

ROLE OF KATIVASTI IN THE MANAGEMENT OF SANDHIGATA VATA (LUMBAR SPONDYLOSIS): A PILOT STUDY

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Abstract

Sandhigata Vata (Lumbar spondylosis), is a common clinical problem found in elderly people. When the vitiated Vata Dosa is localised at Katisandhi (lumbar joint), structural as well as functional changes are taking place and ultimately Shula (pain), Sopha (inflammation) etc. are developed in Katisandhi. Based upon its pathogenesis, Sandhigata Vata can be correlated with lumbar spondylosis in modern parlance. 60.85% of adults affect low back pain during some point of their life and 10% of those due to lumbar spondylosis. Various treatment options are mentioned in modern medicine like analgesic-anti inflammatory drugs, physiotherapy, spinal exercises, etc with their own limitations. In Sushruta Samhita, Upakarmas like Snehana (oleation), Upanaha (hot application), Bandhana (bandaging), Agnikarma (therapeutic cauterization) etc. are recommended for the management of Asthi Sandhigata Vikara. Hence this study was designed to evaluate the efficacy Kativasti (one type of Snehana Upakarma) with Narayana Taila in case of lumbar spondylosis. For that purpose 25 patients were selected and treated with Kativasti daily once for two weeks. After two weeks significant relief was observed in cardinal symptoms i.e. Katishula, Katistambha.

Key words: Kativasti; Lumbar spondylosis; Narayana taila; Sandhigata vata.

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INTRODUCTION

Sandhigata Vata is one of the most common Vatika disorder found in elderly age groups. In Ayurveda, its manifestation has clearly defined and understood that the vitiated Vata dosha produces Shula (pain), Sopha (swelling) and Hantisanshin (diminution of functions). Acharya Vagbhata has very rightly defined the Hantisanshin i.e. Akunchana Prasaranajanya Vedanan (pain during joint movements).^[1] Various aetiological factors eg. Abhighata (trauma), Dhatukshaya (degeneration), Dukhashayya (faulty posture), old age etc. are documented in Ayurvedic text.^[2] Similar causative factors are enumerated in modern medicine also. In Samprapti, vitiated Vata Doṣa (especially Vyana Vayu which is responsible for all types of body movements) is localized at Kati Pradesa (lumbar region) and reduces the movement (Karma Hani) of the Kati Sandhi. Simultaneously Kaphavrita Vyana Vayu is restricted the Rasa Rakta Sambahana (Blood circulation).^[3] Hence Sandhi does not get nutrition from Purva Dhatu and gradually initiates the Dhatu Kshaya (degenerative changes) and diminishes the Sleshmaka Kapha which facilitates the joint movements. If it is not controlled in this phase, Sandhi loses its normal structure and develops Hantisanshin (anatomical deformity), Sandhi Shula (pain), Sandhi Sopha (disc herniation), Karmahani (restriction of movement), Sunyata (numbness) etc.

Lumbar spondylosis is a degenerative condition of the lumbar vertebrae / spine. It affects to vertebral bodies as well as intervertebral disc. Initially low back pain is a common subjective complaint which further leads to worst pain during activity. The symptoms of radiculopathy may develop in latter stage of the disease. Various treatment options like NSAID (Non-steroid anti-inflammatory Drugs), epidural steroid injection, periradicular infiltration, surgical interventions, physiotherapy etc are the options for its management.^[4] But all these

treatment have their own limitations and complications. In Ayurveda several methods of treatment options like Snehana, Upanaha, Agnikarma, Raktamokṣana, Pancakarma, Bhesaja cikitsa etc. are available. All these methods have been recommended for management of Vatik disorders. Among these methods Snehana is a first & foremost Upakarama has been described by Sushruta to pacify the vitiated Vata Dosa.^[5]

Under the context of Vatavyadhi, Narayana Taila has mentioned as a most efficacious for all age group of patients because of its Vata Kapha Samaka and Rasayana property.^[6] Kativasti is one type of Bahya Snehana in which warm medicated oil is kept for specific time at the Kati Pradesha.^[7] It is a very simple and cost effective treatment modality. Routinely, it is in practice for the management of musculoskeletal pain without need of sophisticated instruments.

Hence this pilot study has been designed to validate the efficacy of Kativasti on Sandhigata Vata based upon the classical reference.

