

Clinical Trial of *Tikta Ksheera Basti* in the Management of Lumbar Spondylosis

¹ Vd. Paresh R. Deshmukh,

Associate Professor, Kayachikitsa Dept.,
SVERDCT's Swami Vivekanand Ayurved Medical College,
Pargaon, Shrigonda, Ahmednagar, Maharashtra

² Vd. Kavita K. Fadnavis,

Associate Professor, Kaumarbhritya Dept.,
C.S.M.S.S. Ayurved College,
Kanchanwadi, Aurangabad, Maharashtra

Abstract:- Human life has become more stressful in this era. Sedentary lifestyle, Occupational Factors like prolonged standing, poor posture etc. are playing a large role in increased prevalence of the common lumbar spinal disorder i.e. Lumbar Spondylosis. In *Ayurveda*, no special entity can be correlated with Lumbar Spondylosis. It comes under *Vataja Nanatmaka Vikara* as *Katigraha*. Since it is a lumbar spinal disorder, it can also be said as *Asthyashrita Vikara*. *Vata Vikara* are best treated with *Basti* and *Tikta Ksheeraor Ghrita yukta Bati* is said to relieve the symptoms of *Asthyashrit Vikara*. So, taking all these factors into consideration, *Tikta Ksheera Basti* was tried to alleviate the signs and symptoms of patients having Lumbar spondylosis. Assessment was done with regard to low back pain, Tingling sensation in lower back and lower limbs, Stiffness at lower back and lower limbs, Movements of joints of low back and lower limbs, Gait and Straight Leg Rising Test (SLRT). The data was collected before and after administration of *Basti Karma*. This 21 days trial proved to be significantly efficacious in reducing signs and symptoms of Lumbar Spondylosis.

Keywords:- Lumbar Spondylosis, Katigraha, Asthyashrita Vikara, Vataja nanatmak Vikara and Tikta Ksheera Basti.

I. INTRODUCTION

Ayurveda is an ancient science of life. Its aim is not only about preventing the diseases but also it is always proved to be effective for the treatments of various diseases. In today's era, due to increasing stressful conditions, sedentary lifestyle various diseases are increasing. Lumbar spondylosis is one of them. Ageing, obesity, occupational causes like prolonged sitting or standing, poor posture, poor sleeping positions, lack of exercise, excessive use of vehicles are various risk factors associated with Lumbar Spondylosis.¹

Lumbar spondylosis is the term which covers degenerative disc disease and osteoarthritic change in lumbar spine.² In this disease, the spine is compressed by narrowing of the space in the vertebrae causing variety of problems ranging from lower back pain which is sometimes radiating in nature (Sciatica), numbness, tingling sensation in both lower limbs to the stiffness of the lumbar vertebrae.³

While thinking about the treatment of Lumbar spondylosis; in modern science, only symptomatic treatment like NSAIDs, steroids and physiotherapy are available. The first two of them are known to induce severe hepatic and renal damage. In some severe conditions, surgical management is advised which does not guarantee full recovery and also may induce various disabilities.⁴

According to Ayurvedic *Samhitas*, there is no specific clinical entity which resembles with Lumbar spondylosis. Although *Acharya Charaka* in *Vataj Nanatmaja Vikara* mentions *Katigraha* which means *Stambha* (spasticity) in lower back. Since Lumbar spondylosis is the disease affecting the bones; it can also be considered as *Asthyashrita Vyadhi*. The symptoms like lower back pain, tingling sensations, and stiffness etc. are seen to be predominantly due to *Vata Dosha* as mentioned by *Acharya Charaka*.⁵

In all, Lumbar spondylosis can be considered as vitiated *Vata Dosha* affecting bones of Lumbar (Kati) region. The best treatment for *Vata Vikara* is known to be *Basti*.⁶ For *Asthyashrit Vyadhis*, *Acharya Charaka* mentioned that *Tikta Ksheera Basti* is very useful.⁷

Keeping all these factors in mind, it was hypothesized that *Tikta Ksheera Basti* may prove effective in relieving the symptoms of Lumbar spondylosis like lower back pain, tingling sensation in lower limbs, spasticity etc. So the present study entitled "Clinical trial of *Tikta Ksheera Basti* in the management of Lumbar Spondylosis" was undertaken.

II. MATERIAL AND METHODS

Study Design- The study is single group clinical trial. Total 20 patients were registered in this study.

Source of Data- 20 diagnosed patients of Lumbar Spondylosis coming under inclusion criteria and approaching the OPD of SVERDCT's *Swami Vivekanand Ayurved Medical College, Shrigonda, Ahmednagar* were selected for the study irrespective of age, Sex, Religion and Socio-economic status.

