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The management of Degenerative Lumbar Spondylolisthesis through Ayurveda - A Case Report

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ABSTRACT

Introduction: Back pain is the most common symptom of degenerative lumbar spondylolisthesis. This pain is typically worse with activities such as bending and lifting, and often eases when lying down. This condition occurs as a consequence of the general aging process in which the bones, joints, and ligaments in the spine become weak and less able to hold the spinal column in alignment. In Ayurveda, the complaints of Degenerative Lumbar spondylolisthesis can be effectively managed on the treatment principles of *Gridhrasi* and *Katishula*. **Methodology:** The present article deals with a case of diagnosed grade 1 Degenerative Lumbar spondylolisthesis of L4 and L5 and was advised for surgery. The Ayurvedic diagnosis of *Gridhrasi* was made. Management included internal medications and procedures like *Kati Basti* and *Agni Karma*. **Results:** The effectiveness of Ayurvedic management was assessed by Roland Morris's low back pain and disability questionnaire scale and Oswestry Low back disability questionnaire. On Roland-Morris's low back pain and disability questionnaire, the before treatment score was 20(83.33%) and at the time of discharge, it was reduced to 4 (16.66%). That means the patient showed an improvement of 66.67% on the Roland-Morris low back pain and disability questionnaire. **Conclusion:** The present case substantiates the effectiveness of classical Ayurvedic treatment in degenerative lumbar spondylolisthesis.

Key words: *Gridhrasi, Katishula, Degenerative Lumbar Spondylolisthesis, Case Study.*

INTRODUCTION

Spondylolisthesis is derived from a Latin term meaning slipped vertebral body (spinal bone), "spondylo" means vertebrae and "listhesis" means slippage. Spondylolisthesis is a condition characterized by the slipping of the vertebral body,

pedicles, and superior articular facets anteriorly, leaving behind the posterior elements. The condition may be asymptomatic or may cause low back pain and hamstring muscles tightness. Degenerative spondylolisthesis is more common in people over age 50, and far more common in individuals older than 65. It is also more common in females than males by a 3:1 margin.^[1] A degenerative spondylolisthesis typically occurs at one of two levels of the lumbar spine: L4-L5 of the lower spine (most common location) and L3-L4 level.^[2] Degenerative Lumbar spondylolisthesis can be considered as various conditions like *Kati Shula*, *Kati Graha*, *Trik Graha*, *Trika Shoola*, *Prushta*, *Grudrasi* in Ayurveda.^[3] *Vataja* disorders are found in elderly age groups. In Ayurveda, its manifestation has clearly defined and understood that the vitiated *Vatadosha* produces *Shula* (pain), *Sopha* (swelling), and *Hantisandhi* (diminution of functions). Acharya *Vagbhata* has very rightly defined the *Hantisandhi* i.e.,

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Akunchana Prasaranajanya Vedanan (pain during joint movements).^[4] Various aetiological factors eg. *Abhighata* (trauma), *Dhatukshaya* (degeneration), *Dukhashayya* (faulty posture), old age, etc. are documented in Ayurvedic texts.^[5] In Ayurveda several methods of treatment options like *Snehana*, *Upanaha*, *Agnikarma*, *Raktamokshana*, *Panchakarma*, *Bhesajachikitsa*, etc. are recommended for management of *Vataja* disorders.

CASE REPORT

Chief complaints

- Low back pain from 3 years
- Pain radiating in right leg from 3 months, aggravated from 15 days.

Associated complaints

- Numbness and tingling sensation in right leg for 3 months.
- Pain in the nape of the neck and both hands-on and off for 3 months.

History of present illness

The patient was healthy before 3 years. She gradually developed pain in the low back region associated with stiffness. The pain was initially mild but was progressed to severe nature along with time. Due to the pain, her day-to-day life activities were disturbed for which she consulted an allopathic doctor and took continuous medications for three years. There was temporary relief in her pain. Later for 3 months, she noticed that the pain in low back was radiating to her right leg associated with numbness and tingling sensation the pain being severe in the lower 1/3rd of her right leg. The pain was aggravated by bending forwards, standing for a long duration of time, excessive household work, and was relieved by rest. The pain is radiating and severe in nature. There was no effect of cold /hot weather in association with the pain. Meanwhile, she has noticed Pain in the neck region radiating to both of her hands (Right> Left). The pain is radiating in nature (with the same aggravating and relieving factors). With the above complaints, the patient visited outdoor of hospital

and admitted to Indoor department of hospital for further evaluation and management.

