



## Research Article

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### A SYSTEMATIC STUDY OF MADHU TAILIK BASTI IN LUMBAR SPINAL STENOSIS

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#### ABSTRACT

Lumbar spinal stenosis is abnormal narrowing of spinal canal at lumbar region, may occur as a result of progression of spondylotic changes. In this observational clinical study Madhu tailik basti was administered as Yoga basti for a period of 8 days. The Madhu tailik basti provided a highly significant effect on pain, stiffness, pricking sensation, twitching and significant effect on heaviness. SLR test, tenderness and Oswestry disability index showed highly significant effect of treatment. The overall assessment showed; most of the patients, that is 07 patients (70%) were showed marked relieved, followed by 03 patients (30%) were moderately improved after completion of the treatment. The drugs used in Madhu tailik basti are considered as Laghu, Ruksha, Ushna, Teekshna having Vata-kapha shamaka action. Owing to this property, antagonism to Kapha and Vata & the Teekshna Guna of basti help in overcoming the Srotodushti causes potent anti-inflammatory, pain relieving effect. There was improvement in overall functional status after eight days treatment with Madhu tailik basti. The patients can make significant gains in symptoms, SLR angle and Oswestry disability index score in relatively short periods of time. Despite the limitations of this clinical study, conclude that the Madhu tailik basti is a simple and effective treatment modality for Lumbar spinal stenosis without any adverse effects.

**Keywords:** Lumbar spinal stenosis, Madhu Tailik Basti, Trikagraha, Trikashool.

#### INTRODUCTION

In modern era, the low back pain is common problem seen due to changing life style and nature of work. Out of which most of the persons have low backache with radiating pain to the foot and with restricted movements of the spine. 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.<sup>1</sup> It hampers the daily routine activity and patient has to suffer a lot. Almost 60-80 percent people have Low back pain at some point in their lives.<sup>2</sup> Risk factor includes male gender, middle-old age, overweight, heavy lifting or twisting, stressful occupation, smoking and mental stress.<sup>3</sup> 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.<sup>4</sup>

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.<sup>5</sup>

In Ayurveda, Trikagraha is not described separately as disease under Vata nanatmaja vyadhis but the symptoms, etiopathogenesis resembles with Lumbar spinal stenosis. Sharangadhara has mentioned as Trikashool under the Vataja

nanatmaja vyadhis marking its importance.<sup>6</sup> The signs and symptoms of Triagraha are trikashool (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.<sup>7</sup> In this study Madhu tailik basti was administered as Yoga basti for a period of 8 days. The purpose of this observational clinical study is to describe a Phanchakarma therapy program and long-term outcomes for patient with Lumbar spinal stenosis.

#### Objectives

1. Conceptual study of Trikagraha with special reference to Lumbar spinal stenosis.
2. To study the efficacy and mode of action of Madhu Tailik basti in Lumbar spinal stenosis.

#### MATERIALS AND METHODS

The research study entitled "A systematic study of Madhu Tailik Basti in Lumbar spinal stenosis" was an observational clinical trial done with Panchakarma therapy.

#### Methods of collection of Data

A clinical study of patients attending the OPD was made and patients fulfilling the criteria of diagnosis as per the research paper were selected for the study. A clinical evaluation of patients was done by collection of data through information obtained by history, physical examination, and laboratory tests including radiological investigations.

### 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.

### Informed consent

An informed written consent was obtained from all patients. The consent form was prepared in accordance with the guidelines of WHO Research Ethics Review Committee (ERC).

### Ethical and Legal Committee

The research work was conducted after the ethical clearance/ approval was obtained from the UAU Ethics committee.

### Criteria for Selection of Drug

Basti has been mentioned in the treatment of Vata vyadhis. Madhu tailik basti mentioned by Acharya Sushruta is a type of niruha basti mainly contains madhu and taila in equal quantity.<sup>8</sup> 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. Snehana with Sahacharadi taila for 8 days
2. Swedan – Dashmool kwath nadi sweda for 8 days
3. **Madhu Tailik Basti** – In a yoga basti course (8 days).

- Dose -720 ml on 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup> day morning in empty stomach
- Along with this 5 matra basti with Saindhavadi taila in a dose of 60 ml on 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup> 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

### Diagnostic Criteria

An elaborate case paper 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.

### Research Design

It was an observational clinical study, patients were assigned into single group consisting of 10 patients excluding dropouts with pre, mid and post test study design.