➤ *Inclusion Criteria* –

- Patients having signs and symptoms of Lumbar Spondylosis.
- Patients who are willing for "*Basti Karma*"

➤ *Exclusion Criteria* –

- Patients with severe trauma, fractures of vertebra, Ankylosing Spondylosis, Gout etc.
- Patients suffering from any other major systemic diseases such as Cardiac problems, renal failure, DM, Rheumatoid arthritis etc.
- Patients discontinuing treatment.

➤ *Method of Collection of Data* –

A special proforma containing details necessary for the study was prepared. Investigations were carried out as and when necessary.

Duration of Therapy – 21 days.

Intervention- *Tikta Ksheera Basti Karma*.

➤ *Contents of Tikta Ksheera Basti-*

- * *Guduchi* – *Tinospora cordifolia* – 10 gm
- * *Musta* – *Cyperus rotundus* – 10 gm
- * *Kantakari* – *Solanum xanthocarpum* – 10 gm.
- * *Godugdha* – Cow milk – 240 ml
- * *Jala* (Water) – 480 ml.

➤ *Method of Preparation of Tikta Ksheera Paka*⁸–

In a steel vessel, 480 ml of water was taken. The *Yavakuta Choorna* (coarse powder) of all the *Tikta Dravyas* were added into water. In that mixture, milk was added and the whole mixture kept on the stove to boil.

When the water content of the mixture evaporated completely, the stove turned off. It was kept to cool down to lukewarm temperature. Then it was used to administer as *Basti Drava* to the Patient. Fresh *Tikta Ksheerapaka* was prepared for each patient every day.

➤ *Method of administration of Tikta Ksheera Basti* –

The patients were asked to have lunch prior to *Basti Karma*. The patients were subjected to following protocol of *Basti Karma*⁹–

A. Basti Poorva Karma (Preparatory Measures for Basti Karma)-

Patient were subjected to local *Snehabhyanga* (massage with oil) with *Ksheerabala taila*¹⁰ for 20 minutes at the lower abdomen and lumbo-sacral region which was immediately followed by –
Local *Swedana* (fomentation) for 15 minutes at lower abdomen and lumbo-sacral region with *Dashamoola Kwatha*¹¹*Nadi Sweda*.

B. Basti Pradhana Karma (Main Procedure – Basti daana- Administration of Basti) –

The patients were asked to sleep in left lateral position with right leg flexed and held near abdomen while left leg kept straight. The *Basti* was administered with the help of modified forms of *Bastinetra* i.e. Sterilized Rubber Catheter no. 9 and *Basti Putaka* i.e. IV set and infusion bottle.

Firstly the infusion bottle was emptied, cleaned and refilled with lukewarm *Tikta Ksheera Basti Drava*. The

connector of IV set was connected to Infusion bottle and the air bubbles from IV set were removed out with liquid *Basti* contents. The rubber catheter was connected to the access part of IV set instead of needle. The infusion bottle hanged on the IV stand. The catheter was lubricated with *Ksheerabala Taila* while inserted into the anointed anal opening. The catheter was inserted further into anal canal parallel to the vertebral canal. Then the *Basti* was administered to the patient by drip method over the period of 30 – 45 minutes.

After complete emptying of Infusion bottle, the catheter from anal opening of the patients was removed and patient was advised to relax in supine position for 5 minutes.

C. Pashchata Karma (Post operative procedure) –

The anal opening of the patient was pressed with cotton gauze in case of leaking of *Basti Drava* (liquid) if any. The patients were asked to evacuate bowel only when they felt like evacuating naturally.

➤ *Criteria for assessment* –**1. Low back pain (Katishool) –**

0	-	no pain while walking
1	-	Mild pain while walking
2	-	Moderate pain while walking
3	-	Severe pain while walking

2. Tingling sensation in lower back and lower limbs –

0	-	no tingling sensation
1	-	Mild tingling sensation
2	-	Moderate tingling sensation
3	-	Severe tingling sensation

3. Stiffness in lower back and lower limbs (Stambha) –

0	-	no stiffness
1	-	Stiffness for 10 to 30 minutes
2	-	Stiffness for 30 to 60 minutes
3	-	Stiffness for more than 1 hr.

