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Research Article

EFFECT OF *RASNA TAILA MATRA BASTI* IN LUMBAR SPONDYLOSIS

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ABSTRACT

Lumbar spondylosis or osteoarthritis of spine is one of the most common types of arthritis where patient complain of back pain that increases with movement and associated with stiffness. Due to the hyaline articular cartilage loss and its disordered repair resulting increased thickness and sclerosis of the subchondral bony plate and overgrowth of bony substances at joint margin which is known as osteophyte.

Vertebral column is the *Asthi dhatu* in *Ayurveda. Panchabhautik* composition of *Asthi dhatu* is *Prithvi, Vayu* and *Akash. Vata dosha dusti* leads to *Asthi dhatu kshaya* and *Asthi kshaya* may leads to *Vata vriddhi*. This is known as *Ashraya ashrayee bhava* of *Asthi dhatu* and *Vayu.* So, to treat the *Asthi kshayaja vyadhi* i.e. lumbar spondylosis, *Vata* pacifying measures will be helpful.

Keeping that view in mind *Rasna taila* which has *Vata samak* and *Brimhaniya* (nourishing) property was selected as *Matrabasti* to use in 15 number patient of lumbar spondylosis in the dose of 60 ml. No any other medication was allowed orally or through any other route during trial period and efficacy of the therapy was observed on the basis of subjective and objective parameters. In all the parameter result was highly significant i.e. $p<0.001$. This observation helps us to consider lumbar spondylosis as a *Dhatukshayaja vata vyadhi*.

KEYWORDS: *Lumbar spondylosis, Dhatukshaya, Rasna taila, Matrabasti.*

INTRODUCTION

Spondylosis, osteoarthritic spine disease, primarily involves the cervical and lumbosacral spine. Patients often complain of back pain that increases with movement and is associated with stiffness.[1]

The lesions of osteoarthritis (OA) occur from degeneration of the articular cartilage and its disordered repair.[2] These includes cartilage loss (seen as joint space loss on X-ray) and Osteophytes formation.[3]

Similar symptoms with Lumbar spondylosis can be found in different *Vata vyadhi* such as *Kati trik graha* (lumbosacral region stiffness), *Pristha graha* (back stiffness), *Gridhrashi* (sciatica), *Asthimajja gata vata* (where pain is a symptom), *Asthi majjavrit vata* (where pain is a symptom), *Khanja* (loss of function of lower limb), *Pangulya* (loss of function of both limb)etc.[4]

Vata vyadhi is mostly precipitated by two factors– *Marga avaran*, (where neural signals are obstructed somewhere.) and *Dhatu kshaya* (where tissue elements are degenerated or destroyed or atrophied).[5]

Vertebral column is considered as *Asthi dhatu* (bone) in *Ayurveda*. There is relation with *Asthi dhatu* and *Vayu. Asthi* is *Ashraya* and *Vayu* is *Ashrayee* (*Vayu* resides in *Asthi*).[6] If there is *Asthi kshaya* then there will be *Vata vriddhi*. So, we can consider Lumbar spondylosis as *Dhatukshayaja vata vyadhi* and for the *Samprapti vighatan* (Treatment), *Vata samak* measures may use. In this present study we used *Rasnataila*[7] *Matrabasti.*

Keeping that view in mind, the present study was conducted with the following Aim and Objective.

AIM AND OBJECTIVE

- Clinical trial of *Rasna taila matrabasti* in Lumbar spondylosis.

MATERIAL AND METHODS

- Subject- 15 patients
- Selection-

Diagnosed patients of Lumbar spondylosis were randomly selected from OPD & IPD of GACH Jalukbari, Guwahati, Assam.

Inclusion Criteria

- Diagnosed case of Lumbar spondylosis
- Age limit 18-70 years

Exclusion Criteria

- Patient who develop secondary complications such as stool and urine retention etc.
- Patient with other systemic diseases
- Pregnant lady

Drug Review

- *Rasna taila is* a *Vatasamak taila*[7] which can use as *matrabasti* (Anoractal administration). *Basti* is considered as *Ardhachikitsha* (half treatment) for *Vata*.

