

A COMPARATIVE CLINICAL STUDY OF 'KATIBASTI' AND 'MADHU TAILIK BASTI' IN THE MANAGEMENT OF 'TRIKAGRAH' W.S.R. TO LUMBAR SPINAL STENOSIS

Amitabh Kumar¹, Archana Pathak²

M.D. (Panchakarma), Ph.D. (Scholar), Mandsaur College of Ayurveda, Mandsaur, Madhya Pradesh, India

¹B.A.M.S; M.B.B.S; M.D (Obst. & Gynae)], Mandsaur, Madhya Pradesh, India

Email: drkumaramitabh@gmail.com

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ABSTRACT

Background: Strenuous work pattern, stressful life, excessive travelling and/or ageing are leading factors of lower backache. Almost 60-80 percent people have low back pain at some point in their lives. *Trikagraha*, which is a *Vata* dominant *Sandhiroga* affecting the *Kati* region can be correlated with Lumbar spinal stenosis based upon the pathophysiology and symptoms. **Aim and Objective:** The study was primarily aimed to evaluate the therapeutic effect of *Katibasti* and *Madhu Tailik Basti* in the management of *Trikagraha* w.s.r. to Lumbar Spinal Stenosis. **Materials and Methods:** Total 100 patients of *Katigata Vata* divided in two groups were selected and randomly allocated into two groups. In Group A - *Katibasti* with *Sahacharadi taila* was given, whereas in Group B- patients were offered *Katibasti* with *Sahacharadi taila* and *Madhu tailik basti*. *Basti* is administered for 8 days consecutively twice in a period of 30 days with a gap of 14 days between two cycles. **Result:** Efficacy of treatment was assessed on symptoms such as Back Pain, Painful Movement, Stiffness, Tingling Numbness, Weakness in Lower Limb and SLRT. The observation revealed that complete remission of symptoms of *KatigataVata* was more in patients treated with *Katibasti* with *Sahacharadi taila* and *Madhu tailik basti*. **Conclusion:** Clinically *Katibasti* with *Sahacharadi taila* and *Madhu tailik basti* has shown better result as compare to *Katibasti* with *Sahacharadi taila*.

Keywords: *KatigataVata*, Lumbar Spinal Stenosis, *Sahacharadi taila*, *Madhu tailik basti*

INTRODUCTION

Lumbar spinal stenosis or narrowing of the spinal canal is abnormal narrowing of spinal canal at lumbar region, may occur as a result of progression of spondylotic changes. Spinal cord or nerve root function may be affected, resulting in symptoms of

myelopathy or radiculopathy. It causes restriction to the spinal canal resulting in a neurological deficit may produce symptom like pain, numbness, parasthesia and loss of motor function.¹ It is becoming a major health issue all over the world as almost 60-80 percent

people have low back pain at some point in their lives.² Risk factor includes male gender, middle-old age, overweight, heavy lifting or twisting, stressful occupation, smoking and mental stress.³ The origin of spinal stenosis derives from a pathology localized in the spine, as in the case of degenerative lesion, herniation of disc, neoplastic lesion, infections, spinal injuries, fractures, spondylolisthesis, thickened ligaments, metabolic diseases like osteoporosis or more rarely rheumatologic diseases. Disc disease is most likely to occur at the L4-L5 or L5-S1 levels.⁴

The medical treatment and management includes conservative treatment like exercise, physiotherapy, rest, maintaining mobility, analgesics or NSAID, epidural steroid injections, spinal manipulation, traction therapy, multidisciplinary treatment or surgery in later course of the disease.⁵

In Ayurveda, *Triakagraha* is not described separately as disease under *Vata nanatmaja Vyadhi*, but the symptoms, etiopathogenesis resembles with Lumbar spinal stenosis. *Sharangadhara* has mentioned as *Triakashool* under the *Vataja nanatmaja vyadhi* marking its importance.⁶ The signs and symptoms of *Triakagraha* are *trikshool* (pain), *sthamba* (stiffness), *toda* (pin prickling sensation) and impairment of lifting of thigh. Treatment of *Vata vyadhi* includes *Snehana*, *Swedan*, *Basti* and *Shamanaushadhi* comprises *Vednasthapana*, *Rasayana* and *Nadibalya* drugs.⁷

Madhu Tailik vasti is a simplest type of *Basti* explained in classics. There is no restricted regimen for it. It is a cost effective, and time saving procedure when compared to other *Basti karmas*. Moreover, importance of the subject and its necessity to explore the exact mode of action has given an impetus to carry out a full-fledged scientific study.

