



ISSN (E): 2320-3862
ISSN (P): 2394-0530
www.plantsjournal.com
JMPS 2021; 9(5): 126-130
© 2021 JMPS
Received: 13-07-2021
Accepted: 15-08-2021

Barman Jaykrishan
PG Scholar, Department of
Kayachikitsa, Sri Jayendra
Saraswathi Ayurveda College
and Hospital, Chennai,
Tamil Nadu, India

Suvendu Rout
Professor and Head,
Department of Ayurveda,
Sri Chandrasekharendra
Saraswathi Viswa
Mahavidyalaya, Kanchipuram,
Tamil Nadu, India

Corresponding Author:
Barman Jaykrishan
PG Scholar, Department of
Kayachikitsa, Sri Jayendra
Saraswathi Ayurveda College
and Hospital, Chennai,
Tamil Nadu, India

Journal of Medicinal Plants Studies

www.PlantsJournal.com

Ayurvedic management of Kati shoola (Lumbar spondylolisthesis): A case report

Barman Jaykrishan and Suvendu Rout

Abstract

Spondylolisthesis is defined as the anterior slippage of one vertebral body relative to the adjacent one. It can be divided into five different types based on etiology, first described by Newman and Stone: congenital, spondylolytic, traumatic, degenerative, and pathologic. Although displacement can occur posteriorly or laterally, spondylolisthesis is synonymous with anterior displacement of the vertebral body. In Ayurveda Lumbar Spondylolisthesis can be correlated with Kati shoola, Katigraha, Kati stambha, Trika graham, Prusthashoola and Grudrasi. This article deals with the case of diagnosed grade I Lumbar Spondylolisthesis of L4 – L5 which got advised for surgery. Management was done in this case with Abhyanga, Swedana, Kati Basti and Virechana along with internal medications. Before treatment, total score on Oswestry Low Back Pain Disability Questionnaire was 42 (70%) and at the time of discharge, the score was 9 (15%). On Roland-Morris Low Back Pain and Disability Questionnaire, the before treatment score was 17 and at the time of discharge it was reduced to 4. The present case report substantiates effectiveness of classical Ayurvedic Management in lumbar spondylolisthesis.

Keywords: lumbar spondylolisthesis, Kati soola, Oswestry disability index, Roland-Morris disability questionnaire, low back pain, Kativasti

Introduction

The degree of spondylolisthesis is defined as the percentage of slippage of the vertebral body relative to the adjacent one, with grade 1 indicating only a 0% to 25% slip. The discs between vertebrae and the facet joints can wear down. Bone of the facet joints actually grows back and overgrows, causing an uneven and unstable surface area, which makes the vertebrae less able to stay in place; it puts pressure on the bone below it. Most cases of spondylolisthesis do not cause symptoms. If you feel leg pain, it can also be caused by compression of the nerve roots that exit the spinal canal. The compression is due to the vertebrae slipping out of position and narrowing the space for the nerves.

The most common level for degenerative anterolisthesis is L4-L5 [1, 2]. Females are 5 times more likely to suffer from anterolisthesis than males (Female>Male) [3, 4]. Low back pain affects approximately 60 – 85% of adults during some point in their lives and Lumbosacral is responsible for about 10% of all the back pain conditions [5]. Conventional medicine recommends surgical procedure like spinal compression, which is more expensive and not affordable for all patients, and also not more effective in this condition [6].

Lumbar spondylolisthesis can be correlated to various conditions like Kati shoola, Katigraha, Katistambha, Trikagraham, Prusthashoola and Grudrasi in Ayurveda [5, 6, 7, 8, 9, 10]. This article deals with a case of diagnosed Grade I lumbar spondylolisthesis of L4 over L5 and got advised for surgery. The Ayurvedic diagnosis of katisoola was made. Management included Virechana, Abhyanga, Swedana and Kativasti along with internal medications. Kati Vasti is a very simple and effective Panchakarma procedure to cure low back pain, especially due to Spondylolisthesis.