### 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.

### Instrumentation

Scoring pattern was developed according to severity of symptoms.

Pain	Stiffness
0 : No pain	0 : No stiffness
1 : Painful, walks without limping	1 : 20% limitation of normal range of mobility
2 : Painful, walks with limping but without support	2 : 50% limitation of mobility
3 : Painful, can walk only with support	3 : 75% or more reduction of normal range of movement
4 : Painful, unable to walk	

Pricking Sensation	Twitching
0 : No pricking sensation	0 : No twitching
1 : Mild pricking sensation	1 : Mild twitching (sometime for 10-15 minutes)
2 : Moderate pricking sensation	2 : Moderate twitching (daily for 15-30 minutes)
3 : Severe pricking sensation	3 : Severe twitching (daily more than 1 hour)

Heaviness	Tenderness
0 : No heaviness	0 : No tenderness
1 : Mild heaviness	1 : Mild tenderness
2 : Moderate heaviness	2 : Moderate tenderness
3 : Severe heaviness	3 : Severe tenderness

**Straight Leg Raising Test (SLRT)**

Angle below 40° – Intra spinal compression	Angle above 40° – Extra spinal compression
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**The Oswestry Disability Index<sup>9</sup>**

0% to 20% (minimal disability)	The patient can cope with most living activities. Usually no treatment is indicated apart from advice on lifting sitting and exercise.
21% -40% (moderate disability)	The patient experiences more pain and difficulty with sitting, lifting and standing. Travel and social life are more difficult and they may be disabled from work. Personal care, sexual activity and sleeping are not grossly affected and the patient can usually be managed by conservative means.
41% -60% (severe disability)	Pain remains the main problem in this group but activities of daily living are affected. These patients require a detailed investigation.
61% -80% (crippled)	Back pain impinges on all aspects of the patient's life. Positive intervention is required.
81% -100% (Bed ridden)	These patients are either bed-bound or exaggerating their symptoms.

**Assessment of total effect:** The total effect of therapy was assessed as

Assessment	Score
Complete cure	100%
Marked Relief	> 50%
Moderate Response	> 25 to 50%
Mild Improvement	< 25%
No response	0%

**OBSERVATION**

The effect of Madhu tailik basti was studied in 10 patients suffering from Lumbar spinal stenosis, fulfilling the inclusion criteria. The observations were as follows: Maximum numbers of patients were obtained in the age group of 51-60 years that is 60% followed by 30% patients in the age group of 41-50 years and 10% patients in the age group of 31 to 40 years. Male patients were 70% and female patients were 30%. Most of the patients 60% were manual laborers and the maximum numbers of patients 70% were from lower-middle income group. Most of the patients 60% were vegetarian. 40% of patients gave the

history of illness from 1-3 months, and 60% gave the history of above 3 months.

**RESULTS**

The Madhu tailik basti provided a highly significant effect on the symptom; pain, stiffness, pricking sensation, twitching and significant effect on heaviness. The relief percentage in individual symptoms of Lumbar spinal stenosis revealed a better therapeutic efficacy of Madhu tailik basti (Table 1). SLR test, tenderness and Oswestry disability index showed highly significant effect of treatment in patients suffering from Lumbar spinal stenosis (Table 2). The overall assessment showed; most of the patients, that is 07 patients (70%) were showed marked relieved, followed by 03 patients (30%) were moderately improved after completion of the treatment (Table 3).

There was improvement in overall functional status after eight days treatment with Madhu tailik basti. There was no need to take any pain killer during the treatment. There was no side effect observed during the treatment as well as after the completion of treatment.

**Table 1: Effect of Therapy on symptoms of 10 patients of Lumbar spinal stenosis**

Symptom	BT	AT	Diff. Mean	% Relief	SD	SE	't' value	P value
Pain	3.000	1.300	1.700	56.66	0.483	0.153	7.965	P<0.001
Stiffness	2.600	1.300	1.300	50.00	0.483	0.153	5.814	P<0.001
Pricking sensation	2.300	1.100	1.200	52.17	0.422	0.133	6.573	P<0.001
Twitching	2.700	1.200	1.500	55.55	0.707	0.224	7.398	P<0.001
Heaviness	1.500	1.000	0.500	33.33	0.527	0.167	3.000	P<0.01