The proposed study has been performed with some herbal drugs and their effects were evaluated with the help of clinical study and laboratory investigations. Hence, the research would fill a knowledge gap pave new avenues for enthusiastic workers to further advance in this field and find a better cure for this problem through *Panchakarma* therapy and long-term outcomes for patient with Lumbar spinal stenosis.

Aim of the Study:

To study the efficacy of *Katibasti* and *Madhu Tailik Basti* in the management of *Triakagraha* w.s.r. to Lumbar Spinal Stenosis.

Objective of Study:

- To study the functional improvement i.e. to assess the efficacy of *Katibasti* and *Madhu Tailik Basti*, in relieving symptoms of patients suffering from *Triakagraha*.
- To study the aetiopathogenesis, symptomatology and progress of Lumbar Spinal Stenosis as per diagnostic parameters of Ayurvedic & modern medical literature.

PLAN OF RESEARCH (Material and Methodology)

Type of study-Open (Non Blind), Comparative, Clinical study

Place of Study-

- a) Organization/Department where the work done.
The study was observed under Panchkarma Department of Mandsaur college of Ayurveda, Mandsaur.
- b) Geographical Area of Investigation.
The study was conducted at S. D. Ayurveda Medical College and Hospital, Ranchi, Jharkhand.

Research methodology:

Hypothesis: *Katibasti* and *Madhu Tailik basti* is effective in the treatment of Lumbar spinal stenosis.

Sources of Information:

- a. A clinical evaluation of patients has been done by collection of data through information obtained by history, physical examination and laboratory tests including radiological investigations.
- b. Review of literature was conducted from books, Authentic Research Journals, Websites and Digital Publications etc.

Sample Size- 100 patients divided in 2 groups (50 each) excluding dropouts with pre, mid and post test study design.

Inclusion Criteria

- Patients with classical features of Lumbar spinal stenosis explained in texts.
- Patients of any socio-economic status, both sexes and all ethnic origins.
- Patients with age group of 20-60 years.

- Acute and chronic but non-traumatic in nature.
- No other neurological deficit.
- Both fresh and treated cases were selected.

Exclusion Criteria

- Patients with uncontrolled metabolic and other systemic disorders.
- Psychiatric illness and pregnant women.
- Patients having Ca. of spine, Tumor of cauda equina, Fibrositis of sacral ligaments, Tuberculosis of spine.
- Patients having surgical intervention were excluded.

Criteria for Selection of Drug

Basti has been mentioned in the treatment of *Vata vyadhis*. *Katibasti* with *Sahacharadi taila* and *Madhu tailik basti* mentioned by Acharya Sushruta is a type of *Niruha basti* mainly contains *madhu* and *taila* in equal quantity. *Madhu tailik basti* in the form of *yoga basti* is considered as *laghu*, *ruksha*, *ushna*, *teekshna* and majority of the drugs are having *Vata-kapha shamaka* action. Also, the raw drugs are easily available and low cost compared to other therapy. Hence, these drugs were selected for research study.

Treatment Schedule

1. *Snehan* with *Sahacharadi taila* for 8 days
 2. *Swedan* – *Dashmool kwath nadi sweda* for 8 days
 3. *Katibasti* – with *Sahacharadi taila* for 8 days
 4. *Madhu Tailik Basti* – In a *yoga basti* course (8 days).
- Dose -720 ml on 2nd, 4th, 6th day morning in empty stomach
 - Along with this 5 *matra basti* with *Saindhavadi taila* in a dose of 60 ml on 1st, 3rd, 5th, 7th, 8th day in the afternoon immediately after food.

Ingredients of *Madhu Tailik Basti*-

- *Erandmool kwath* -340ml
- *Madhu* – 170ml
- *Murchit Til taila* – 170ml
- *Madanphala* – 1 in number
- *Saindhav lavan* – 10 gm
- *Satpushpa churna* – 20 gm

Group A: 50 patients on *Katibasti* with *Sahacharadi taila*

Purva Karma – *Masha Churna Pishti* was prepared. Patient was given prone position.