  Composition of *Rasna taila* is *Rasna kalka* (*Rasna* paste), *Rasna kwath*, (Decoction prepared by *Rasna* and milk) and *Murchita tila taila* (Purified *Tila* oil).

  Medicine was prepared at State Ayurvedic pharmacy, Govt.Ayurvedic College & Hospital. Guwahati, Assam.

Table:1. Herbs Used for Preparation of *Rasna Taila*

Name	Botanical Name	*Rasa*	*Guna*	*Virya*	*Vipak*	*Doshakarma*
Tila	*Sesamum indicum*	*Madhura*	*Guru, Snigdha*	*Ushna*	*Madhura*	*Tridosha samak*
Rasna	*Pluchea lanceolata/ Vanda roxburghii* R.Br	*Tikta*	*Guru*	*Ushna*	*Katu*	*Vata Kapha samak*

Analytical study of drugs

Analytical study of *Rasna taila* was done at "Office of the State Drug Testing Laboratory (Ayush)" Jatukbari, Guwahati. Result of the test or analysis was as follows.

Table 2: Analytical Study Report

Test	*Rasna taila*
1. Specific Gravity	0.972
2. Acid value	13.46
3. Saponification value	83.31
4. Refractive index	1.474

Routine Examination, Assessment And Follow Up

- The full history of the patient was recorded as per specially designed proforma.
- Clinical assessment was done and recorded on '0' day, 15th day and 1month onwards.
- Duration of the treatment-14days.
- Dose- 60ml daily.

Methods of Assessment of Treatment

The changes in subjective and objective parameters before and after treatment were considered for assessment of the efficacy of the drug.

Clinical assessment was done and recorded on '0'day/ before treatment and on 15th day/after treatment.

The subjective and objective parameters were measured with the help of score and grade.

The subjective parameters are Pain, Radiation of pain, Stiffness, Numbness, Bending & weight lifting, Sitting, Standing, and Sleeping.

The objective parameters are, SLR, Tenderness.

Table 3: Grading of Subjective & objective Parameters

Grading of Subjective Parameters		
1. Pain	No pain at rest No pain while working/ walking No disturbance of sleep due to pain	0
	No pain at rest Mild and tolerable pain while working/walking No disturbance of sleep due to pain	1
	Mild pain at rest Moderate and tolerable pain while working/ walking No disturbance of sleep due to pain	2
	Moderate to severe pain at rest Severe to intolerable pain while working/ walking Disturbance of sleep due to pain	3
2. Radiation of pain	Pain never radiates	0
	Pain radiates in major movements	1
	Pain radiates also in moderate movements	2
	Pain radiates even in minor movement	3
	Pain radiates all the time	4
3. Numbness	No numbness	0
	Numbness in some portion of any one of the leg	1
	Numbness all over one leg	2
	Numbness some portion of both leg	3
	Numbness all over the both legs	4
4. Stiffness	No stiffness	0
	In morning only 5 to 10 minutes	1
	Daily 10 -30 minutes	2
	Daily in different time 30 -60 minutes	3
	Daily for more than 1 hour	4
5. Bending and weight lifting	Patient can lift above 15 kg without any complain of low back pain	0
	Patient complaining LBP while lifting above 10 kg	1
	Patient complaining LBP while lifting 5 kg	2
	Patient is unable to bend and lift	3
6. Sitting	Sitting in an ordinary chair more than 30 minutes without pain	0
	Patient complaining LBP while sitting in an ordinary chair after 20 minutes	1
	Patient complaining LBP while sitting in an ordinary chair after 10 minutes	2
	Patient complaining LBP just after sitting in an ordinary chair	3
7. Standing	Standing in one place more than 30 minutes without any complains.	0

	Patient complaining LBP after 20 minutes of standing in one place	1
	Patient complaining LBP after 10 minutes of standing in one place	2
	LBA starts within 5 minutes of standing in one place	3
8. Sleeping	Sleep never disturbed by pain	0
	Sleep disturbed occasionally by pain	1
	Sleep disturbed frequently by pain	2
	Sleep disturbed very frequently by pain	3
Grading of Objective Parameters		
1. S.L.R.	90^0	0
	60^0	1
	30^0	2
	0^0	3
2. Tenderness	Patient doesn't feel pain during examination	0
	Patient feel mild pain during examination of the tender area	1
	Patient feel moderate pain during examination of the tender area	2
	Patient doesn't allow to examine the tender area	3

S.L.R. (Straight Leg Raising)

Investigations- Haemoglobin, Total WBC count, Differential leukocyte count, ESR, X-ray Lumbosacral spine.