4. Movements of both hip joints –

0	-	Normal movement
1	-	Mildly restricted movement
2	-	Moderately restricted movement
3	-	Severely restricted movement

5. Gait of the patient –

0	-	Unchanged
1	-	Occasionally changed
2	-	Walks with support
3	-	Unable to walk

6. Straight Leg Rising Test (SLRT) - It was measured in degrees before treatment and after treatment.

Before commencing the treatment, all the assessment criteria were recorded and the data was termed as Before Treatment (BT). While the data recorded of all the assessment criteria after completion of therapy was termed as After Treatment (AT).

➤ *Data Analysis* –

The data collected was rendered to Master Chart and the tables were constructed. Wilcoxon's signed Rank test was applied for the statistical analysis of the data.

Observation and Results –**Table no. 1 showing Age wise and Sex wise Distribution of 20 patients of Lumbar Spondylosis**

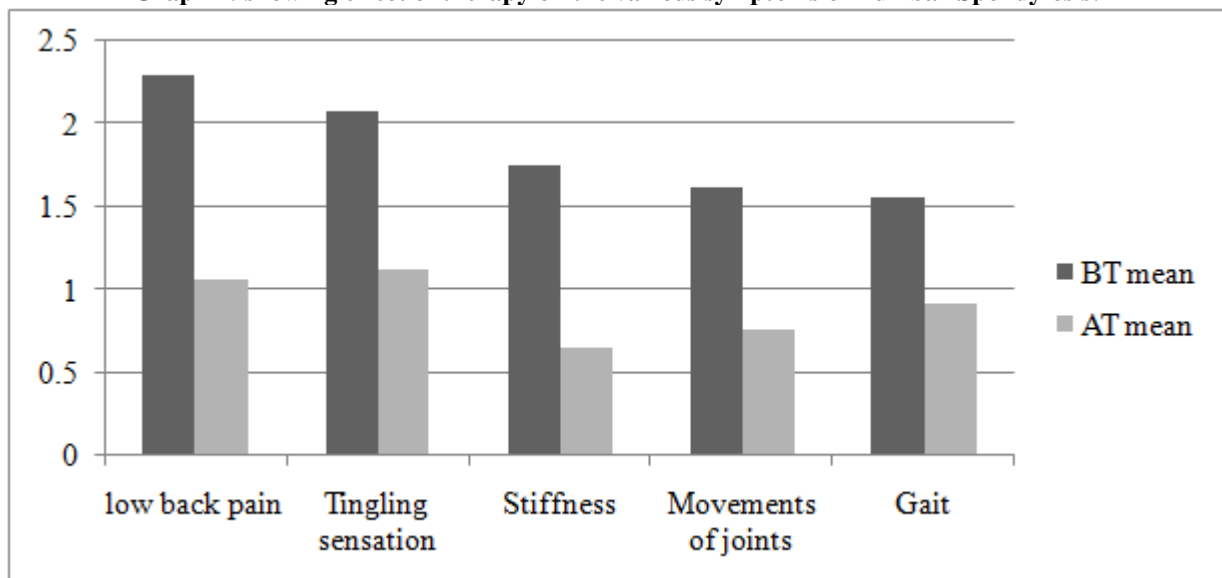
Age	Male	Female	No. of Patients
20 – 30 years	2	1	03
31 – 40 years	3	3	06
41 – 50 years	3	2	05
51 – 60 years	4	1	05
61 – 70 years	1	0	01
71 – 80 years	0	0	0

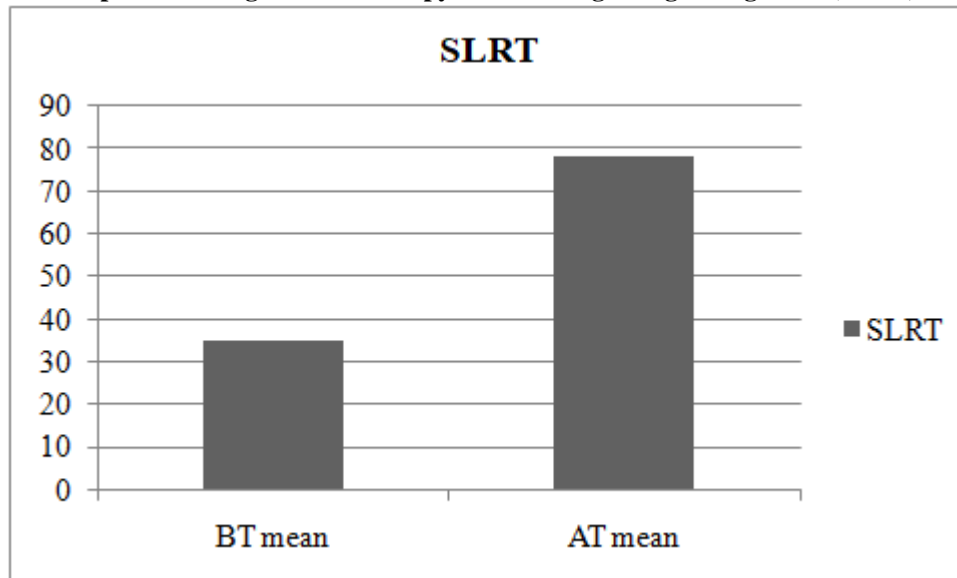
The study shows that the maximum patients were male i.e. 65%. Most of the patients (80%) were from middle age group i.e. 31 – 60 years of age.