Case report

A female patient aged 46 years residing at Chennai, Tamil Nadu came to OPD of Kayachikitsa department of Sri Jayendra Saraswathi Ayurveda College & Hospital (SJSACH), Chennai, Tamil Nadu on 07/03/2021 with complaints of low back pain with numbness on both lower limbs, difficulty in walking and burning sensation in both feet. There was a history of fall three and half years ago, but she neglected it and took no medications for the same. Now the symptoms developed gradually with numbness in low back region which started 6 months ago.

Since the condition worsened patient went to conventional medicine system for treatment where she was prescribed some medicines and was advised to do surgery. As the patient was unwilling to undergo surgery she came to our hospital for management of the same.

Past history: No H/O Diabetes mellitus, hypertension

Family history: Nothing relevant

Examination

Range of movements was restricted (Flexion, Extension, Lateral bending and Rotation etc) at hip and Tenderness on back region. Associated with Numbness, Burning sensation on both leg

Palpation- Mild swelling and tenderness at the both lower limbs

Straight Leg Raise (SLR) = Right Leg - 35°; Left Leg - 40° [Right leg > Left leg]

Fabers test

Pain assessment

Investigations

Hematological Reports: Hb% = 10.8 g/dl; All other factors were normal. (28/01/2021)

X-ray: [Pelvis] Loss of Normal Spine Curvature. L4 – L5 space diminished with Osteophytes Changes. (28/01/2021)

MRI: [Lumbar Spine] Sacralisation of Lumbar vertebra and grade 1 anterior listhesis of L4 over L5, Diffuse disc bulge at L4-L5 level causing significant spinal canal and bilateral neural foraminal narrowing and compress of nerve roots. (04/02/2021)

Diagnostic assessment

Confirmed Diagnosis (followed by diagnostic criteria associated with sign & symptoms) was Lumbar spondylolisthesis by the presence of tenderness, numbness, burning sensation, movements at lumbar region was restricted. The criteria of assessment was based on the scoring of Oswestry Disability Index and Roland-Morris low back pain and disability questionnaire. The Roland Morris low back pain disability questionnaire & Oswestry Disability Index are extremely important tools to measure patient's functional disability, these two are considered as the 'gold standard' of low back functional outcome tools [11].

Oswestry Disability Index: It contains 10 questions [Pain Intensity, Personal Care, Lifting, Walking, Sitting, Standing, Sleeping, Sex life, Social Life, Travelling]. Each question is rated on 6 point (0 to 5) Scale measure [12].

Roland-Morris low back pain and disability questionnaire: It contains 24 statements, and the statements should be assessed based on the description by the patient on the day before treatment starts as well as at the time of discharge [13].

According to Ayurveda, this condition was diagnosed as Kati Shoola (Vata Vyadhi).

Therapeutic intervention

Management was mainly focused on relieving the pain, numbness and burning sensation at low back region and also to strengthen the supporting tissues around prolapsed disc. Treatment initially started with procedure Virechana, three days later Snehana, Swedana, Kati vasti and Abhyanga were administered and continued for 7 days.

Management with Internal Medicines

Table 1: This following medicine were given to be taken from 10/03/2021 to 15/03/2021

No	Medicine	Dose	Frequency
1	Rasnaerandadi Kashayam	20 ml	Twice a day before food with 30 ml worm water
2	Trayodosanga Guggulu	2 tab	Twice a day with kashaya
3	Vatagajankush Rasa	2 tab	Twice a day before food with worm water
4	Eranda Paka	6 gm	Once in a day after food with 50 ml worm water
5	Ksheerabala 101 capsule	1 cap	At bed time with worm water
6	Vaishwaanara Choonam	3 gm	At bed time with worm water

Table 2: Management with Panchakarma Procedure

Duration	Treatment
08/03/2021	Virechana (purgation) with Erandataila -30 ml added with Milk
12/03/2021 - 19/03/2021	Sarvanga Snehana (Abhyanga-external oleation) on lower limbs with Dhanwantaram tailam and Prasarani tailam.
12/03/2021 - 19/03/2021	Sarvanga Swedana (external fomentation) on whole body with Dashamoola kwatha churna.
12/03/2021 - 19/03/2021	Kati Vasti (retaining Taila in low back area for a specific time) with Dhanwantaram tailam and Prasarani tailam.