Trial Methodology: The modern methodology for trial and statistics design was suitably adopted for the present study.

Simple Random Sampling: The selection of patient for the study was done in a randomized design.

Observation and Results

Demographic profile- Among 15 patients of Lumbar spondylosis, 33.33 % belong to the AGE group of (31-40) years, 26.66% belong to the age group of (41-50) years, again 26.66% belong to (51-60) years, 6.66% belong to the age group of (61-70) years, again 6.66% belong to the age group of (18-30) years.

In case of Lumbar spondylosis, maximum numbers of patient i.e. 33.33% belong to (31-40) years of age followed by 26.66% patients of (41-50) years of age and again 26.66% patients of (51-60) years of age. It may be due to the work overload during young age group and there may be nutritional imbalance following pregnancy and lactation. Bone decaying started in elderly people so Lumbar spondylosis is common in elderly people.

In case of Gender, among 15 patients of Lumbar spondylosis 80% were female and rest 20% were male.

Here, female are more sufferer may be due to their abnormal posture of spine during house hold works. Bone density of female is less than male. After delivery, during lactation and after menopause level of calcium reduces which may leads to development of vertebral weakness.

Relating to Occupation in lumbar spondylosis, 73.33% patients were housewives, 13.33% patients were service holder (mental work), 6.67% were heavy worker, and again 6.67 % were service holder (physical).

In case of Lumbar spondylosis, housewives are more sufferers because of abnormal posture of spine during house hold works like excessive forward bending, lifting of heavy objects etc.

There were 66.67% patients with normal Gait and rest 33.33% patients had abnormal gait.

Incidence of abnormal gait in Lumbar spondylosis patient is comparatively low because all kinds of osteophyte cannot compress nerve root so there is less chance of pain radiation to legs.

According to the assessment of *Deha Prakriti* in 15 patients of Lumbar spondylosis, 46.67% belong to *Vata kapha prakriti*, again 46.67 % belong to *Vata pitta prakriti* and rest 6.67% belong to *Pitta kaphaja prakriti*.

Clinical profile

In clinical trial data were obtained from subjective and objective parameters and the obtained data were converted from qualitative to quantitative data and they were graded as 0,1,2,3,4 depending upon their severity as absence, mild, moderate and severe character.

All the data of subjective and objective parameter before and after treatment were summarized by using frequency distribution table and analysed statistically.

Table 4: Statistical analysis of *Rasna taila matrabasti* on subjective parameters

Symptoms	Mean of BT	Mean of AT	Mean BT-Mean AT	% of Relief	BT SD	AT SD	SE	't' at df=14	P
Pain	2.87	0.67	2.2	76.6%	0.35	0.49	0.11	15.2	<0.001
Radiation of pain	1.53	0.40	1.13	73.8%	0.64	0.63	0.16	12.47	<0.001
Numbness	0.40	0	0.40	100%	0.51	0	0.06	3.05	<0.001
Stiffness	0.93	0.13	0.8	86.02%	0.59	0.35	0.12	7.48	<0.001
Bending and weight lifting	2.8	0.80	2	71.4%	0.41	0.41	0.11	14.49	<0.001
Sitting	1.47	0.13	1.34	91.15%	0.64	0.35	0.13	10.58	<0.001
Standing	1.40	0.27	1.13	80.7%	0.51	0.46	0.12	12.47	<0.001
Sleeping	1.33	0.20	1.13	94.9%	0.49	0.41	0.12	12.47	<0.001

In case of Pain, before treatment mean ± SD was 2.87±.0.35 and it declined to 0.67±0.49 after treatment. At 14 degree of freedom t=15.2, p<0.001, Hence the result was highly significant. There was 76.6% improvement in pain. (Table:4)

