

EFFICACY OF ERANDAMOOLADI BASTI IN THE MANAGEMENT OF JANU SANDHIGATAVATA VIS-A-VIS OSTEOARTHRITIS OF KNEE JOINT – AN OBSERVATIONAL CLINICAL STUDY

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ABSTRACT

Janu Sandhigata vata is one such *Vatavyadhi* presenting with *Sandhi shula*, *Sandhi shotha*, *Sandhi atopa* and *Prasarana Akunchana Vedana*, resulting in limited range of movements, there by restricting daily activities of the individual. *Janu Sandhigatavata* is commonly identified with Osteoarthritis of Knee Joint characterized by pain, swelling & impaired movements. The prevalence of Osteoarthritis rises progressively with age and it has been estimated that that 45% of all people develop Knee Osteoarthritis in life. Osteoarthritis is more common in women than men. The existent line of treatment in contemporary field of medicine includes the administration of analgesics, NSAIDS, Intra articular steroids and surgical intervention in the form of Knee replacement, which all has their own limitation and meanwhile may have deleterious adverse effect. In this regard, there is a need for exploring the safe, effective and affordable line of treatment. *Basti karma* is a supreme treatment for *Vata Vyadhi* and also known as *Ardha Chikitsa* because of its multifaceted actions. Many *Basti* formulations are mentioned in classics among which

Erandamooladi Basti was selected for the study because its dual action, does *Vataghna* and also relieves *Kapha Avarana*. The results were statistically highly significant within the group.

Keywords: *Janu Sandhigata Vata*, Osteoarthritis of Knee joint, *Basti karma*, *Erandamoola Basti*

INTRODUCTION

Janu Sandhigata Vata is a condition, in which vitiated *Vayu* gets localized in *Janu Sandhi* and causes *shula*, *shotha*, *stambha*, *Prasarna Akunchana Vedana* and *Atopa*.¹ It can be compared to osteoarthritis of knee-joint, according to modern parlance. Osteoarthritis is characterized by Pain, Stiffness, Swelling in joints, restricted movements and Crepitus. The prevalence of Osteoarthritis rises progressively with age, such that by 65 years 80% of people have radiographic evidence of Osteoarthritis, though only 25- 30% are symptomatic. The knee and hip are the principle large joints involved; affecting 10 – 25% of those aged over 65 years.² *Snehana* and *Swedana* occupy the major place in the domain of *Samanya Chikitsa* of *Vata Vyadhi*.³ *Basti karma* is considered as the best line of treatment for *Vata Vyadhi*. It has considered as prime *Chikitsa* for *Vata vikaras*. There is a wide applicability of *Basti Chikitsa* like *Shodhana*, *Shamana*, *Brhumana* and *Lekhana* etc based on the properties of the drugs used in the procedure. Here, in this present study *Erandamooladi Basti* (in *Yoga Basti*) has been employed, as *Sandhigata Vata* is one of the degenerative disorders and there will be *Kshaya* of *Snehamsha* i.e. *Shleshaka Kapha* in the *Sandhi* and can be associated *kapha avarana*. *Erandamooladi Basti* is having *Vatahara*, relieves *kapha avarana* and *Brihmana* action nourishes the *Dhatu* and helps in reliving *Shoola* and stiffness of *Janu*, and also helps in maintaining joints in stable condition by avoiding further Degeneration.

Aim and Objectives:

- To evaluate the efficacy of *Erandamooladi basti* in the management of *Janu Sandhigata Vata Vis-A-Vis Osteoarthritis* of Knee joint.

Materials and Methods:

Source of Data:

Total 20 Subjects with clinical features of *Janu Sandhigata Vata Vis-A-Vis Osteoarthritis* of Knee

joint coming under the inclusion criteria approaching the out-patient and in-patient department of Sri Kalabyraveswaryaswamy Ayurvedic Medical College, Hospital & Research centre, Bengaluru were selected for the study.