Follow-up and outcome

On 08/03/2021 Virechana was given with the help of Eranda

Tailam (30ml) added with one glass of Milk.

Table 3: The following procedures were started 3 days later

Date	Treatment given	Observation
12/03/2021	1. Sarvangasnehana- 15min 2. Sarvangaswedana- 20min 3. Kati vasti- 20min	First day of therapeutic procedure was done from 08:00am to 09:15am.
13/03/2021	1. Sarvangasnehana- 15min 2. Sarvangaswedana- 20min 3. Kati vasti- 25min	2 nd day of therapeutic procedure was done from 08:00am to 09:25am. After took Swedana she was feel lightness of body.
14/03/2021	1. Sarvangasnehana- 15min 2. Sarvangaswedana- 20min 3. Kati vasti- 30min	3 rd day of therapeutic procedure was done from 08:15am to 09:45am. She was feeling body lightness and back pain less reduced.
15/03/2021	1. Sarvangasnehana- 15min 2. Sarvangaswedana- 20min	4 th day of therapeutic procedure was done from 08:00am to 09:55am. She was feeling body lightness, back pain reduced and numbness also reduced.

	3. Kati vasti- 35min	
16/03/2021	1. Sarvangasnehana- 15min 2. Sarvangaswedana- 20min 3. Kati vasti- 40min	5 th day of therapeutic procedure was done from 08:05am to 10:15am. She could able to movements but still pain and burning sensation was present.
17/03/2021	1. Sarvangasnehana- 15min 2. Sarvangaswedana- 20min 3. Kati vasti-45min	6 th day of therapeutic procedure was done from 08:00am to 10:30am. She feels better as compare before, can able to walk and movement also, pain reduced and less burning Sensation.
18/03/2021	1. Sarvangasnehana- 15min 2. Sarvangaswedana- 20min 3. Kati vasti- 50min	Last day of procedure was done from 8:30am to 11:00am. Reduced pain, numbness and burning sensation. She able to walk now as compare to previous situation.

During this Panchakarma procedure internal medicine also continued

Discussion

Degenerative spondylolisthesis is most often seen in patients older than 50 years and has an especially high incidence in women; the most commonly affected level is L4–L5 (the most mobile segmental level in the lumbar spine), and slippage is most commonly less than 30%. Patients typically present with neurogenic claudication, radiculopathy, low back pain. The slippage is believed to be secondary to the buckling of the ligamentum flavum. This process is due to the combination of one of the previously mentioned risk factors and the narrowing of the disc space due to disc degeneration. This listhesis may cause lower back pain, radicular pain, and/or symptoms of neurogenic claudication.

This article deals with a case of diagnosed Grade I lumbar spondylolisthesis of L4 over L5 vertebrae.

It can be considered as various conditions like Kati Shoola, Kati Graha and Grudrasi in Ayurveda. Kati shoola simply means pain in low back area. It is a condition due to deranged Vatadosha.

Management included vatahara procedures described in Ayurveda like Abhyanga, Swedana, Kativasti and Virechana along with internal medications.

As per Ayurveda, Shoola (pain) occurs due to vitiation of Vata Dosha which is vitiated by Srotorodha (obstructions of channels) and Dhathu Kshaya (depletion of tissues). In Kati Shoola, Apana Vata (Apana Vata located in the low back region) is mainly involved. Also kaphavrita vyana vayu in turn decreases the rasa-rakta samvahana to the katisandhi which results in the alteration of the normal structure of sandhis. So, the aim of the treatment is to pacify vitiated Vata Dosha, especially Apana Vata.

Utility of therapeutic procedure

Virechana ^[14] in which, the elimination of morbid humors occurs through the adhibhaga (per rectum) is known as virechana. It is mainly useful in the Pittaja diseases which is associated with Vata or Kapha, body gets purified.

Snehana ^[15] the procedure by which Snigdhatva (oleation), Visyandana (liquefaction), Mardavata (softness) and Kledana (moistness) is achieved is known as Snehana. In Bahya Snehana is called as Abhyanga. Whole body was for reducing the numbness and pain sensation in lower limbs.

