



Research Article

AN OBSERVATIONAL STUDY ON THE MANAGEMENT OF *KATIGATA VATA* WITH SPECIAL REFERENCE TO LUMBAR SPONDYLOSIS BY *ASHWAGANDHADI KSHIRBASTI*

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ABSTRACT

Low back pain is the most prevalent clinical presentation in musculoskeletal disorder. Wrong postural habits and several stressful factors like incident back trauma, BMI, vehicular driving, daily spine loading contribute to the development of spinal disorders. Lumbar spondylosis is a common musculoskeletal disorder that is characterized by degenerative changes in the vertebral discs and the surrounding structures, leading to various clinical manifestations and impacts an individual's overall quality of life. *Katigata vata* is mentioned under *Vatavyadhi* with symptoms such as *Katishula* (lumbar pain), *Aakunchan Prasarnya Shula* (pain on flexion and extension), *Graha* (low back stiffness), as well as *Pidasasahatva* (tenderness). In Ayurveda, management of *Katigraha* is done on the basis of *Chikitsa Siddhanta*. Hence, this observational study aimed to assess the effect of *Ashwagandhadi Kshirbasti* (medicated herbal therapeutic enema) in *Katigata Vata* with special reference to lumbar spondylosis. This was an observational study, in which the data of thirty-four diagnosed cases of *Katigata Vata* were observed from the inpatient department of our institute. *Ashwagandhadi Kshirbasti* was administered in *Kala Basti Krama* along with *Kati Basti*. Wilcoxon Signed Rank Test was used for statistical analysis of the data. Statistically highly significant results ($P < 0.0001$) were found in all the clinical features of *Katigata Vata*. Assessment parameter like Roland-Morris Low Back Pain and Disability Questionnaire (RDQ) and WOMAC also shows highly significant reduction ($P < 0.0001$) after treatment. It was observed that *Ashwagandhadi Kshirbasti* is effective in the management of *Katigata Vata* with special reference to Lumbar Spondylosis.

INTRODUCTION

Low back pain is a prevalent condition that affects a significant portion of the adult population, with estimates ranging from 60-85%.^[1] It is considered a major cause of disability worldwide.^[2] Approximately 10% of all cases of back pain are caused by lumbar spondylosis.^[3] Lumbar spondylosis is a chronic, non-inflammatory musculoskeletal condition characterized by degeneration of the lumbar disc, facet, vertebral bodies, and/or associated joints of the lumbar spine joints.^[4]

Its prevalence ranges from 38% to 85% and is more common among middle-aged and elderly individuals.^[5] Factors such as poor posture, jerky movements during travel, sports activities, aging, and improper sleeping posture can contribute to the development of spinal disorders. The lumbar spine, which comprises the five lower vertebrae, plays a crucial role in providing structural support, facilitating movement, and protecting the delicate spinal cord and nerves. The region is particularly vulnerable to degenerative changes due to its high load-bearing function and constant movement. This condition involves age-related wear and tear of intervertebral discs and adjacent spinal structures, resulting in a range of symptoms, including chronic back pain, stiffness, radiating pain in the lower extremities, and neurological issues, which can significantly impact an individual's quality of life, even if not life-threatening.

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There is no mention of *Katigata vata* in Ayurveda's classical texts. However, it is mentioned as *Katigrah* under *Vatavyadhi* and *Vataj nanatamja Vikara*. As the lumbar region is the site of *Vata dosha*, this pathological condition can be caused by either *Margaavarana* (obstructive pathology) or *Dhatukshaya* (degenerative pathology) and presents with symptoms such as *Katishula* (lumbar pain), *Aakunchan Prasaranyoh Shula* (pain on flexion and extension), *Graha* (low back stiffness), as well as *Pidasasahatva* (tenderness). Due to the similarity of clinical manifestations, *Katigata vata* can be correlated with lumbar spondylosis.