In case of Radiation, before treatment mean ± SD was 1.53±.0.64 and it declined to 0.40±0.63 after treatment. At 14 degree of freedom t=12.47, p<0.001, Hence the result was highly significant. There was 73.8%improvement in radiation of pain. (Table:4)

In case of Numbness, before treatment mean ± SD was 0.40±.0.51 and it declined to 0 after treatment. At 14 degree of freedom t=3.05, p<0.001, Hence the result was highly significant. There was 100% improvement in numbness. . (Table:4)

In case of Stiffness, before treatment mean ± SD was 0.93±.0.59 and it declined to 0.13±0.35 after treatment. At 14 degree of freedom t=7.48, p<0.001, Hence the result was highly significant. There was 86.02% improvement in stiffness. (Table:4)

In case of Bending & weight lifting, before treatment mean ± SD was 2.80±.0.41 and it declined to 0.80 ±0.41 after treatment. At 14 degree of freedom t=14.49, p<0.001, Hence the result was highly significant. There was 71.4% improvement in bending & weight lifting. (Table:4)

In case of Sitting, before treatment mean ± SD was 1.47±.0.64 and it declined to 0.13±0.35 after treatment. At 14 degree of freedom t=10.58, p<0.001, Hence the result was highly significant. There was 91.15% improvement in sitting. (Table:4)

In case of Standing, before treatment mean ± SD was 1.40±.0.51 and it declined to 0.27±0.46 after treatment. At 14 degree of freedom t=12.47, p<0.001, Hence the result was highly significant. There was 80.7% improvement in standing. (Table:4)

In case of Sleeping, before treatment mean ± SD was 1.33±.0.49 and it declined to 0.20±0.41 after treatment. At 14 degree of freedom t=12.47, p<0.001, Hence the result was highly significant. There was 94.9% improvement in sleeping. (Table:4)

Table 5: Statistical analysis of *Rasna taila matrabasti* in Objective parameters

Parameters	Mean of BT	Mean of AT	Mean BT-Mean AT	% of Relief	BT SD	AT SD	SE	't' at df=14	P
SLR	2.13	0.13	2	93.8%	0.64	0.35	0.13	14.49	<0.001
Tenderness	1.80	0.07	1.73	96.1%	0.56	0.26	0.10	11.3	<0.001

Sd (Standard Deviation), Se (Standard Error) And Paired 'T'-Test of Significance, P (Probability)

In case of S.L.R., before treatment mean ± SD was 2.13±.0.64 and it declined to 0.13±0.35 after treatment. At 14 degree of freedom t=14.49, p<0.001, Hence the result was highly significant. There was 93.8% improvement in S.L.R. (Table:5)

In case of Tenderness, before treatment mean ± SD was 1.80±.0.56 and it declined to 0.07±0.26 after treatment. At 14 degree of freedom t=10.31, p<0.001, Hence the result was highly significant. There was 96.1% improvement in tenderness. (Table:5)

Laboratory Changes of Lumbar Spondylosis After Treatment

i. Haemoglobin, TC, DLC and ESR were done before and after treatment. But it didn't show any remarkable change after treatment.

ii. All the Lumbar spondylosis patients were diagnosed on the basis of X-ray lumbosacral spine report. In X-ray report, there was no remarkable changes were noticed after treatment.

DISCUSSION

Vata vyadhi is mostly precipitated by two factor– *Marga avaran*, (where neural signals are obstructed somewhere.) and *Dhatu kshaya* (where tissue elements are degenerated or destroyed or atrophied).

Low back pain is a common problem in present era. There are various causes of low back pain. Lumbar spondylosis is very common among them. The pathological process of this disease is hyaline articular cartilage loss and its disordered repair. This is accompanied by increasing thickness and sclerosis of the subchondral bony plate, by overgrowth of osteophytes at the joint margin.

In this present study we used *Rasna taila (Vata samak taila)* as *Matrabasti* (anorectal administration of oil). *Basti* (anorectal administration of drugs) is considered as the *Ardha chikitsha* (half treatment) for any kind of *Vatik* disorder and *Taila* is also considered as a best *Sneha dravya* among the all four *Snehas (Ghruta, Taila, Vasa, Majja)* to pacify the *Vata*.