MATERIAL AND METHODS

25 diagnosed patients of Sandhigata Vata (lumbar spondylosis) were selected from Asthi Sandhi Marmagata Roga (ASMR) OPD, department of Shalya Tantra, I.P.G.T. & R.A. Hospital, Jamnagar, irrespective of age, sex, occupation.

Inclusion criteria

Patients having Sign & symptoms like Kati Sula (Lumbar pain), Kati Stambha (Stiffness in lumbar joint), Kati Graha (Restriction of Movement), Sparsha Asahyata (tenderness at Kati Pradesha) and degenerative changes in X-rays of lumbar spine were included in this study. Patients between the age group of 30 to 70 years were included in this study.

Exclusion criteria

The patients suffering from disorders like spinal abnormality, spondylolisthesis, ankylosing spondylosis, rheumatoid arthritis, recent spinal surgery and skin infection at lumbar area were excluded from study.

Required materials

Paste of black gram powder (Figure 1), 500 g / day, Narayana Taila^{[8][9]} (Table 1) 200ml, Gas stove, Container, Cotton and gauze pieces in quantity sufficient.

Duration

30 minutes for 15 days.

Temperature of the Oil

The oil was warmed up to body temperature. It was felt by putting the finger before pouring over the patient.

Procedure

Like other Para - Surgical procedure, Kativasti was done under three stages i.e. Purva Karma (before procedure), Pradhana Karma (main procedure) and Paschat Karma (after procedure).

Purva Karma

- Written informed consent was taken.
- Patients were advised for bowel clear and urine voided properly.
- Shaving of lumbar area was done in hairy patients.
- Black gram powder was mixed with required quantity of water and prepared semisolid form to make boundary. (Figure 2)
- Warmed up the Narayana Taila.

Figure 1: Black gram powder (Vigna mungo)



Figure 2: Black gram (Vigna mungo) Semisolid form



Pradhana Karma

Patients were advised to lie down on a simple table in prone position having comfortable manner and asked to expose lumbo-sacral area properly. After that a circular boundary was prepared with help of paste of black gram powder over the lumbo-sacral area with two inches height and four inches diameter. The inner side of the prepared boundary was properly sealed to avoid leaking of oil. Thereafter the prepared boundary was filled with luke warm Narayan Taila and was kept for 30 minutes. (Figure 3) During the procedure it was ensured that the temperature of oil was maintained by changing the warm oil. This procedure was carried once daily for 15 days.

Table 1: Ingredients of Narayana Taila

Kwatha Dravya				
Sl.No.	Ingredients	Latin name	Part used	Quantity taken
1.	Bilva	<i>Aegle marmelus</i> Linn	Root / stem bark	1 part
2.	Agnimantha	<i>Premna integrifolia</i> Linn	Root / stem bark	1 part
3.	Shyonaka	<i>Oroxylum indicum</i> Linn	Root / stem bark	1 part
4.	Patala	<i>Stereospermum suravalance</i> DC	Root / stem bark	1 part
5.	Paribhadra	<i>Erythrina indica</i> Lamk	Stem bark	1 part
6.	Prasarani	<i>Paederia foetida</i> Linn	Whole plant	1 part
7.	Ashwagandha	<i>Withania somnifera</i> Linn	Root	1 part
8.	Bruhata	<i>Solanum indicum</i> Linn.	Whole plant	1 part
9.	Kantakari	<i>Solanum surratance</i> Burn	Whole plant	1 part
10.	Bala	<i>Sida cordifolia</i> Linn	Root	1 part
11.	Atibala	<i>Abutilum indicum</i> Linn	Root	1 part
12.	Shwandashta (Gokshura)	<i>Tribulus terresteris</i> Linn	Whole plant	1 part
13.	Punarnava	<i>Borhevia diffusa</i> Linn.	Root	1 part
14.	Ambha	Water	--	96 part
15.	Tila taila	<i>Sesamum indicum</i> oil	--	6 part
16.	Shatavari Kwatha	<i>Asperagus recemosus</i> Willd.	Root tuber	6 part
17.	Go Ksheera	Cowmilk		24 parts
Kalka dravya				
1.	Shatapushpa	<i>Anthem sova</i> Kurz.	Fruit	1/10 part
2.	Devdaru	<i>Cedrus deodara</i> (Roxb.) loud.	Heart wood	1/10 part
3.	Jatamansi	<i>Nardostyichys jatamansi</i> DC	Rhizome / root	1/10 part
4.	Vach	<i>Nardostachys jatamansi</i> DC	Root	1/10 part
5.	Raktachandana	<i>Pterocarpus santalinus</i> Linn.f.	Heart wood	1/10 part
6.	Kustha	<i>Gentian kurroo</i> Royle.	Root	1/10 part
7.	Ela	<i>Eletria cardemomum</i> Maton	Root	1/10 part
8.	Shalparni	<i>Desmodium gangaticum</i> DC.	Whole plant	1/10 part
9.	Prushniparni	<i>Ureria picta</i> Desv.	Whole plant	1/10 part
10.	Mashaparni	<i>Teramnus labialis</i> Spreng.	Whole plant	1/10 part
11.	Mudgaparni	<i>Phaseolus trilobus</i> Ait.	Whole plant	1/10 part
12.	Rasna	<i>Pluchea lenceolata</i> Oliver & Hiern	Root / leaf	1/10 part
13.	Ashvagandha	<i>Withania somnifera</i> Dunal	Root	1/10 part
14.	Saindhava	Rock salt		1/10 part
15.	Punarnava mula	<i>Borhevi diffusa</i> Linn.	Root	1/10 part
16.	Shaileya	<i>Premnalía paralata</i> Ach.	Whole plant	1/5 part
17.	Tagar	<i>Valeriancha wallachii</i> BC	Root/rhizome	1/5 part