Swedana ^[16] is defined as the process by which the sweat or perspiration is produced in the body, which relieves Stambha (stiffness), Gourava (heaviness) and Sitaghna (coldness) of body.

Kati Vasti ^[17] as the name implies, it is the process in which oil is retained in the low back region. It is a procedure which helps to decrease low back pain, alleviates numbness due to nerve compression & strengthens back muscles which maintain normal curvature of the spine the bone tissues.

Utility of therapeutic medication

1. Dhanwantaram tailam ^[18], in this case stiffness, Kati

Vasti with Dhanvantaram tailam was chosen. The cause for stiffness is dehydration of intervertebral discs. This tailam is nourishing drug can induce some nourishment to tissues by Brimhana property of taila and may reduce degeneration. Due to the ushnatva of the drugs, prakupita vata dosa becomes pacified and thereby increases the circulation in the lumbo-sacral region. Most of the drugs in *Dhanvantaram Tailam* have *Vatahara* property and it contains groups of drugs like *Dashamoola* which have specific effect in *Shopha* and *Shoola*. This may be the reason for reduction in tenderness. *Brimhana tailam* alleviates vitiated *Vata* which is responsible for stiffness and movement restriction. This may be the reason for improvement of range of movements.

2. Prasarani tailam ^[19], according to Sarangadhara Madhyama Khanda snehakalpna prasarani tailam is indicated in Vata Slesmaja vikara, Stambha in hanu, kati, kubjata, gridhrasi, khanja and pangu. Astanga Hridayam VataVyadhi chikitsa mentions prasarani tailam. The taila is vastly used in vata conditions also with vataanubandha with kapha conditions.
3. Dashamoola kwatha churna ^[20], According to Chakradutta it indicated in Vataja Sopha, again Bhavaprakasha mention Brihat panchamula acts on Kapha Vataja, Laghupanchamula acts on Vata Pittaja vyadhi and both panchamoola (Dashamoola) acts on Tridosaja Vyadhi. Here the case was katischoolam, responsible for aggravation of vatadosha by srotoavarodha and dhatukshaya. Srotoavarodha caused by kapha obstruction in srotas is cleared by Swedana (nadiswedana) and dashamoola kwatha churna.
4. Eranda Tailam ^[21], Chakradutta mentioned this in vataja sotha, eranda beeja has ushnavirya and Kaphavatasamana in property. Here the purgative property of eranda thailam was taken into account as it helps in amaharatvam.
5. Rasnaerandadi Kashayam ^[22], RasnaerandadiKashayam is mentioned in Sahasrayogam, indicated in Vatasamanam, Jangha uru trikasoola, Vataraktasotha. It having anti-inflammatory, analgesic properties may help in reducing compression of nerve by reducing inflammation of articular cartilages as well as disc.
6. TrayodosangaGuggulu ^[23], is mention in Bhaisajya Ratnavalichapter VataVyadhi adhikara. Indication of this formulation is especially in katigraha, grudhrasi, hanugraha etc.
7. Vatagajankush Rasa ^[24], is mention in Bhaisajya Ratnavali chapter VataVyadhi adhikara and mention also in Rasendra Sara Samgraha, here mention if this formulation continuing for 7 days then grudhrasiroga destroyed completely.
8. Eranda Paka ^[25], is mention in Yogaratnakara chapter VataVyadhi chikitsa, paka is one of them which comes under Avaleha Kalpana, which should come in semisolid

form. But looking to durability it was prepared in granule form which can be stored for a long period of time. Latest research also shows that the effect of petroleum ether extract of root of *Ricinus communis* exhibited significant anti-inflammatory activity against Carrageenan, 5-Hydroxytryptamin, Dextran, Bradykinin induced rat's hind paw edema. The ethanoic extract of *Ricinus communis* root bark also found anti-inflammatory properties.