History of past illness

- Not a known case of hypertension/Diabetes mellitus type-2/Hypothyroidism.
- History of Pulmonary Tuberculosis before 40 years.
- History of fracture of the right wrist (which has led to malunion of the right wrist).

Family history

Nothing significant to the illness

Treatment history

Allopathic medicines (Steroids and analgesic medicines)

Personal history

- Appetite - Good
- Sleep - Disturbed
- Micturition - 4-5 times /day
- Bowel habit - Regular

General examination

- Built - Normal built
- Nutrition - Good
- Temperature - Afebrile
- Blood pressure - 130/80 mm hg
- Pulse rate - 80 bpm, regular
- Respiratory rate - 18 cycles/min
- Skin - Normal
- Hair - Normal
- Eye - Normal
- Ear - Normal
- Nose - Normal
- Icterus - Absent
- Pallor - Absent
- Cyanosis - Absent

- Lymphadenopathy - Absent
- Edema - Absent

Dashavidha Pariksha (Ten-fold examination)

- Prakriti - Vata, Pitta
- Vikriti - Vata
- Sara - Avara
- Samhanana - Avara
- Pramana - Madhyama
- Satva - Pradhana
- Satmya - Pradhana
- Vaya - Vriddha
- Aharashakti - Madhyama
- Vyayama Shakti - Avara

Systemic examination (Musculoskeletal system examination)

Gait - antalgic gait

Spine examination

- Inspection - normal curvature notice (exaggerated lumbar curvature), no any lumps/mass noticed
- Palpation - Tenderness at 13, 4, 5 levels (Doorbell sign), tenderness of paraspinal muscles noticed

Range of movements

- Cervical - painful extension and flexion
- Thoracic - lateral bending not painful
- Lumbo-sacral - forward bending - painful
- SLR (Straight Leg Raising) - both active and passive negative
- Bregards - Positive (Right leg)
- Fibers test - Positive (Right sacroiliac joint)
- Bowstring test - Positive (Right)
- Compression test - Positive (Right)
- Distraction test - Positive (Right)
- Thigh thrust test - Positive (Right leg)
- Painful heel walking (S1) present

Probable diagnosis - Katishula, Katigraha, Gridhrasi.

Hematological investigations

- ESR (Erythrocyte Sedimentation Rate) - 19 mm/hour
- HB (Hemoglobin) - 8.9G%
- HCT (Hematocrit) - 25.7%
- M.C.V (Mean Corpuscular Volume) - 64.6fl
- MPV (Mean Platelet Volume) - 7 fl
- M.C.H (Mean Corpuscular Hemoglobin) - 21.2 pg
- Serum uric acid - 3.2mg/dl
- Alkaline phosphatase - 216u/l
- Renal Function Test - Normal
- CRP - Negative
- R A Factor - Negative

Investigations

- MRI L.S Spine on 11-03-2021
- There is a grade 1 Antero-listhesis of L4 over L5 vertebra
- Diffuse disc bulge, ligamentum flavum hypertrophy, and facet joint arthropathy are seen at l4-5 level indenting thecal sac, compromising lateral recess, neural foramina, and exiting nerve roots.
- A diffuse disc bulge is seen at; 3-4 and L5-S1 levels indenting thecal sac, mildly compromising lateral recess, neural foramina, and exiting nerve roots.





Fig. 1 and 2 - MRI Scan of Lumbar spine (On 11-03-2021) depicting Grade 1 Lumbar Spondylolisthesis along with Degenerative changes of the spine.