Pradhana Karma – The dough was made into a shape of circular ring corresponding to the area of pain in the lumbo-sacral region. Oil heated and poured into the circular rim and oil is being reheated to maintain the temperature. Procedure is to be done for 45 minutes.

Paschat Karma – Oil and dough removed and mild massage was given. The lumbo-sacral region was cleaned with lukewarm water.

Group B: 50 patients on *Katibasti* with *Sahacharadi taila* and *Madhu tailik basti*

Purva Karma – *Madhu tailik Basti* was prepared out of *Madhu* 170ml, *Saindhava* – 10 gms, *Murchit til taila* – 170ml, *Shatapushpa* – 20 gms, *Madanphala* – 1 No. and *Erandmool kwath* – 340ml. *Basti* is prepared according to the classical method. *Niruha basti* was given in empty stomach, where as *Anuvasana* after meal. Local *Snehan* with *sahacharadi taila* and *swedan* with *Dashmool Kwath* was done. Then patient has been advised to lie on the bed in left lateral position flexing his right knee and extending his left knee. Left hand of the patient was kept beneath his head. *Basti* was administered as per the *Yoga basti* schedule.

- *Niruha Basti* -Dose -720 ml on 2nd, 4th, 6th day morning in empty stomach
- Along with this 5 *matra basti* with *Saindhavadi taila* in a dose of 60 ml on 1st, 3rd, 5th, 7th, 8th day in the afternoon immediately after food.

Pradhana Karma –

Basti pranidhana and pratyagamana: With the help of a proper *Basti yantra* having proper *Netra*, *Basti dravyas* are injected into the rectum of the patients. At the time of drug administration patients are asked to take deep breath. After the administration of *Basti*, the patient is advised to maintain the same position for some time then they are advised to get in to supine position, till they get urge to pass stool. After *Basti dravyas* are expelled out, *Samyaka Yoga* – *Ayoga- Ati Yoga lakshanas* are observed.

Paschat Karma - After *Samyak Yoga* patient is advised to take luke warm water bath. Then they are advised to take proper diet and to avoid *Uchcha Bhashanadi Pariharya Vishayas*. If there is *Ayoga* or *Atiyoga Lakshana*, then that is treated accordingly. *Pathyapatya* is advised during *Basti Karma* and after the completion of *Basti Karma*.

Duration – *Basti* is administered for 8 days consecutively twice in a period of 30 days with a gap of 14 days between two cycles.

Parihar kala - 14 days

Total duration of treatment - 30 days

Follow up - 1 month

Diagnostic Criteria:

An elaborate Case Record Form (Proforma) incorporating the points of history taking and physical examination was prepared. It mainly emphasized on signs and symptoms of Lumbar spinal stenosis.

Routine laboratory investigation like CBC, RBS, Lipid profile, RFT, LFT, Urine test and radiological investigation like X-ray, CT scan, MRI was made to rule out other pathological conditions.

Diet Regimen

While prescribing the diet of the patients, concept of *Pathya-Apathya* related to *Vata Vyadhi* was kept in mind; light diet was advised as per the status of *Agni*.

Criteria for Assessment

The assessment was made before and after the treatment on scoring of signs and symptoms of Lumbar spinal stenosis. Results were analyzed statistically as per the assessment chart.

Statistical Tests

Wilcoxon Signed –Rank test was used for intra-group statistical analysis of result. The Mann-Whitney Rank Sum Test was used for intergroup comparison.