Diagnostic criteria:

- Based on Lakshanas of *Janu sandhigata vata*
- Signs and symptoms of Osteoarthritis of Knee joint⁴
- Based on radiological evidence of Osteoarthritis of Knee joint

Inclusion criteria:

- Subject presenting with Lakshanas of *Janu sandhigata vata*
- Subject presenting with Signs and symptoms of Osteoarthritis of Knee joint
- Subject presenting with radiological evidence of Osteoarthritis of Knee joint
- Subject of either gender from the age group of 40-70 years
- Subject fit for *Basti Karma*

Exclusion criteria:

- Any systemic illness that interfere with the course of intervention
- Pregnant and lactating women

Study design:

- Single arm, active, open label clinical study

Intervention: Subjects was administered *Erandamooladi basti* in *Yoga Basti* pattern.

Poorva Karma

a. Method of preparation of *Erandamooladi basti*:

Madhu 40 ml was taken in *Kalwa* and 10 grams of *Saindhava Lavana* was added to it & Continuous churning was done to make a homogenous mixture., to that homogenous mixture - 100 ml of *Murchita tila taila* was added slowly and stirring was continued until a uniform consistency was attained. Later 30 gram of *Rasna Kalka churna* was taken and lukewarm water is

added and made in to semisolid consistency and this was added to the above mixture, Kwatha made out of Erandamoola Kwatha choorna was filtered through a fine sieve then added slowly and part by part for proper mixing., Finally 200 ml of Aja mamsa rasa was added very slowly while the churning process is continued.

b. Preparation of patient (Athura Siddatha):

Abhyanga –Sthanika Abhyanga was administered with Moorchita tila taila followed by Sthanika Nadi Sweda to Shroni, Kati, Vankshana, Pakwashaya Pradesha. Swedana – Nadi Sweda with Ushna jala. Anuvasana Basti- Given after Laghu Ahara Sevana, Erandamooladi Basti - Given in empty Stomach

Pardhana Karma

- Patient is asked to lie in left lateral position.
- Anuvasana and Niruha basti are given alternately as per Yoga Basti pattern shown in table.

1. Anuvasana Basti - moorchita taila - 80 ml (After consuming Laghuaahara)

Table 1: Showing the pattern of Yoga Basti

Day	1st	2nd	3 rd	4th	5 th	6th	7th	8th
Basti	A	N	A	N	A	N	A	A

2. Niruha basti – Erandamooladi basti. (On empty stomach at 7am)

Table 2: Showing Niruha Basti ingredients

Madhu	40ml
Saindhava lavana	10gms
Moorchita taila	100ml
Rasna Kalka	30gms
Erandamoola kwatha	300ml
Aja mamsa rasa	200ml

Paschat Karma

Anuvasana Basti: Patients were made to lie down in supine position for 100 Matrakala, patting of buttocks, raising the legs (3 times each) was performed in order to retain the Sneha inside for a longer period.

Niruha Basti: After this the patient was asked to lie in a comfortable position on the Droni with his body in raised position by means of pillow in such a way that Veerya of the Basti may spread throughout the body.

Assessment criteria

Assessment was done on BT (Before treatment) & AT (After the treatment)

Table 3: Showing Grading of Subjective parameters:

Assessment Criteria	Prakrutha (Normal) (0)	Mrudu (Mild) (1)	Madhyama (Moderate) (2)	Daruna (severe) (3)	Ati daruna (Extremely severe) (4)
Sandhi Shula	No pain	Occasional pain	Pain during excess work	Constant pain disturbing Routine	Severe pain
Sandhi Shotha	No swelling	Mild swelling	Slight more when compared to milder one	Covers all prominences of affected joints	Elevated joint seems grossly deformed
Sandhi Stabdata	No Stiffness	Stiffness	Stiffness (15 - 30)	Stiffness (30 mins)	Constant Stiffness