Non-surgical management of lumbar spondylosis typically entails the use of a variety of medications and therapies. These may include nonsteroidal anti-inflammatory drugs (NSAIDs), COX-2 inhibitors, corticosteroids, muscle relaxants, prostaglandins, epidural injections, transforaminal injections, lumbar belts, traction, and physiotherapy. In severe cases, surgical intervention may be necessary. NSAID use is limited in many patients, due to their substantial gastrointestinal side effects.^[6] Other medications, such as intra-articular steroids, opioids, and analgesics, may not be effective in all individuals. However, there is a growing interest in alternative and complementary medical systems that offer a holistic approach to understanding and managing this condition. *Katigata vata* is a *Vata*-dominant *Sandhiroga* that affects the *Kati* region. According to *Charaka*, there is no other treatment like *Basti* (medicated enema) for the *Shamana* of vitiated *Vata*, and which is considered to be half of the overall treatment.^[7] Ayurvedic texts suggest that *Asthigat Vata* is best treated with *Panchkarma upakrama*, using *Siddha* (medicated), *Ghrita* and drugs with *Tikta Rasa*.^[8] Treatment modalities such as *Sthanik Snehana Swedan* also have *Vata*-pacifying properties.^[9]

Therefore, this study aimed to evaluate the efficacy of *Basti* treatment, a prominent *Panchakarma* therapy, in alleviating the symptoms of *Katigata vata* with special reference to lumbar spondylosis.

AIM AND OBJECTIVES

Aim

1. To observe the efficacy of *Ashwagandhadi Ksheer Basti* in *Katigata Vata* with special reference to lumbar spondylosis.

Objectives

1. To observe the efficacy of *Ashwagandhadi Ksheer Basti* on WOMAC scale and Roland-Morris Low Back Pain and Disability Questionnaire.
2. To observe the efficacy of *Ashwagandhadi Ksheer Basti* on signs and symptoms of patients suffering

from *Katigata vata* with Special Reference to Lumbar Spondylosis.

MATERIALS AND METHODS

This was an observational study of 34 patients who were observed on the basis of case records in inpatient department of our institute for the study irrespective of gender, and socioeconomic status. Who were diagnosed as *Katigata vata* with Special Reference to Lumbar spondylosis were selected from outpatient and inpatient department of our institute.

Diagnostic Criteria

1. Clinical features:

- A. *Katishul* (lumbar pain)
- B. *Aakunchan Prasaranyoh Shula* (pain on flexion and extension)
- C. *Graha* (stiffness)
- D. *Pidasasahatva* (tenderness)
- E. *Shulasya Kala* (duration of pain)
- F. *Anidra*

2. Radiological Investigation: X-Ray of lumbosacral spine, MRI of lumbosacral spine, (if available)

Investigation for screening

1. Haemoglobin grams%
2. White blood cell count
3. Blood sugar fasting and post meal

Treatment Timeline: Observed Management timeline is depicted in figure 1.

Figure1: Illustrating the management timeline

WOMAC: The Western Ontario McMaster Universities Osteoarthritis Index (WOMAC) scale.

RMQ: Roland-Morris Low Back Pain and Disability Questionnaire.

Treatment regimen: All treatment details are given in Table-1

All the patients ($n=34$) were administered treatment trial as follow. The treatment is described in Table 1.

Basti administration Procedure comprised three steps which are *Purvakarma* (preoperative), *Pradhamkarma* (intraoperative) and *Pashatkarma* (postoperative).

Purvakarma (pre-operative)

1. Preparation of *a Basti*: All the drugs of *Basti* are added and titrated consecutively starting with *Madhu* (honey), *Saidhava*, *Ghrita* (ghee), *Kwatha* (decoction of herbal drugs) and milk in proportionate quantity.
2. Preparation of patients: Patient was advised to take light diet, afterwards given *Sarvanga Abhyanga* with lukewarm *Tila Taila*, followed by *Nadi Swedana*.

Pradhamkarma (intraoperative)

Patient was advised to lie down in *Vama Parshwa* (left lateral position with left leg straight and right leg flex) on *Basti* table. Once the rubber catheter's tip and anal ridge were lubricated, one-fourth of the catheter was placed into the anal canal. A small amount of *Basti Dravya* was kept in a syringe and catheter was removed.