9. Ksheerabala 101 ^[26], reference is Bhavaprakasa Madhyama khanda, chapter 29. It is known to be useful for patients suffering from rheumatoid arthritis, gout, and osteoarthritis. The Ksheerabala 101 Capsule is formulated as per the ancient Ayurvedic methods in order to help relieve the symptoms of joint-related problems. The ingredients (Bala, Godugdha and Tila Taila) used in this formulation are time tested and used from ancient times to manage joint problems that are primarily caused by the VataDosha imbalance.
10. Vaishwaanara Chooranam ^[27], it is mentioned in Astanga Hridaya Chikitsa sthanam, Gulma Chikitsa to do Agnideepanam. Chakradutta has mentioned this formulation in Amavatachikitsa. It pacifies aggravated Vata Kapha dosha and does vatanulomana as well.

Conclusion

In contemporary science management of most patients with spondylolisthesis includes combination of physical therapy, nonsteroidal anti-inflammatory drugs, and lifestyle modification. Surgical indications include persistent or recurrent back and leg pain with neurogenic claudication, substantially affecting one's quality of life, and neurologic deficits. The present case report sheds light on the effectiveness of classical Ayurvedic Management in Kati Shoolam which is the cause of Spondylolisthesis. Management included vatahara procedures described in Ayurveda like Kativasthi etc along with internal medications. Before treatment, total score on Oswestry low back pain disability questionnaire was 42 (70%) and at the time of discharge, the score was 8 (15%). On Roland-Morris low back pain and disability questionnaire, the before treatment score was 17 and at the time of discharge it was reduced to 4 which means that the patient showed an improvement of 83% on Roland-Morris low back pain and disability questionnaire.

Informed consent

The authors certify that they have obtained all patient consent forms. In the form the patient has given her consent for her images and other relevant information to be used in the journal.

References

1. Jacobsen S, Sonne-Holm S, Roving H, Monrad H, Gebuhr P. Degenerative lumbar spondylolisthesis: An epidemiological perspective. *Spine* 2007;32(1):120-5.
2. Kalichman L, Kim DH, Li L, Guermazi A, Berkin V, Hunter DJ. Spondylolysis and spondylolisthesis: prevalence and association with low back pain in the adult community-based population. *Spine* 2009;34(2):199-205.
3. He LC, Wang YX, Gong JS, Griffith JF, Zeng XJ, Kwok AW *et al.* Prevalence and risk factors of lumbar spondylolisthesis in elderly Chinese men and women. *EurRadiol* 2014;24(2):441-8.
4. Love TW, Fagan AB, Fraser RD. Degenerative spondylolisthesis. Developmental or acquired? *J Bone Joint Surg Br* 1999;81(4):670-4.
5. Damayanthie Fernando KP, Thakar AB, Shukla VD. Clinical efficacy of Erandamuladi yapana Basti in the management of kati graham (*Lumbar spondylosis*). *AYU (An International Quarterly Journal of Research in Ayurveda)* 2013;34:36.
6. Last AR, Hulbert K. Chronic Low back pain: Evaluation and management. *Am Fam Physician* 2009; 79: 1067-74.
7. P V Sharma, editor. Charaka Samhita Chikitsa sthanam, Vata Vyadhi chikitsa adhyaya 28/28. 2nd Ed. Varanasi: Chaukhamba Sanskrit Sansthan 1990.
8. Murthy KR. Editor. Susruta Samhita Nidansthan, VataVyadhi Nidan 1/20. Varanasi, India, Chaukhamba Orientalia 2000.
9. Murthy KR. Editor. Madhav Nidan, Vata Vyadhi Nidana 22/14,57. Varanasi, India, Chaukhamba Orientalia 1986.
10. Ukhalkar VP. Effect of Mashadi taila manuvasan Basti in management of kativata with special reference to Lumbar spondylosis. *Int. J Res. Ayurveda Pharm* 2013;4:410-413.
11. Kshama Gupta, Prasad Mamidi. Ayurvedic management of lumbar spondylosis with spondylolisthesis: A case.
12. Fairbank JC, Pynsent PB. The Oswestry Disability Index. *Spine* 2000;25:2940-52.
13. Roland MO, Morris RW. A study of the natural history of back pain. Part 1: Development of a reliable and sensitive measure of disability in low back pain. *Spine* 1983;8:141-144.
14. Vd. Harish Chandra Singha Kushwaha. Charak Samhita, Sutrasthan 15th & 16th chapter, 2016th ed. Vol. 1st Part. Varanasi-1: Chaukhambha oriental; Charak Samhita Kalpasthan 6th & 12th chapter; Charak Samhita Siddhisthan 1st, 2nd & 6th chapter.
15. Vd. Harish Chandra Singha Kushwaha. Charak Samhita, Sutrasthan 13th chapter, 2016th ed. Vol. 1st Part. Varanasi-1: Chaukhambha oriental; Susruta Chikitsa sutra sthan 31st chapter; Astanga Hriday Sutrasthan 16th chapter.
16. Vd. Harish Chandra Singha Kushwaha. Charak Samhita, Sutrasthan 14thchapter, 2016th ed. Vol. 1st Part. Varanasi-1: Chaukhambha oriental; Susrut Samhita Chikitsa sthana 32nd chapter; Astanga Hridaya Sutrasthan 17th chapter
17. Principles & practice of Panchakarma, Dr. Vasant C Patil, foreword by Prof. MS Baghel 8th chapter Snehana Karma, Chaukhambha publications, New Delhi 2016
18. Kabiraj Atridev Gupta. Ashtangahriday Biddiyotini Hindi tika, editor. Chaukhambha Prakashan, edition 2016, AH Sarirasthan Garbha Vyapad Sariram chepter. * Dr. K. Nishteswar and Dr. R. Vidyanath, Sahasroyagam text with English translation, editor Chowkhamba Sanskrit series office, edition, Tailaparakaram 2020, 109, 247.
19. Dr. Srimati Shelja Sribastab. Sarangadhar samhita, editor. Chawkhamba oriental, edition 2013, Madhyam Khanda snehakalpna, 231; * Kabiraj Shri Ambikadatta Shastri, Bhaisajya Ratnavali, editor. Chaukhambha Prakashan, edition 2016, Vatavyadhi Chikitsa, 562. * Dr. K. Nishteswar and Dr. R. Vidyanath, Sahasroyagam text with English translation, editor Chowkhamba Sanskrit series office, edition, Taila prakaranam 2020, 153.
20. Kabiraj Shri Ambikadatta Shastri, Bhaisajya Ratnavali, editor. Chaukhambha prakashan, edition 2016, Kasachikitsa prakarana, 442. Chakra Dutta it indicated in Vataja Sopa.
21. Vaidya Shri Laxmipti shastri, Yogaratnakar Biddiyotini