Table no. 2 showing Results of ‘Wilcoxon Signed Rank Test’ for the various symptoms of Lumbar Spondylosis

Symptoms	BT mean	AT mean	Diff. mean	SD	z value	p value
Lower back pain	2.30	1.06	1.24	43.91	4.62	p < 0.05
Tingling	2.08	1.12	0.96	36.28	4.10	p < 0.05
Stambha	1.75	0.65	1.1	19.33	3.51	p < 0.05
Movements of joints	1.62	0.76	0.86	18.30	3.38	p < 0.05
Gait	1.56	0.92	0.64	17.60	3.20	p < 0.05
SLRT	34.82	78.34	43.32	49.3	5.17	p < 0.05

It is clear from above table that all the signs and symptoms of Lumbar spondylosis viz. low back pain, tingling sensation in low back and lower limbs, stiffness, movements of low back and lower limbs, gait and Straight leg rising test (SLRT) showed significant improvement with p < 0.05.

Graph 1: showing effect of therapy on the various symptoms of Lumbar Spondylosis:

Graph 2: showing effect of therapy on the Straight Leg Rising Tests (SLRT):

III. DISCUSSION

The study shows that number of male patients was more probably because of the etiological factors of low back pain like excessive usage of vehicles on an uneven road; sedentary lifestyle, lack of exercise, prolonged sitting or standing etc. are more common in them due to occupational causes. Most of the patients were found from middle age group.

It can be seen that proper *Snehana* and *Swedana karma* is very essential part of *BastiKarma*. *Snehabhyanga* with *Ksheerabala Taila*¹⁰ helped in relieving all *Vataja* Symptoms like Pain, Tingling sensation etc. While *Swedana* helped in relieving Stiffness.¹²

Acharya Charak mentions that in all *Vataja Vikara*, *Basti* is the main procedural treatment⁵. *Acharya Sushruta* says that the *Basti* which is correctly administered remains in the *Pakwashaya* (Rectum), *Shroni* (Pelvis) and *Adhonabhi* (Hypogastrium) then it gets absorbed through *Srotasa* into the body and removes out the *Doshas* through anus.¹³

In *Kalpasthanana*, where *Acharya Sushruta* mentioned the *Asthigata Vishavega*, *Dalhana* commented that “*Asthidhara Kala*” is nothing but “*Purishadhara Kala*”. So the route of nutrition of both the *Kalas* must definitely be interrelated. Modern science also states that Calcium is excreted through the stool. So, administering *Ksheera Basti* must have helped in making up this deficiency.

For treating *Asthigata Vikara*, the *Dravya* which has *Snigdha* and *Shoshana* property is required which is nutritious for *Asthi dhatu* by producing *Khara guna*. The *Dravya* having such contradictory properties is not available. So, *Acharyas* developed this combination of *Tikta Rasa* combined with *Ksheera* or *Ghrita* which helps to treat *Asthigata Vikara*¹⁴.

Guduchi, *Kantakari* and *Musta* are all *Tiktarasatmaka Dravyas*. *Guduchi* is *Rasayana*, *Balya* and *Tridosahara*; *Musta* has *Deepana pachana guna* which helped in proper absorption of *Basti*. *Kantakari* has *Vatahara* and relieves *shoola*. So, it shows that *Tiktara Dravya siddha Ksheera Basti* must have helped in significantly treating this specific *Asthyashrit Vata Vikara* present in *Kati* (Lumbar region) i.e. Lumbar Spondylosis.

Thus it can be said that present study entitled “Clinical trial of *Tikta Ksheera Basti* in the management of Lumbar Spondylosis” shown encouraging results.

IV. CONCLUSION

Lumbar Spondylosis is a common entity majorly reflecting as “Low back pain” these days. *Tikta Ksheera Basti* along with preoperative and postoperative procedure exhibit better results including significant reduction in signs and symptoms. The therapy did not show any adverse effect in any patient. Other *Tikta Dravyas* can be tried in future for making *Ksheerapaka*. It is relatively cost effective therapy which can be used in the patients of Lumbar Spondylosis.