Pashatkarma (postoperative)

1. The patients were instructed to lie down on supine position for 10-15 mins to defecate on developing urge.
2. *Basti Pratyagamana Kala* (retention time of enema) noted.

Assessment Criteria

1. Clinical features of *Katigata Vata* with special reference to lumbar spondylosis were graded on the basis of severity. (Shown in Table-2)
2. The Western Ontario McMaster Universities Osteoarthritis Index (WOMAC) scale.

3. Roland-Morris Low Back Pain and Disability Questionnaire.

Overall assessment criteria: Shown in Table-3

Statistical analysis

For non-parametric data, Wilcoxon matched-pairs signed ranks test was used.

OBSERVATIONS AND RESULTS

All the patients were observed and assessed on the basis of Symptom Score, WOMAC scale and Roland-Morris Low Back Pain and Disability Questionnaire. In this study 64.70% were male while 35.29% patients were female.

Effect of therapy: Effect of *Ashwagandhadi Ksheer Basti* was evaluated particularly on clinical features and WOMAC and RMQ. Almost all symptoms as depicted in Table-4 showed reduction of over 50% in their severity with overall effect of therapy is 57.62%. while effect of therapy on clinical features by Wilcoxon Signed Rank Test showed highly significant results in all parameters as shown in Table-5.

Table 1: Treatment Details of the study

1	<i>Rukshan Pachan Kwatha</i>	<i>Guduhci</i> <i>Triphla</i> <i>Musta</i> <i>Vidang</i>	each Churna 3 gm	40 ml BD	<i>Amapachan,</i> <i>Agnideepan</i> <i>Anulomana</i>
2	<i>Katibasti</i>	<i>Tilataila</i>	-	-	Relieves pain, stiffness
3	<i>Ashwagandhadi Kshirbasti</i>	<i>Makshika</i> -5gm <i>Saindhava</i> -5gm <i>Sneha</i> - <i>Ashwagandhadi</i> <i>Gruta</i> -30gm <i>apaka</i> of - 200 ml <i>Ashwagandha</i> <i>Guduchi</i> <i>Shatavari</i>		240 ml	<i>Vatashamana</i> <i>Rasayana</i> <i>Dhatuposhan</i>

Table 2: Grading of Symptoms of Katigata vata

Sr.No.	Pramukh Vedana	Gradation	Gradation on Marks
1	<i>Katishula</i>	No pain	0
		Mild pain	1
		Moderate pain but no difficulty in walking	2
		Slight difficulty in walking due to pain	3
		Much difficulty in walking	4
		Much pain which prevents walking	5
2	<i>Akunchan</i> <i>Prasaranyoh</i> <i>Shulam</i> (Pain on extension)	No pain	0
		Pain without wincing of face	1
		Pain with wincing of face	2
		Shouts or prevents complete and flexion/extension.	3