- Hindi tika, editor. Chaukhambha prakashan; edition 2021, Vatavyadhi chikitsa, 523p.
22. Dr. K. Nishteswar and Dr. R. Vidyanath, Sahasroyagam text with english translation, editor Chowkhamba Sanskrit series office, edition, Vatahara Kasaya Prakaram 2020, 47.
 23. Kabiraj Shri Ambikadatta Shastri, Bhaisajya Ratnavali, editor. Chaukhambha prakashan, edition, Vatavyadhi adhikara 2016, 539.
 24. Kabiraj Shri Ambikadatta Shastri, Bhaisajya Ratnavali, editor. Chaukhambha prakashan, edition, Vatavyadhi adhikara 2016, 542.
 25. Vaidya Shri Laxmipti shastri, Yogaratnakar Biddyotini Hindi tika, editor. Chaukhambha prakashan; edition, Vatavyadhi chikitsa, Abalehakalpana 2021, 545.
 26. Dr. Nishteswar K, Dr. Vidyanath R. Sahasroyagam text with English translation, editor Chowkhamba Sanskrit series office, edition, Taila prakaranam 2020, 110.
 27. Kabiraj Atridev Gupta, Ashtangahriday Biddyotini Hindi tika, editor. Chaukhambha prakashan, edition 2016, A.H. Chikitsasthan GulmaChikitsa 518. Chakra Dutta mention in Amavatachikitsa; *Dr. K. Nishteswar and Dr. R. Vidyanath, Sahasroyagam text with English translation, editor. Chowkhamba Sanskrit series office, edition, Churna prakarana 2020, 184.