REFERENCES

- [1]. Ccryn.gov.in > default > files pdf Lumbar Spondylosis- Naturopathy and Yogic Management of Lumbar Spondylosis- Ccryn; cited on December 21, 2020.
- [2]. 2. Davidson’s Principals and Practice of Medicine, 23rd edition, 2018, Edited by Stuart H.Ralston, Ian D. Penman, Mark WJ Strachall, Richard P. Hobson, Published by Elsevier Publication, Page No. - 1135.
- [3]. Aspi F Golwalla and Sharukh A Golwalla, Golwalla’s Medicine for Students, 25th edition, 2017, Edited by Milind Y Nadkar, Published by JAYPEE The Health Science Publisher, New Delhi, Page No. 593.

- [4]. Kalichman L, Hunter DJ, Diagnosis and conservative management of degenerative lumbar spondylosis. *Eur Spine Journal* 2008, Mar.17 (3):327,335. Doi:10.1007/s00586-007-0543-3. Epub 2007 Nov 17. PMID: 18026865; PMCID : PMC 2270383; cited on December 21, 2020.
- [5]. *Agnivesha, Charak Samhita- Part - 1, Sootrasthana, Adhyaya 20*, 4th edition, 1994, Edited with *Vidyotini Hindi* commentary by *Pt. Kashinath Shastri*, Published by *Chaukhambha Sanskrit Pratishthana, Varanasi*, Page No. -271.
- [6]. *Agnivesha, Charak Samhita- Part - 2, Siddhisthana, Adhyaya 1*, 4th edition, 1994, Edited with *Vidyotini Hindi* commentary by *Pt. Kashinath Shastri*, Published by *Chaukhambha Sanskrit Pratishthana, Varanasi*, Page No. -886.
- [7]. *Agnivesha, Charak Samhita- Part - 1, Sootrasthana, Adhyaya 28*, 4th edition, 1994, Edited with *Vidyotini Hindi* commentary by *Pt. Kashinath Shastri*, Published by *Chaukhambha Sanskrit Pratishthana, Varanasi*, Page No. -432.
- [8]. *Sharangadhara, Sharangadhara Samhita, Madhyamakhandha, Adhyaya 2*, 4th edition, 1994, Edited with *Krishna Hindi* Commentary by *Acharya Shree Radhakrishna Parashar*, Published by *Baidyanath Ayurved Bhavan, Nagpur*, Page No.-224.
- [9]. *Agnivesha, Charak Samhita- Part - 2, Siddhisthana, Adhyaya 3*, 4th edition, 1994, Edited with *Vidyotini Hindi* commentary by *Pt. Kashinath Shastri*, Published by *Chaukhambha Sanskrit Pratishthana, Varanasi*, Page No. - 909 - 911.
- [10]. *Dr. D.B.Panditrao, Sahastrayogam- Hindi translation, Prakaranam – 5*, Reprint edition, 2011, ISBN- 978-81-6-8, Published by *R.K.Print House, Noida, U.P.*, Page No.- 292.
- [11]. *Sharangadhara, Sharangadhara Samhita, Madhyamakhandha, Adhyaya 2*, 4th edition, 1994, Edited with *Krishna Hindi* Commentary by *Acharya Shree Radhakrishna Parashar*, Published by *Baidyanath Ayurved Bhavan, Nagpur*, Page No.-195.
- [12]. *Agnivesha, Charak Samhita- Part - 1, Sootrasthana, Adhyaya 22*, 4th edition, 1994, Edited with *Vidyotini Hindi* commentary by *Pt. Kashinath Shastri*, Published by *Chaukhambha Sanskrit Pratishthana, Varanasi*, Page No. -289.
- [13]. *Sushruta, Sushruta Samhita- Part – 1, Chikitsasthana, Adhyaya 35*, 9th edition, 1995, Edited with *Ayurveda-Tatva-Sandipika Hindi* commentary by *Kaviraja Ambikadutta Shastri*, Published by *Chaukhambha Sanskrit Sansthana, Varanasi*, Page No. -155.
- [14]. *Vagbhata, Ashtangahridayam, Sootrasthana, Adhyaya 11*, Reprint edition, 2009, *Sanskrit Commentaries “Sarvangasundara”* by *Arunadatta* and *“Ayurvedarasayana”* by *Hemadri*, Compiled by *Pt. Harishastri Bhashagacharya*, Published by *Choukhambha Krishnadas Academy, Varanasi*, Page No. -188.