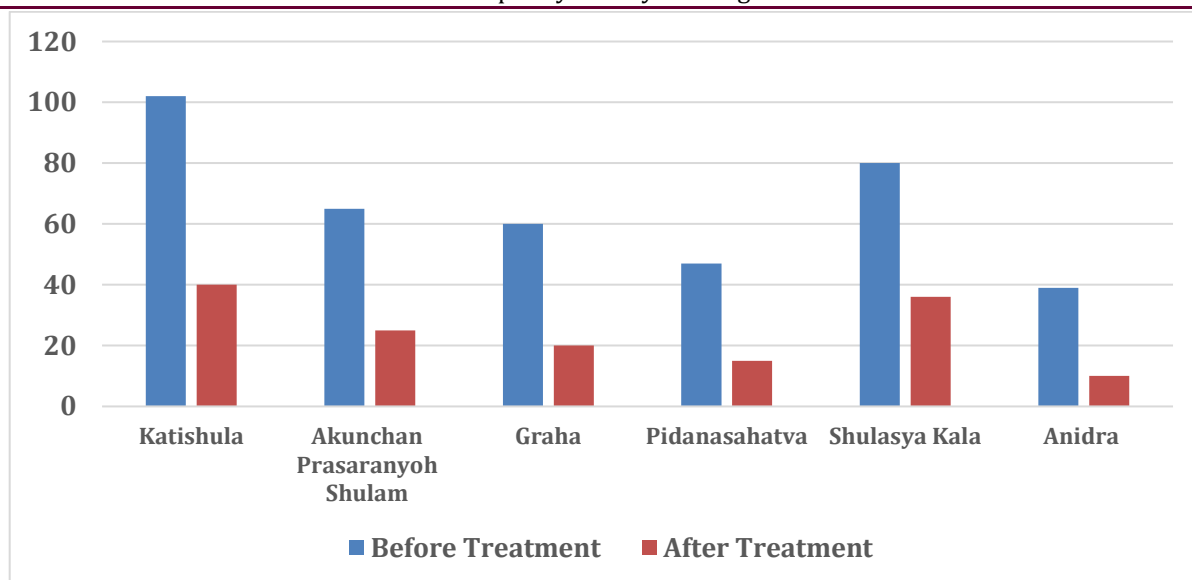
	flexion)	Does not allow passive movement.	4
3	<i>Graha</i> (Stiffness)	No stiffness	0
		Mild stiffness	1
		Moderate stiffness	2
		Much difficulty due to stiffness severe	3
4	<i>Pidanasahatva</i> (Tenderness)	No tenderness	0
		Patient says tenderness	1
		Wincing of face	2
		Wincing of face and withdraws the hand	3
		Not allowing to touch the joint	4
5	<i>Shulasya Kala</i> (Duration of pain)	No pain	0
		Only in morning (4 am to 10 am) or evening (5 pm to 11 pm)	1
		Pain in morning (4 am to 10 am) or evening (5 pm to 11 pm)	2
		Pain present whole day	3
6	<i>Anidra</i>	<i>Samyak Nidra</i>	0
		Mild <i>Anidra</i>	1
		Moderate <i>Anidra</i>	2
		Severe <i>Anidra</i>	3

Table 3: Overall Assessment Criteria

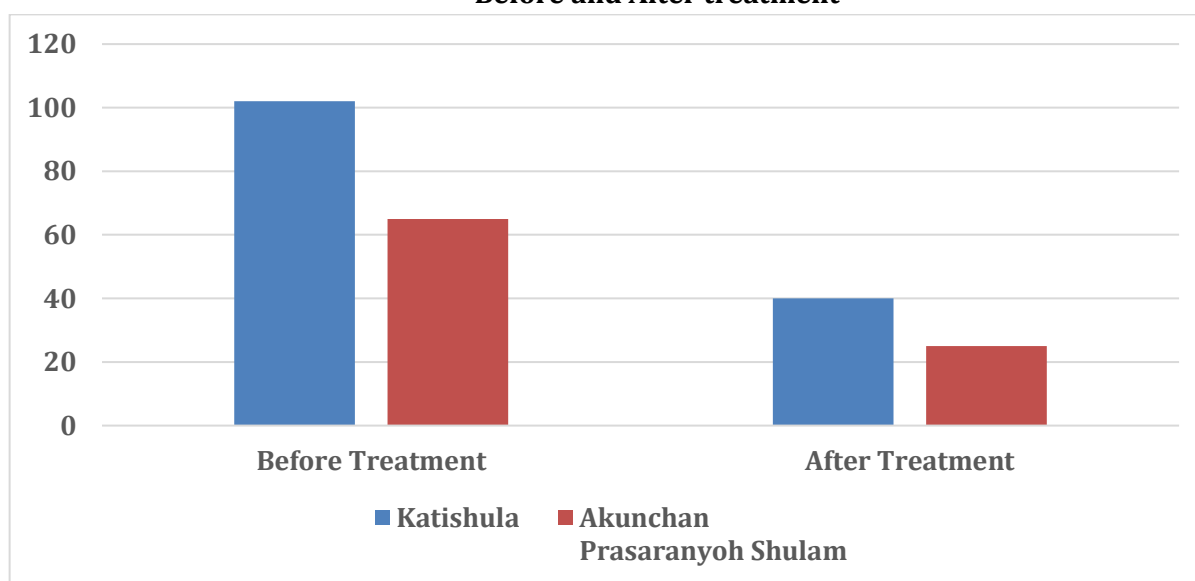
1	Complete relief	100% relief in sign and symptoms.
2	Marked improvement	More than 75% relief in sign and symptoms.
3	Moderate improvement	Relief between 50% to 75% in sign and symptoms.
4	Mild improvement	25%to 50% relief in sign and symptoms.
5	Unchanged	Less than 25% of relief in sign and symptoms.