Diagnosis - *Gridhrasi*, Degenerative Lumbar Spondylolisthesis (Grade -1)

Diagnosis and Assessment

The diagnosis was confirmed as Lumbar spondylolisthesis by the presence of pain, numbness, aching and burning sensation, restricted movements at lumbar region, lower limbs, and by MRI lumbar spine scan findings. A criterion of assessment was based on the scoring of the Oswestry low back pain disability questionnaire and Roland-Morris low back pain and disability questionnaire. The Oswestry low back pain disability questionnaire^[6] also known as 'the Oswestry Disability Index is an extremely important tool to measure a patient's functional disability and it is considered as the 'gold standard of low back functional outcome tools. This is composed of 10 sections (Questions). Each question is rated on 6 points (0-5) scale measuring activities like, personal care, sleep, social life, etc; The Roland-Morris low-back pain and disability questionnaire 7 contains 24 statements and the patient should mark the sentences which describe to him on that particular day of measurement. Total two assessments were carried out before treatment and at the time of discharge on both of these scales. In the Ayurvedic view, the condition was diagnosed as *Gridhrasi*.

TREATMENT PLAN

Table 1: Treatment Plan for the case of Degenerative Lumbar Spondylolisthesis

Duration	Medicine	Dose	Frequency
24-03-21 to 12-04-2021	<i>Shatavari Churna + Nagaradya Churna + Godanti Bhasma</i>	2g + 1g + 1g	Twice daily
24-03-21 to 12-04-2021	<i>Dashamularishta + Ashwagandharishta</i>	10ml + 10ml	Twice daily
24-03-21 to 12-04-2021	<i>Chandra Prabha Vati</i>	2 tablets	Twice daily
24-03-21 to 12-04-2021	<i>Simhanada Guggulu</i>	2 tablets	Twice daily

Table 2: Procedures administered in the Patient

Duration	Procedure
For 15 days from 25-03-2021 to 8-04-2021	<i>Kati Basti</i> with <i>Dashamulataila</i>
From 25-03-2021 to 9-04-2021	<ul style="list-style-type: none"> ▪ <i>Kala Basti</i> ▪ <i>Erandamuladiniruha Basti</i> ▪ <i>Dashamulataila Anuvasana Basti</i>
Performed on 26-04-2021	<i>Agnikarma</i>



Fig. 3: Photograph taken after *Agni Karma*

Agnikarma

The references regarding *Agnikarma* in the management of *Gridhrasi* are found in various *Samhitas*. Acharya Charaka has mentioned *Agnikarma* in *Gridhrasi* at the site of *Antara Kandara Gulpha Pradesh*^[8] i.e., from mid of medial aspect to the mid of lateral aspect of lower limb, covering the dorsal surface at height of four *Angulas* from medial malleolus and lateral malleolus/Achilles tendon. Acharya Sushruta mentioned *Agnikarma Chikitsa* in diseases due to aggravated *Vata* located at *Twak, Mamsa, Sira, Snayu, Sandhi, and Asthi*. *Gridhrasi* is one among these.^[9] In Chakradatta and Yogaratnakara,^[10] we find direct reference of *Agnikarma* in *Gridhrasi* over *Kanishtika Anguli* of *Pada* (Little toe). The actual procedure of *Agnikarma* is performed in three steps i.e., *Purva Karma, Pradhana Karma, and Paschata Karma*. In *Purva Karma*, the exact sight of *Agnikarma* should be marked and cleaned. During the *Pradhana Karma*, the procedure of *Agnikarma* is done with the red hot *Shalaka* at the marked sight in such a way that *Samyaka Dagdha Lakshanas* were observed. In *Paschata Karma*, the pulp of *Aloe vera* is applied over the treated part and then powder of *Yashtimadhu (Glycyrrhiza glabra)* and *Haridra (Curcuma longa)* was sprinkled.

Effect on Dosha

Agnikarma is considered as the best therapy for *Vata* and *Kapha Dosha* because *Agni* possesses *Ushna, Sukshma, Tikshna Guna, Aashukari Guna* which are opposite to *Vata* and *Kapha*. Thus removes *Srotovarodha* and increases the *Rasa-Rakta Samvahana* to the affected site.

