata* disorders (neurological, rheumatic, and musculoskeletal diseases).

These drugs along with other drugs are useful in pain due to *vata* (*vata shola*) and in *asthi- sandhi- majja- snayu gata vata roga* (Trikam, 2012).

Balarishta contain *bala* (*Sida Cordiafolia* L.) and *ashwagandha* (*Withania Somnifera* L.) which provide nutrition to the *dhatu*s (specially *asthi*) and strength to the surrounding connective tissues of the vertebral column hence, relieves direct stress to the spinal cord. Releases pressure on the adjacent nerves for nutritional support to the body and also for symptomatic pain relief (as *arishtas* are depressents) had been given.

Rasna saptaka kwath which contain *rasna* and *eranda* will alleviate pain. This treatment along with some lifestyle modifications improved the symptoms of pain, stiffness and restricted movements considerably.

Niruha with rasna erandadi kwath which contain *eranda* (*Ricinus communis* L.) (*vrishya vata haranama*) (Shastri, 2007) along with *rasna* (*Pluchea Lanceolata* Cass.) pacifies *vata*. *Anuvasana* with *dhanvantar tail* serves the purpose of *brihangana* and also not letting *vata* to get vitiate.

Patra pind swedana (PPS) made of *vatahara dravyas* and *sarvanga abhyanga* with *saindhavadi tail* contains *lavana* (*saindhava*, *sauvarchala*, *vida*) which when applied locally increases the permeability of the skin provide passage for other nutrients to enter in the skin reduces the pain reduces the local muscle spasms and swelling.

Kati basti subsides the local inflammation of ligaments and tissues connected to the lumbar vertebrae. The ayurvedic drugs combined with these *panchkarma* procedures balances the state of *doshas* in the body, cleanses the nutritional channels and further nourishes the *dhatu*s providing strength to the vertebral column and nerves of the spinal cord. Hence, found very effective in treating the patient with degenerative LSS.

Patient's perspective: Patient was satisfied with the treatment and was able to walk without any aid, stiffness was reduced in the lower back.

Patients consent: Written permission for publication of this case study had been obtained from the patient.

Source of support: Nil.

Conflicts of interest: Not declared.

REFERENCES

- Harrison T.R., Back and neck pain, Engstrom J.W. (ed.) Harrison's Principle of Internal Medicine, McGraw-Hill Companies.17th Edition, 2008, Vol II,16: 110,111.
- Hoy D. The global burden of low back pain: estimates from the Global Burden of Disease 2010 study. Epub 2014 Mar 24 [cited 2017 Dec 23]; 73(6):968-74. Available from: 10.1136/annrheumdis-2013-204428.
- Sharma P.V. deepanadi varga adhyaye, dravyaguna vigyana, vol.2, Chaukhamba Bharti Academy, 2009;5: 331.
- Sharma P.V. deepanadi varga adhyaye, dravyaguna vigyana, vol.2, Chaukhamba Bharti Academy, 2009;5: 420.
- Sharma P.V. jwaragnadi varga adhyaye, dravyaguna vigyana, vol.2, Chaukhamba Bharti Academy, 2009;9: 762.
- Shastri A.D.dosha dhatu mala kshaya vridhi vinyayama Adhyaye, .*Sushrut Samhita, Ayurveda tattavasandipika- Hindi vyakhya, purvardh*, Chaukhamba sanskrita sansthana. 2010.15:11; 76.
- Shastri K. Chaturvedi G. sroto vimana Adhyaye. Pandeya G. (ed.), Charak Samhita. Vidyotini vyakhya, Vol.1 Chaukhamba Bharti Academy, 2011; 5:713;17.
- Shastri K. Chaturvedi G. vata vyadhi chikitsa Adhyaye. Pandeya G. (ed.), Charak Samhita. Vidyotini vyakhya, Vol.2. Chaukhamba Bharti Academy, 2011; 28:779;16.
- Shastri K. Chaturvedi G. vidadhi ashita pitiya adhyaye. Pandeya G. (ed.), Charak Samhita. Vidyotini hindi vyakhya , Vol.1 Chaukhamba Bharti Academy,2010; 28:572;16,21.
- Shastri K. yajyapurushiya adhyaye. Pandeya G. (ed.), Charak Samhita. Vidyotini hindi vyakhya Vol.1 Chaukhamba Bharti Academy, 2007; 25:319;40.
- Shastri K. yajyapurushiya adhyaye. Pandeya G. (ed.), Charak Samhita. Vidyotini hindi vyakhya Vol.1 Chaukhamba Bharti Academy, 2007; 25:319; 40.
- Trikam y. churna prakarana, Ayurveda sara samgraha. Shree baidyanath Ayurveda bhawan limited, 2012:577
- Trikam y. guggulu prakarana, Ayurveda sara samgraha. Shree baidyanath Ayurveda bhawan limited, 2012:516.