Table 4: Effect of therapy on Symptom Score of 34 patients of *Katigata vata*

S.No	Parameter	BT	AT	Difference of Score	Relief percentage
1	<i>Katishula</i>	102	40	62	60.07%
2	<i>Akunchan</i>	65	25	40	61.53%
3	<i>Graha</i>	60	20	40	66.67%
4	<i>Pidanasahatva</i>	47	15	32	68.08%
5	<i>Shuiasya Kala</i>	80	36	44	55%
6	<i>Anidra</i>	39	10	29	74.35%
7	WOMAC	1570	762	808	51.46%
8	RDQ	457	211	246	53.82%
	Total effect of therapy	57.62% moderate improvement			



Graph 1: Graphical Representation of effect on Sign and Symptoms Before and After treatment



Graph 2: Graphical Representation of Reduction in WOMAC and RDQ Score Before and After treatment

Table 5: Effect on Symptoms Score by Wilcoxon Signed Rank Test

S.No	Symptoms	Mean $\pm$ SD			W	T $\pm$	T-	P
		BT (Mean $\pm$ SD)	AT (Mean $\pm$ SD)	Mean Diff $\pm$ SD				
1	Katishula	3.000 $\pm$ 1.371	1.176 $\pm$ 0.903	1.824 $\pm$ 1.267	426	430	-4	<0.0001
2	Akunchan	1.911 $\pm$ 1.055	0.735 $\pm$ 0.567	1.176 $\pm$ 0.833	406	406	0	<0.0001
3	Graha	1.764 $\pm$ 0.986	0.588 $\pm$ 0.608	1.176 $\pm$ 0.986	351	351	0	<0.0001
4	Pidanasahatva	1.382 $\pm$ 0.853	0.441 $\pm$ 0.560	0.941 $\pm$ 0.600	378	378	0	<0.0001
5	Shuiasya Kala	2.353 $\pm$ 0.883	1.509 $\pm$ 0.776	1.294 $\pm$ 0.798	406	406	0	<0.0001
6	Anidra	1.147 $\pm$ 0.957	0.294 $\pm$ 0.675	0.852 $\pm$ 0.892	258	267	-9	<0.0001
7	WOMAC	46.176 $\pm$ 25.038	22.412 $\pm$ 14.024	23.765 $\pm$ 18.617	595	595	0	<0.0001
8	RDQ	13.441 $\pm$ 5.456	6.206 $\pm$ 2.739	7.235 $\pm$ 4.149	561	561	0	<0.0001

DISCUSSION

In traditional Ayurvedic texts, *Katigata Vata* is referred to as *Vatavyadhi* or *Vataj Nanatamja Vikar*, which is described under various terms such as *Katigraha*, *Katishula*, and *Trikshula*. This condition is characterized as a *Vata*-dominant disease that affects the *Asthi* and *Sandhi* in the *Kati* region. A sedentary lifestyle, improper dietary habits, and bad postures can all contribute to the development of spinal disorders with clinical manifestations, such as pain, tenderness, and stiffness in the lumbar region. As *Sushruta* stated that pain cannot exist without *Vata*.^[10] *Vata* and *Asthi* relationship mentioned under concept of *Ashrya-Ashryee Bhava*, *Vata* vitiation resulting in *Asthikshaya*.^[11] *Pruthvi*, *Agni*, and *Vayu Mahabhut* were predominantly present in *Prakrut Asthi Dhatu*.^[12] *Shleshak Kapha* are located in *Sandhi*.^[13] The pathogenesis of *Katigata Vata* can be described as the *Kshaya* of *Sleshak Kapha*, which causes *Rukshata* and *Vataprakop* as well as the degradation of *Asthi Dhatu*, ultimately interfering with *Dhatuposhan*.