PARAMETERS AND GRADATIONS FOR ASSESSMENT OF RESULTS

Table 1: Showing parameters and gradation criterion

Parameter	Gradation					
	0	+	++	+++	++++	
Back Pain	No pain	Intermittent mild pain on neck movement	Continuous mild pain radiating to Hip region	Continuous moderate (bearable) pain radiating to Hip.	Continuous severe (non bearable) pain radiating to Hip & Lower limb	No pain
Mild = upto 6 hr Intermittent, Moderate.= 8-12 hr, Severe= 24 hrs continues						
Painful Movement	Complete without pain	Complete with mild pain	Incomplete with mild (bearable) pain	Incomplete with moderate (bearable) pain	Severe pain with restricted movements	Complete without pain
Stiffness	No stiffness	Mild stiffness along the neck	Mild stiffness along neck & shoulder	Moderate stiffness along Hip, Lower limb with painful lumbar movements	Severe stiffness with restricted lumbar movements	No stiffness
Tingling Numbness	No numbness	Mild tingling sensation without numbness	Tingling sensation with Intermittent numbness	Continues tingling numbness to toe	Severe tingling numbness to entire lower limb	No numbness
Weakness in Lower Limb	No weakness grade V muscle power	Mild weakness with grade IV muscle power	Moderate weakness with grade III muscle power	Moderate weakness with grade II muscle power	Severe weakness with grade I muscle power	Weakness in lower limb with grade V muscle power
SLRT	More than 90 degree	More than 90 degree with mild pain	71 – 90 degree, painful	51 – 70 degree, painful	31 – 50 degree, painful	Upto 30 degree, painful

ASSESSMENT OF DRUG RESPONSE

Table 2: Showing Assessment of drug response in the clinical study

Cured	100% subsidence of the complaints of the patient.
Markedly improved	50 – 75% relief in the complaints of the patient
Improved	25 – 50% relief in the complaints of the patient
Failure	Below 25% relief in the complaints of the patient.

STATISTICAL ANALYSIS

Table 3: Showing results obtained in Subjective and Objective parameters.

Symptoms	Prognosis / Assessment of result					
	Group A	p value	Result	Group B	p value	Result
Back pain	51.63%	P<0.001	Significant	52.94 %	P<0.001	Significant
Painful Movement	72.22%	P=0.008	Non Significant	73.68%	P<0.001	Significant
Stiffness	78.94%	P<0.001	Significant	85.71 %	P<0.001	Significant
Tingling Numbness	69.44%	P=0.002	Significant	71.42%	P<0.001	Significant
Weakness in Lower Limb	66.66%	P=0.008	Non Significant	66.66%	P=0.008	Non Significant
SLRT	42.85%	P=0.250	Non Significant	57.14%	P=0.125	Significant

OBSERVATION AND RESULTS

In this study, the subjective assessment of dependent variables was done & appropriate statistical test was applied to find out the significance of treatment.

Group A patients were treated with *Katibasti* with *Sahacharadi taila*. The statistical observations on dependable variables revealed that 51.63% patients got complete relief from Back pain. Further, 72.22% patients got relief from Painful Lumbar movement, 78.94% patients relieved from Stiffness, 69.44% patients relieved from Tingling numbness, 66.66% Patients relieved from Weakness in Lower limb and 42.85% patients showed improvement in SLRT.

Similarly, Group B patients were treated with *Katibasti* with *Sahacharadi taila* and *Madhu tailik basti*. The statistical observations on dependable variables revealed that 52.94 %patients got complete relief from 'Back pain'. Further, 73.68% patients got relief from Painful Lumbar movement, 85.71 % patients relieved from Stiffness, 71.42% patients relieved from Tingling numbness, 66.66% Patients relieved from Weakness in Lower limb and 57.14% patients showed improvement in SLRT.

DISCUSSION

The *Hetu* or causes of Spondylolisthesis & '*Katigat Vata*' (mentioned in Ayurvedic *Samhita*) causing *Vataprakop* & *Dhatukshaya* are similar. There are

degenerative changes due aging or trauma, changing in lifestyle & work pattern causing strain over lower back & travelling for prolong durations (causing continues jerk) and indulge in un salutary- unhealthy food habits causing nutritional deficit.

Due to all above aetiological factors, when the vitiated *Vata Dosha* gets lodged in '*Kati*' i.e. Lumbo-sacral region, '*Katigat Vata*' condition occurs. The resembling clinical features of Lumbar Spondylolisthesis & '*Katigat Vata*' which explore the co relation between these two ailments such as Lower backache (*Kati shool*), Stiffness (*Kati grah*), Restricted Lumbar movement (*Savedana Kati gati*), Radiating pain to the lower extremities (*Sanchari vedana*) and Degeneration of Lumbo-sacral spine (*Kati Asthi sandhi Dhatukshay*).