Table 2: Effect of therapy on cardinal symptoms: (n= 24)

Cardinal symptoms	BT	AT	% of Relief	S.D.	S.E.	T	P	Result
Kati Sula	4.17	2.17	48.00	0.29	0.06	33.23	<0.001	HS
Kati Stambha	2.58	1.04	59.68	0.51	0.10	14.84	<0.001	HS
Kati Graha	2.58	1.04	59.68	0.51	0.10	14.84	<0.001	HS
Sparsha Asahyata	2.58	1.25	51.61	0.56	0.12	11.57	<0.001	HS

Paschat Karma

- The major amount of oil was removed with help of a spoon and rest amount was removed with help of cotton swab.

- The boundary was detached from the body and that area was cleaned with gauze piece.
- Patients were advised to take rest in a relax position.
- The used oil and pasted was stored properly for reuse.

Figure 3: Narayana taila in situ at back region (Kativasti)



Precautions

During course of treatment, all the patients were advised to take complete rest, avoid forward, backward bending and lifting of heavy objects.

They were also restricted for Vata Vardhaka Ahara like intake of dry roasted food (khakra, mamra, chanadala, ragi), vegadharan (retention of natural urges), Mawa (tobacco preparation), masala and Vihar like vega dharana (controlling natural argues), lifting of heavy weight etc.

Assessment Criteria

Assessment was done on changes observed in clinical signs and symptoms. The scoring pattern was adopted for assessment of improvement in signs and symptoms.

Kati Sula (Back pain)

- 0-No-pain
- 1-Bearable pain with or without medication
- 2- Moderate pain relived by medication
- 3- Severe pain with disturbed routine work and relived by strong analgesics
- 4- Patient cannot tolerate

Kati Stambha (Stiffness of the waist)

- 0-No stiffness
- 1-Stiffness for few minutes after sitting for long duration but relieved by mild movements
- 2- Stiffness more than 1 hour or more than once in a day but routine works are not disturbed
- 3-Stiffness lasting for more than 1 hour or many times a day, mildly affecting the daily routine
- 4-Episodes of stiffness lasting for 2-6 hours, Daily routines are hampered severely

Kati Graha (Restriction of Movement)

- 0- No restriction of movement
- 1-Restriction in any one movement
- 2- Restriction in any two movements
- 3- Restriction in any three movements
- 4- Restriction in any four movements

Sparsha Asahyata (Tenderness)

- 0-No Tenderness
- 1- Mild Tenderness (without any sudden response)
- 2- Moderate Tenderness: wincing of face on pressure
- 3- Severe Tenderness: Resist touching

Kellgren-lawrence (KL) grading scale^[10]