In the management of *Vatavyadhi*, *Snehan*, *Swedan*, and *Panchakarma* are advised.^[9] *Basti* is considered the best treatment modality, and Ayurvedic texts recommend the use of medicated *Basti* with *Siddha Kshira*, *Ghrita*, and drugs having *Tikta Rasa* in *Asthivaha strotas Vyadhi*.^[8] *Basti Chikitsa* is *Ardha Chikitsa* (half treatment), as stated in the *Charak Samhita*.^[7] *Basti* reaches *Pakavashaya*, which is the main site of the *Vata Dosha*.^[14] By acting on its *Mulasthan* (main site), the *Basti* brings the *Vata* from all over the body into its physiological state. Additionally, *Pakavashaya* is associated with the *Purishdhara Kala* through its functions. *Dalhanacharya* has mentioned *Asthidhara Kala* and explained the relationship between *Purishdhara Kala* and *Asthidhara Kala* while explaining *Visha Vegantara*.^[15] As *Asthi* and *Pakavashaya* are sites of action for *Vata Dosha*, *Basti Chikitsa* can treat conditions where *Asthi Dhatu* is involved.

Ashwagandha (*Withania somnifera*), *Guduchi* [*Tinospora cordifolia* (Willd.)], and *Shatavari* (*Asparagus racemosus*) are the primary ingredients used to prepare *Ashwagandhadi Kshirbasti*. *Ashwagandha* having *Tikta*, *Kashay Rasa*, *Vata-Kaphahara*, *Balya* and *Rasayan* (potent regenerative tonic) properties.^[16] It is used in variety of musculoskeletal conditions due to its anti-inflammatory,^[17] analgesic properties^[18] and experimental study shows chondroprotective activity in human osteoarthritic cartilage matrix^[19]. *Guduchi* has *Balya* and *Rasayana* properties, with a *Tikta*, *Kashay Rasa*, *Ushna Virya*, *Madhur Vipaka* and is

considered pacifying all three *Doshas* (regulatory functional factors of the body).^[20] An animal study conducted by P Kapur et al found that OVX rats treated with *Tinospora cordifolia* extract showed an osteoprotective effect as the bone loss in tibiae was slower, In comparison to ovx controls.^[21] *T. cordifolia* therapy reduced pro-inflammatory cytokines such IL-1 β , tumour necrosis factor-alpha (TNF- α), IL-6, and IL-17, which led to suppression of arthritic inflammation and bone and cartilage degradation.^[22] It also enhanced the differentiation of cells into the osteoblastic lineage, stimulated the development of osteoblasts, and increased the mineralization of bone-like matrix.^[23] *Shatavari* has *Tikta Madhur Rasa*, *Snigdha* and *Guru Guna* and possesses *Rasayana* and *Balya* properties.^[24]

Through its *Snehan* and *Swedan* action, *Katibasti* pacifies *Vata* and relieves pain and stiffness in the lumbar region. The properties of *Basti*, including *Ushna*, *Guru*, and *Snigdha Guna*, which are responsible for normalizing *Vata*, while its *Balya* and *Rasayan* properties nourish the *Saptadhatu* by improving *Dhatuposhan*. Once *Vata* is normalized, it improves the quality of the *Asthi Dhatu*.

This is observational study has its own limitations. The clinical study will be carried out on this concept. It may give new horizon to the scientific society.

CONCLUSION

Above study demonstrates that reduction in clinical signs and symptoms and improvement in the quality of life of the patients. Therefore, it can conclude that *Ashwagandhadi Kshirbasti* is effective in the management of *Katigata Vata* (Lumbar Spondylosis).

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