		(5min - 15mins)	mins)	- 1hr)	
Prasarana Akunchana Vedana	No painful movement	Pain without wincing of face	Pain with wincing of face	Shouts / prevents complete flexion	Does not allow passive movements

Table 4: Showing Grading of Objective parameter:

Assessment criteria	None	Mild	Moderate	Severe	Extreme
Sandhi Atopa	No Crepitus	Mild Palpable Crepitus	Moderate Palpable Crepitus	Severe Palpable Crepitus	Audible Crepitus

Observations:

Total number of Subjects registered for the study – 23

Total number of Subjects completed the study – 20

Total number of Droupouts - 3

Distribution of Subjects based on Age (years): In the present study, 7(35%) Subjects were belonged to age group of 51-60 years, 13(65%) Subjects were belonged to age group of 61-70 years.

Distribution of Subjects based on Gender: In the present study, 14(70%) Subjects were Females, 6(30%) Subjects were Males.

Distribution of Subjects based on Janusandhi Shoola: In the present study, 1(10%)Subjects had Janusandhi Shoola in right knee joint, 1(10%)Subjects

had Janusandhi shoola in left knee joint, 18(80%) Subjects had Janusandhi Shoola in both the knee joint.

Statistical Analysis:

- For the Statistical analysis, the data obtained in both the groups were recorded and presented in tabulations and graphs.
- The assessment was done Before treatment (BT) and After treatment (AT) and the assessment parameters like Sandhi Shula, Sandhi Shotha, Sandhi Stabdata, Prasarana Pravrutta Vedana, AkunchanaPravrutta Vedana were subjected to Wilcoxon Signed Rank Test.
- The assessment parameter Sandhi Atopa was subjected to Paired ‘t’ test

Interpretation	P Value
Insignificant	>0.005
Significant	<0.005
Highly Significant	<0.01, <0.001

Results:

Table 5: Effect of treatment on Janu Sandhi Shula

BT-AT	M	SD	SEM	Wilcoxon Signed Rank	N	MR	SR	Z Value	P Value	Re
BT-AT	2.00	0.55	0.08	NR	4	20.50	820.00	-5.75	<0.001	HS
				PR	0					
				Ties	0					

In the present study, the Wilcoxon Signed Rank Test on Janu Sandhi Shula revealed statistically highly significant result with Z value -5.75and p value <0.001.

Table 6: Effect of treatment on *Janu Sandhi Shotha*

Phase	M	SD	SEM	Wilcoxon Signed Rank	N	MR	SR	Z Value	P Value	Re
BT-AT	1.52	0.64	0.10	NR	20	20.00	780.00	-5.58	0.001	HS
				PR	0					
				Ties	0					

The Wilcoxon Signed Rank Test on *Janu Sandhi Shotha* revealed statistically highly significant result with Z value -5.58 and p value <0.001.

Table 7: Effect of treatment on *Janu Sandhi Stabdata*

Phase	M	SD	SEM	Wilcoxon Signed Rank	N	MR	SR	Z Value	P Value	Re
BT-AT	1.65	0.66	0.10	NR	40	20.50	820.00	-5.63	<0.001	HS
				PR	0					
				Ties	0					

The Wilcoxon Signed Rank Test on *Janu Sandhi Stabdata* revealed statistically highly significant result with Z value -5.63 and p value <0.001.

Table 8: Effect of treatment on *Prasarana Pravrutta Vedana*

Phase	M	SD	SEM	Wilcoxon Signed Rank	N	MR	SR	Z Value	P Value	Re
BT-AT	2.07	0.79	0.12	NR	40	20.50	820.00	-5.66	0.001	HS
				PR	0					
				Ties	0					

The Wilcoxon Signed Rank Test on *Prasarana Pravrutta Vedana* revealed statistically highly significant result with Z value -5.66 and p value <0.001.