Medicine was prepared at State Ayurvedic pharmacy, Govt.Ayurvedic College & Hospital. Guwahati, Assam. Analytical study of *Rasna taila* was done at "Office of the State Drug Testing Laboratory (Ayush)" Jatukbari, Guwahati (Table 2). Composition of *Rasna taila* is *Rasna* and *Tila taila*. *Rasna* has the property like *Guru, Ushna, Tikta, Katu, Vataghna, Vedanasthapan, Vatakapha samak, Sothahara* etc. And *Tila taila* has the property like *Madhura, Guru, Snigdha*, *Ushna, Balya, Snehana, Vedana-sthapana* etc. As per Bhavaprakash nighantu *Tila taila* has both the quality of *Brimhan* (nourishment) and *Lekhan* (depletion of tissues).

All the selected patients (n=15) of lumbar spondylosis were analysed by demographic profile. In my study maximum numbers of patient belong to (31-40) years of age followed by 26.66% patient of (41-50) years of age and again 26.66% patients of 51-60 years of age. It may be due to the work overload and may due to nutritional imbalance followed by pregnancy and lactation (because maximum patients were female) in adult age group. Bone decaying started in elderly people so lumbar spondylosis is common in elderly people also. 80% patients were female and rest 20% were male. Females suffers more may be due to their abnormal posture of spine during house hold works. Bone density of female is less than male. After delivery, during lactation and after menopause level of calcium reduces which may leads to development of vertebral weakness. Relating to occupation, 73.33% patients were housewives. It may be

due to abnormal posture of spine during house hold works like excessive forward bending, lifting of heavy objects etc. 66.67% patient had normal gait. In lumbar spondylosis, sometime osteophyte may gives pressure over nerve root and patient develop radiating pain. According to the assessment of *Dehaprakriti,* 46.67% patients had *Vata kapha prakriti* and again 46.67% patients had *Vatapitta prakriti.*

In the clinical trial the patients were assessed by the subjective and objective parameter and the data obtained were converted from qualitative to quantitative data and they were graded as 0,1,2,3,4 depending upon their severity as absence, mild, moderate and severe character (Table 3).

Total 15 patients of lumbar spondylosis were taken for *Samprapti vighatan* (treatment), keeping in mind the inclusion and exclusion criteria and an open trial was conducted on the patients visiting the Government Ayurvedic College & Hospital, Guwahati-14, in OPD and IPD basis. *Matrabasti* was given for duration of 14 days and a follow up study was done at 15th day and 1 month.

The assessment of the result was done depending upon the severity of the disease. Both the subjective and objective assessment of result was done and the obtained data were organized and summarized by using frequency distribution table. The data were then analyzed by appropriate statistical tools such as arithmetic mean, standard deviation, standard error, % of relief and paired 't'-test of significance. For 15 patients of lumbar spondylosis, the subjective parameters pain, radiation, numbness, stiffness, bending, sitting, standing, sleeping had given the encouraging result which was statistically highly significant. The result was also highly significant in case of objective parameter like SLR and tenderness. In this study mean value of before treatment and mean value of after treatment has been calculated to find out SD, SE etc. As per calculated 't' value, 'p' is <0.001 for all parameter which is highly significant statistically (Table 4, Table 5).

Laboratory changes were studied before and after treatment. There was no remarkable changes were noted in case of Haemoglobin, TC, DLC, ESR and X- ray LS Spine though patient gets relieve clinically.

During the trial period no oral medication was allowed to the patients. Only *Matrabasti* was given to the patients. *Samprapti vighatan* (treatment) was done as per postulated *Samprapti* (pathogenesis) of lumbar spondylosis which gives statistically highly significant improvement of the disease. So we can say that the postulated *Samprapti* made for lumbar spondylosis was correct.

CONCLUSION

From the above observation it can be concluded that Lumbar spondylosis can be considered as *Dhatukshayaja vatavyadhi* where *Vata samak* measures are helpful to treat the condition. *Rasna taila* which is *Vata samak aushadhi* when administered as *Matrabasti* showed highly significant result in all the subjective and objective parameters.

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