The study revealed that majority of the patients was having *VataKaphaj* or *VataPittaj Prakruti*. As the disease '*Katigat Vata*' is a '*Vatavyadhi*', *Vata* predominance in the *Prakruti* of the patient indicates that these people were prone to acquire *Vatavyadhi*.

In Group A symptoms such as Back pain, Stiffness and Tingling numbness showed significant improvement whereas, Painful Lumbar movement, weakness in Lower limb and SLRT prognosis was not significant. Further, In Group B, Back pain, Painful Lumbar movement, Stiffness, Tingling numbness and

SLRT showed improvement significantly, however, relief in weakness in Lower limb was not significant. For this study, Demographical data i.e. Age, Gender, Religion, Socio economic status, Occupation, Diet, *Prakruti* of the patients were the secondary aspects. They did not showed much significance in drawing conclusion, as the assessment was based on clinical findings.

PROBABLE MECHANISM OF ACTION OF THERAPY

Action of *Snehan- Swedan* and *Kati Basti* Procedure⁸

Snehan- Due to *Snehan karma* i.e. local oleation procedure, the vitiated *Doshas* which are adherent to the *srotasas* i.e. channels become soft & gets displaced from its places.

Swedan- Due to *Swedan karma* i.e. local fomentation, the vitiated *Doshas* gets liquefied & come to nearest *Koshta* i.e. passage or cavity, from where it can be easily removed.

Kati Basti- Vitiated *Doshas* and unwanted metabolites causing pressure on end nerves inducing pain can be easily eliminated by 'Kati Basti' procedure. It helps in pacifying the supply of nutrients to the adjacent muscle fibers and Lumbo-sacral vertebrae, forms newer healthier tissues thus, help in arresting degenerative process and strengthens the muscles and boney tissue.

Basti- Basti is preventive, promotive and curative therapeutic intervention as it is advised to undergo *Basti karma* during *Varsha rutu* as a part of seasonal purification to prevent the occurrence of seasonal *Vata* disorders. Basti annihilates the *Dosha*, Mala by eliminating them out of the body, regulates the *Vata dosha*, cleanses the channels and enhances the tissue, prevents the occurrence of the disease, promotes the health and cures the ailment. *Yapana Basti* is the further progress in the field of *Bastikarma* specially designed to enhance status of *Shukra*, *Mamsa*, *Bala*; to check the process of aging, to enhance the tissues. It is particularly indicated in king, the person of such tender nature, the women, the children, old person to remove the morbid *dosha* and to gain the strength and

complexion, indicates its *mrudu* nature. It does not require any regimens, may be given at any time, without complication and provides much better results.

CONCLUSION

The resembling clinical features of Lumbar spinal stenosis and *Katigat Vata* such as Gradual Pain in the Lumbar region which worsens in morning, Painful movements, Stiffness, Tingling Numbness & Weakness in Lower limbs co relates these two diseases. The Ayurvedic pathogenesis can be explained as- Vitiated *Vata* diminishes *Shleshak Kapha* causing degeneration of *Asthi Dhatu* and further involving *Mans Dhatu* to produce symptoms of *Katigat Vata* like tenderness, pain, stiffness, restriction of the movements etc.

In this study, the common symptoms of '*Katigat Vata*' were relieved with *Katibasti* with *Sahacharadi taila* which proved statistically significant

The study revealed that in Group A, in which patients were treated with *Katibasti* with *Sahacharadi taila* got significant relief in symptoms such Back pain, Stiffness and Tingling numbness, however, in Group B, in which patients were offered combination regimen got statistically significant improvement in all the parameters except weakness in Lower limbs. The interpretation of efficacy and probable mechanism of action of therapy can be explained by combined result of Action of the drug- *Katibasti* with *Sahacharadi taila* and *Madhu tailik basti* Therapy.

Hence, we can conclude that *Katibasti* with *Sahacharadi taila* and *Madhu tailik basti* has shown better result as compare to *Katibasti* with *Sahacharadi taila*.

Limitation of study and future scope - It is recommended that the further study should be carried out in large number of patients to evaluate and analyze the results.

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