Probable mode of action of the Drugs

Nagaradya Churna^[11] acts an agent for *Amapachana* and *Agni Deepana*. *Shatavari*,^[12] *Ashwagandharishta*,^[13] and *Dashamularishta*^[14] mainly act against *Vatadosha*, they relieve pain and also check the degenerative process by the *Rasayana* (Rejuvenative) *Gunas*. *Godanti Bhasma*^[15] is *Pittadoshahara* and acts as an excellent calcium supplement. *Simhanada Guggulu*^[16] which has *Eranda Taila* helps in *Nitya Sneha Virechana* and checks the

inflammation process. Along with *Vata Anulomana*, it also does the *Shamana* of *Vatadosha*. *Chandra Prabha Vati*^[17] is a potent Ayurvedic Anti-inflammatory drug. The *Guggulu* and *Shilajatu* along with its other ingredients act as a good supplement for bones strengthening them and delaying the degenerative process.

Basti^[18]

The rectum has rich blood and lymph supply, and drugs can cross the rectal mucosa such as other lipid membranes. Thus, unionized and lipid-soluble substances are readily absorbed from the rectal mucosa. In *Basti Karma*, a homogeneous emulsion of *Honey, Saindhava, Sneha Dravya, Kalka*, and decoction mixed in remarkable combination after proper churning may break the large and middle chain fatty acid to small chain fatty acids. The mixture given facilitates absorption better than a single drug per rectum.

Kati Basti^[19] is a combination of *Snehana* and *Svedana*, which is the first line of treatment for *Vata Dosha*. It overcomes the accumulation of *Vata* at the site of the pathology and nourishes the underlying tissues through the medicated oil used.

Agnikarma^[20]

Gridhrasi is produced by vitiated *Vata Dosha* with *Anubandha* of *Kapha*. So *Agnikarma* is considered as best therapy to pacify these *Dosha*. Due to *Ushna, Tikshna, Sukshma, Ashukari Guna* it removes the *Srotavarodha* and pacifies the vitiated *Vata* and *Kapha Dosha*, and increases the *Rasa Rakta Samvahana* (Blood circulation) to *Kati Pradesh*. Due to more blood circulation, it probably flushes away the pain-producing substance and patients get relief from symptoms. Therapeutic heat increases the *Dhatvagni*, so the metabolism of *Dhatu* is proper and digests the *Ama Dosha* hence *Kati* gets proper nutrition from *Purva Dhatu* and *Asthi, Majja Dhatu* becomes more stable and patients may get relief from all the symptoms. Therapeutic heat enters deeper tissues like *Mamsa Dhatu* and neutralizes the *Sheeta Guna* of *Vata* and *Kapha Dosha*. Vitiated *Dosha* comes to

equilibrium phase and the patient is relieved from symptoms.

DISCUSSION

The present article deals with a case of diagnosed Grade 1 Degenerative Lumbar Spondylolisthesis of L4 over L5 and got advised for surgery. It is mainly due to the degenerative process in this patient. In this condition Ayurveda can provide relief to the complaints and surgery need not be done in most cases. *Kati Shoola* simply means pain in the low back area. It is a condition due to deranged *Vatadosha*. Management included *Vatahara* procedures described in Ayurveda like *Abhyanga*, *Kativasti*, *Vasti*, and *Agnikarma* along with internal medications. On Roland-Morris's low back pain and disability questionnaire, the before treatment score was 20 (83.33%) and at the time of discharge, it was reduced to 4 (16.66%). That means the patient showed an improvement of 66.67% on the Roland-Morris low back pain and disability questionnaire. On Oswestry low back disability questionnaire, the before treatment score was 36 (72%) and at the time of discharge, it was reduced to 10 (20%). That means the patient showed an improvement of 62% on the Oswestry low back disability questionnaire the present case substantiates the effectiveness of classical Ayurvedic treatment in Degenerative Lumbar Spondylolisthesis.