BT: Before Treatment, AT: After Treatment

**Table 2: Effect of drugs on SLR test, Tenderness and Oswestry disability Index**

Symptom	BT	AT	Diff. Mean	% Relief	SD	SE	T	P
SLR	40.00	57.10	17.10	42.75	4.701	1.487	7.322	P<0.001
Tenderness	2.50	1.30	1.20	48.00	0.632	0.200	5.308	P<0.001
Oswestry disability Index	63.20	35.90	27.30	43.19	9.166	2.898	7.255	P<0.001

BT: Before Treatment, AT: After Treatment

**Table 3: Overall effect of Madhu tailik basti in 10 patients of Lumbar spinal stenosis**

Result	Number of Patients	Percentage
Marked Relief	07	70%
Moderate Response	03	30%

## DISCUSSION

Lumbar spinal stenosis is the narrowing of open spaces in the lumbar spine which causes pressure on the spinal cord and nerves. About 75% of cases of spinal stenosis occur in the lumbar spine. In most cases, the narrowing of the spine associated with stenosis compresses the nerve root, which can cause pain along the back of the leg.

Trikagraha is a shula pradhan vata nanatmaja vyadhi affecting locomotors system and leaving the person disable from daily routine activity. In the pathogenesis of disease, important components are vata and kapha. The vitiated vata gets lodged in katipradesh.

The primarily symptom pain which is produced mainly by vata prakop and basti is best treatment for vata. Drugs acting on vatadosh, asthi, majja dhatu and katisthana were selected for the study.

Snehan karma stimulates the sensory nerve endings and provides strength to the muscles. Sahacharadi taila<sup>10</sup> comprises mainly sahachara, devadaru, sunthi and tila taila. All these drugs are snigdha, ushna, vata kaphashamaka and possess anti-inflammatory and analgesic properties. Swedan enhance local microcirculation, by increasing the diameter and blood flow velocity of peripheral arterioles, delivering higher level of oxygen and nutrients to the injured cells.<sup>11</sup>

Dashmool kwath<sup>12</sup> Nadi sweda are ushna, vata-kaphahara guna, which also help in relieving symptoms of Lumbar spinal stenosis.

Madhu tailik basti mentioned by Acharya Sushruta is a type of niruha basti mainly contains madhu and taila in equal quantity. It is free from complications and having broad-spectrum efficacy and it does the purpose of eliminating doshas and of improving strength and complexion. It does not require any regimens, may be given at any time, without complication and provides much better results.

Madhu tailik basti is a treatment for vatavyadhi by virtue of its Rasayana facilitation.

Madhu is having madhur rasa, kashaya anurasa, laghu, ruksha, yogavahi, lekhan guna and sheeta virya which helps to reduce kapha and meda.<sup>13</sup> Tila taila is having properties like teekshna, ushna, madhur rasa and vipaka, balya, rasayana, vata-kaphahara in nature; nourishes and strengthens all the dhatus and thus alleviates vata.<sup>14</sup> Snigdha and guru guna decreases rukshanta of vata and with the help of ushna guna and virya it alleviates vata; the vikasi property reduces the spasms. Erand is having madhur, katu, kashaya rasa, snigdha, teekshna, sookshma, ushna, kaphavata shamak, shothahara, vedanasthapana, marga visodaka properties.<sup>15</sup>

For Anuvasan, Saindhavadi taila<sup>16</sup> was used. Most of the drugs are vata-kaphaghna in nature.

As a whole the qualities of drugs in Madhu tailik basti are considered as laghu, ruksha, ushna, teekshna. Majority of the drugs are having vata-kapha shamaka action. Owing to this property, antagonism to kapha and vata the basti helps in significant improvement in sign and symptom of disease. The teekshna guna of basti help in overcoming the srotodushti resulting due to 'sanga'. Combination of above drugs in Madhu

tailik basti causes potent anti-inflammatory, pain relieving effect.

## CONCLUSION

The present observational clinical study signifies the role of Madhu tailik basti in the treatment of Lumbar spinal stenosis. The patients can make significant gains in symptoms, SLR angle and Oswestry disability index score in relatively short periods of time. Despite the limitations of this clinical study, conclude that the Madhu tailik basti is a simple and effective treatment modality for Lumbar spinal stenosis without any adverse effects. Though this study was carried out in limited patients for a limited period, the mass study programming is needed for further huge database statistical study.

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