Table 9: Effect of treatment on *Janu Sandhi Atopa*

Phase	Mean		MD	SD	SEM	T Value	P Value	Re
	BT	AT						
BT-AT	2.75	0.95	1.80	0.82	0.13	13.83	0.001	HS

Paired t test on *Janu Sandhi Atopa* revealed statistically highly significant result with t value 13.83 and p value <0.001.

DISCUSSION

Among three *Doshas*, *vata* is the prime *Dosha* responsible in the manifestation of the disease. *Sandhigata vata* is one among the *Vata vyadhi* explained by our Acharyas, predominance of *Vata Dosha* is seen in old age which is further aggravated due to *Dhatu kshaya* that takes place as the age advances. *Acharya Sushruta* is specific in mentioning

of commencement of degenerative changes that is after 40 years which is termed as *Parihani Avastha* of *madhyama Vaya*, where the individual starts to develop tendency to suffer from *Vata Vyadhi*. If at this stage person indulges in *Vata kara Ahara vihara* there will be a *prakopa* of *vata* and this *prakaupita vata* takes *asharaya* in *Khavaigunya yukta srotas*. Here it is (*Janu sandhi*) and causes depletion of bodily elements. As *Shleshma bhava* in *sandhi* is reduced leading to pain in joints.

When *Basti* is introduced into the *Pakwashaya*, the *Veerya* of *Basti* reaches all over the body, collects the

accumulated *Doshas* and *Shakrut* from *Nabhi*, *Kati*, *Parshwa* and *Kukshi pradesha*, causes *Snehana* to the body and expels out the *Dosha* along with *Pureesha*⁵. *Pakwashaya*, which is the seat of *Vata dosha*, can be correlated to *Pureeshadhara-kala*. According to *Dalhana*, *Pureeshadhara kala* itself is *Astidharakala*⁶. This establishes a relationship between the large intestine and bones. *Basti* is having 2 actions; *Veerya* of *Dravya* should get absorbed to have its systemic action. Second major action is related with the facilitation of excretion of morbid *Doshas* responsible for disease into colon from where they are evacuated. All these actions can be well explained on the basis of physiological and pharmacological actions.

Effect from Anuvasana basti: *Anuvasana basti* will retain the oil for a specific period without causing any adverse effect. It protects *Pureeshadhara kala* by giving *Snehana* effect. *Tila Taila* having *Ushna veerya* and *Guru*, *Snigdha guna*⁷ combats *Ruksha* and *Laghu guna* of *Vata*,⁸ which in turn does *Vata shamana*.

Effect from Niruha basti: *Madhu* having *Yogavahi* and *Sukshma marga anusarita*⁹ property acts as catalyst and penetrates into the *Sukshma srotas*. *Saindhava lavana* having *Laghu* and *Tridosha Shamaka guna*¹⁰ was added to it. *Sneha dravya*, *Taila* having *Ushna veerya*, *Snigdha guna*¹¹ combats *Ruksha* and *Laghu guna* of *Vata*¹², which inturn causes *Vata shamana*. *Kalka* is the main drug, which gives potency to the whole combination. It helps to disintegrate the *Malas*. *Kwatha* does *Anulomana* and *Nirharana* of *Doshas*. *Erandamula niruha basti* is *Vataghna* and is indicated in *Jangha*, *Uru pada*, *Prushta Shula hara*¹³. *Erandamula* being main ingredient, has *Snigdha*, *Sukshma* and *Teekshna* properties does *Srotoshodhana* and thus acts as *Vatahara*, *Balya* and *Vedhanasthapana*.¹⁴ Hence considering the properties of all the ingredients, *Erandamooladi basti* is effective in treating *Janusandhigata Vata*.

CONCLUSION

Present study *Erandamooladi basti* proved to be effective in reducing *Lakshanas* of *Janusandhigata Vata* and has shown good results in all assessment parameters taken into consideration. The study

suggests *Erandamooladi basti* can be taken as better choice of treatment in the management of *Janu Sandhigatavata Vis-A-Vis Osteoarthritis* of Knee joint. The study can be taken up for further study on large sample.

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