- 0- No radiographic features of OA are present
- 1-Doubtful narrowing of joint space and possible osteophytic limping
- 2-Definite osteophytes, definite narrowing of joint space
- 3-Moderate multiple osteophytes, definite narrowing of joints space, some sclerosis and possible deformity of bone contour
- 4-Large osteophytes marked narrowing of joint space, severe sclerosis and definite deformity of bone contour

OBSERVATIONS AND RESULTS

In this study, majority of patients were female (71.25%) and belonging to age group 41-50 years. 58% patients were belongs to Vata Kaphaja Prakriti. 42.15% patients were house wife while only 10% of females were working in office. 10% patients had history of Abhighata, Marma injury (injury / fall / spinal injection). 79.85% of patients were not taking care of spine during work. 60% patients had taken modern treatment. 80% patients were reported having gradual onset, followed by 20% having history of sudden exertion.

On cardinal symptoms, (Table 2) 100% patients were given the history Kati Sula. Maximum 62.33 % patients of grade 3 were complained Kati Stambha (Stiffness in lumbar joint) followed by 54.54 % patients of grade 2.

Restricted movement (range of movement) was observed in 65% patients. Grade 2, Sparsha Asahyata was noted in 78% patients, followed by grade 1, Sparsha Asahyata was noted in 22% of patients. Bone degenerative changes were noted in all patients. According to KL scale grade 2 was found in 45% and rest of the patients were included under grade 1.

After the completion of two weeks treatment with Katvasti, the cardinal symptoms were statistically analysed. It was observed that Katvasti was rendered 48.00% relief in Kati Sula, 59.68% relief in Kati Stambha and Kati Graha. 51.61% relief was found in Sparsha Asahyata, while no changes were found on X-ray.

DISCUSSION

In Ayurvedic classics Sandhigata Vata has been described under Vata Vyadhi.^[11] It is manifested due to Vataprakopakara Nidanasa (Ahara and Vihara) and Dhatu Kṣaya in old age.^[12] In this study, Pradhavana (physical work), Abhighatas, Marma Abhighata (injury), Dukha Sayya (faulty bed), Dukha Asana

(faulty position) and old age were found as Vataprakopakara Nidanasa. These factors might be responsible for development of Sandhigata Vata. Due to these factors, Vata dosa might be vitiated and decreased Sleshmaka Kapha which lubricates the joint for better range of movement. Simultaneously, Kaphavritta Vyanavayu decreases Rasa-Rakta Sambahana (blood circulation) to Kati Sandhis. Hence the feature of Hantisaandhin i.e. Sandhi loses its normal structure and anatomical deformity takes place. During the progress of disease process, Asthivridhi (osteophyte formation) occurs between two adjacent vertebrae which causes compression of nerve root passes through the inter-vertebral foramen of the related vertebrae. The commonly observed symptoms viz. Kati Shula (low back pain might be due to spasm of para-spinal, sacrospinalis muscles and irritating of corresponding dermatome), Sandhi Sopha (disc herniation due Sandhikshaya), Akunchane Prasarane ca Vedana, Sunyati (numbness) (Pain during increasing of range of movement due to compression of nerve roots).

Kativasti' is a localized treatment therapy can be considered as one type Snehana Upakarma. As per Ayurvedic view, Taila is having the property of Vata Kapha samaka.^[13] In the context of Vata Vyadhi Chikitsa, Narayana taila is mentioned for the management of Vataja disorders. Narayana Taila has properties of Vata Kapha samaka, Rasayana, Sothahara. In Kativasti, the warm Narayana Taila was kept locally at lumbar part of the body by using 'Masha Pisti (prepared semisolid form of Masha)' for the period of 30mins. Due to Uṣnata (Heat), Prakupitta Vata Kapha Doṣa became pacified and increases the blood flow at Lumbo-Sacral area which helps to flush out the Prakupita Doṣa (pain producing biochemical substances) and rendered relief from painful spasm. At the same time it provides good nutrition to the affected area. So that it might be helped to control the disease process and provided the relief from Shula, Akunchane Prasarane ca

Vedana. Due to rejuvenation property of Taila increased the tone of muscle tissue and spinal nerves and rendered the relief from symptoms of irritating dermatomes.

CONCLUSION

The study concluded that Kativasti with Narayana Taila is an effective therapeutic modality for the symptomatic management of lumbar spondylosis and need to be studied in more number of patients.

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