REFERENCES

- Andersson, G. B. (1999). Epidemiological features of chronic low-back pain. *The Lancet*, 354(9178), 581-585.
- Bogduk, N. (2004). Management of chronic low back pain. *Medical journal of Australia*, 180(2), 79-83.
- Sinimol, T. P., Surendran, E., & Sumedhan, V. (2019). Ayurvedic management of lumbar spondylolisthesis (kati shoola) with special reference to chinchalavanasweda - a case report. *International Journal of Ayurveda and Pharma Research*.
- Vagbhata. *Astanga Hridayam (Vidyotinitika)*. Tripathi BN, editor, 1 st ed. Varanasi: Caukhamba Sanskrit Pratishthan; 2011. Nidansthana, 15/14-15. p. 539.
- Caraka. *Caraka Samhita*. Sastri KN, Caturvedi GN, editors. 1 st ed. Varanasi: Caukhamba Bharati Academy; 2011. *Cikitsasthana*, 28/58.p.788.)
- Fairbank JC, Pynsent PB. The Oswestry Disability Index. *Spine* 2000 Nov 15; 25(22):2940-52; discussion 52.
- F:\INSTITUT\CULTADAP\PROJECT\GSK2387\Etude2387\Final-versions\RMDQ\RMDQusaq.doc 31/01/2005
- Brahmanand Tripathi, *Caraka Samhita Chikitsasthana*. Chap. 28/101. Reprint Edition. Choukhamba Surbharati Prakashan. 2009. pp 957
- Maharshi Atridev, *Sushrut Samhita. Sutrasthana*. Chap. 12/10. Reprint Edition. 5th Motilal Banarasidas. 2007. pp 42
- Sastri Laksmipati, *Yogaratanakara, Vatavyadhi Chikitsa*. Reprint Edition. Choukhamba Prakashan 2010. pp 522
- Singh, A. (2020). Comparative clinical study of Nagradya Churna and Bhunimbadya Churna in management of Grahani wsr to Irritable bowel syndrome. *Journal of Ayurveda and Integrated Medical Sciences (ISSN 2456-3110)*, 5(1), 87-97.
- Alok, S., Jain, S. K., Verma, A., Kumar, M., Mahor, A., & Sabharwal, M. (2013). Plant profile, phytochemistry and pharmacology of *Asparagus racemosus* (Shatavari): A review. *Asian Pacific journal of tropical disease*, 3(3), 242-251.
- Singh, N., Bhalla, M., de Jager, P., & Gilca, M. (2011). An overview on ashwagandha: a Rasayana (rejuvenator) of Ayurveda. *African Journal of Traditional, Complementary and Alternative Medicines*, 8(5S).
- Gupta, A., Madaan, A., Srivastava, R., Kumar, S., & Sastry, J. L. N. (2018). Evaluation of antioxidant, immunostimulatory and antifatigue properties of Dashmularishta using in vitro and in vivo assays.
- Dubey, N., Dubey, N., Mehta, R. S., Sharma, P., Ghule, S., & Bhowmick, M. (2012). Toxicological and Pharmacological Assessment of GodantiBhasma. *Asian Journal of Chemistry*, 24(10).
- Behera, B. S., Dallavi, P., & Singh, G. (2018). Clinical Study on efficacy of Virechana and Simhnada Guggulu in Management of Rheumatoid Arthritis (Amavata). *Journal of Ayurveda Physicians & Surgeons (JAPS)(EISSN 2394-6350)*, 5(3).

17. Tripathi, A. K., Pandey, S. D., Sastry, J. L. N., & Vedula, S. (2016). Observations on Clinical Safety of Chandraprabha Vati-An Ayurvedic Metallo-Herbo Mineral Formulation. *Annals of Ayurvedic Medicine*, 5(1), 17-23.

18. Kaalia, N., Bhatted, S. K., & Acharya, S. H. (2021). Effect of Panchatikta Ksheerabasti with Kati basti in Katishoolaws r lumbar disc degeneration—A clinical study. *Indian Journal of Health Sciences and Biomedical Research (KLEU)*, 14(1), 108.

19. Gholap, K., & Nigam, U. S. The role of matra basti and kati basti in katishool with special reference to lumbar spondylosis.

20. Sehgal, U., Rajagopala, M., Dwivedi, R. R., & Bavalatti, N. (2009). Role of Agnikarma & Ajamodadivati in the Management of Sandhigata Vata w.s.r. to Cervical Spondylosis. *AYU*, 30(3), 345.)

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