

ROLE OF JAMBEERA PINDA SWEDA AS PALLIATIVE THERAPY IN JANU SANDHIGATAVATA (OA KNEE JOINTS) - A CLINICAL STUDY

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ABSTRACT

Sandhigata Vata is one of *Vatavyadhi* which may be correlated with osteoarthritis. Osteoarthritis as degenerative joint disorder is predominantly seen in geriatric practice. Radiological & autopsy survey shows steady increase in degenerative changes in joints from the age 30 yrs. *Snehana* and *Swedana* are prescribed as common line of treatment for *Vatavyadhi* which is applicable for *Janu sandhigata vata* as well. *Pinda Sweda*, a form of *Sankara Sweda* explained in the classics serves the purpose of alleviation of vitiated *Vata dosha* in the above condition. Drugs used in *Jambeera Pindasweda* namely *Jambeera*, *Lashuna Kalka*, *Kulatha*, *Methika* etc are having *Vata-kaphahara*, *Shothahara*, *Shoolaghna* action. Study showed statistically significant change in the attributes like Pain, Swelling, and Pain on walking; Climb up of stairs, Climb down of stairs, Able to squat or bend at Knee, Pain or discomfort after getting up. The benefit of the procedure is achieved more rather than the absorption of the drug.

Keywords: *Sandhigata vata*; *Pindasweda*; Osteoarthritis.

INTRODUCTION

Mobility is one of the basic characters of life, dependent on the structural as well as functional make of the body. Among the chronic rheumatic diseases, hip and knee osteoarthritis is the 2nd common rheumatologic problem with prevalence of 22% to 39% in India and is a leading cause of pain and disability in most countries worldwide. Its prevalence increases with age and generally affects women more frequently than men. Nearly 45% of women over the age of 65 years have symptoms, while radiological evidence is found in 70% of those over 65years.¹

In Ayurveda, *Sandhigata vata* is explained by the Acharyas in *Vatavyadhi*^{2,3} may be co-related with osteoarthritis in which symptoms⁴ like pain(*Shula*), swelling (*Shotha*), crepitus (*Atopa/Sphutana*), painful range of movements (*Prasarana akunchanayoh pravriutti sa vedana*) are seen. *Snehana*, *Swedana* are prescribed as common line of treatment for *Vatavyadhi*⁵. In *Sandhigata vata*, *Sweda* plays an important role. *Pinda sweda*⁶, a form of *Sankara sweda* explained in the classics serves the purpose of alleviation of vitiated *Vata-kapha dosha*. Drugs used in *Jambeera pindasweda*⁷ like *Jambeera*, *Lashuna*

kalka, Kulatha, Methika, Haridra, Yava churna (each 50 gms), *Saindhava lavana* 25gms & grated coconut(25gms), *Nimba taila* for frying the content are having *Vata-kaphahara, Shothahara, Shoolahna* action. The benefit of the procedure is achieved more rather than the absorption of the drug.
Objective of the study: To evaluate the efficacy of *Jambeera pinda sweda* clinically.

Study Design: It was a single blind study to assess the pre & post test design where 25 patients suffering from *Janu sandhigata vata*(OA) from OPD of *Panchakarma*, SDM Institute of Ayurveda and Hospital, Bengaluru was selected and *Jambeera Pindasweda* was carried out for 10days duration.

Inclusion criteria:

Patients suffering from *Janu Sandhigata vata* /Osteoarthritis of knees
Patients who are fit for *Swedana*.
Patients aged between 40-80 yrs.

Exclusion criteria: Rheumatoid arthritis, Gouty Arthritis, Malignancy, Traumatic, Reactive arthritis, Infective arthritis, Ligament injury.

Duration of treatment: 10 days.

Total duration of study: 10 days.

Interventions:⁸

Poorva karma: *Sthanika Abhyanga* with *Nimba taila* was performed to affected knee joints.

Pradhana karma: *Jambeera pinda sweda* duration: 35 minutes each day.

Paschat karma: *Parihara vishaya of swedana* was followed.

Assessment criteria:

Subjective: Symptoms of *Janu sandhigata vata*
Symptoms of *Samyak swinna lakshana*.

Objective: The following standard parameters were assessed both before the *Pindasweda* and after 10 days of *Pinda sweda* procedure.

Table 1: Assessment criteria

PARAMETER	FINDINGS	GRADING
Pain	-Absent	0
	-Mild	1
	-Moderate	2
	-Severe	3
Morning stiffness	-No stiffness	0
	-Less than 20mins	1
	-More than 20mins	2
Pain on walking	-No	0
	Only after walking some distances	1
	-early after standing	2
Pain or discomfort after getting up from bed	-No	0
	-yes	1
Able to climb of stairs	-Easily	0
	-With mild difficulty	1
	-With moderate difficulty	2
	-With marked difficulty	3
	-Impossible	4
Able to climb down flight of stairs	-Easily	0
	-With mild difficulty	1

	-With moderate difficulty -With marked difficulty -Impossible	2 3 4
Able to Squat or bend at knee	-Easily -With mild difficulty -With moderate difficulty -With marked difficulty -Impossible	0 1 2 3 4
Swelling	-No -Slight -Moderate -Gross	0 1 2 3
Tenderness	-No -Complains of pain - Complains of pain & Winces -Complains of pain & Withdraws joint -Doesn't allow to touch	0 1 2 3 4
Crepitus	-No -Palpable -Audible	1 2 3

Investigations: Hb%, TC, DC, ESR, RBS, R.A Factor, S. Uric acid, ASLO Titre, CRP.
X-ray knee –AP view & LAT view- wherever required.

Table 2: Observation:

Attribute		N=25	%
Age	<i>Parihani-</i> 40-50yrs	07	28%
	51-60yrs	09	36%
	61-70yrs	07	28%
	<i>Vrudha-</i> 71-80yrs	02	08%
Sex	Male	03	12%
	Female	22	88%
Socio Economic Status	Lower middle class	04	16%
	Middle class	19	76%
	Rich	02	8%
Occupation	Home Makers	17	68%
	Agriculture	03	12%
	Business	03	12%
	Retired from service	02	8%
<i>Desha</i>	<i>Sadharana</i>	23	92%
	<i>Jangala</i>	01	04%
	<i>Anupa</i>	01	04%
Diet	Vegeterian	10	40%

	Mixed	15	60%
Habit	Smoking	02	08%
	Alcohol	01	04%
	Tobacco	10	40%
	Nil	12	48%
Nidra	Sound	09	36%
	Disturbed	16	64%
Prakruti	Vatapitta	06	24%
	Vatakapha	19	76%
Satwa	Pravara	01	04%
	Madhyama	21	84%
	Avara	03	12%
Saaratah	Twak	09	36%
	Maamsa	07	28%
	Meda	04	16%
	Majja	05	20%
Samhanana	Madhyama	25	100%
Rasatah	Sarvarasa	25	100%
Abhyavaharana & jarana shakti	Pravara	06	24%
	Madhyama	19	76%
Vyayama shakti	Madhyama	13	52%
	Avara	12	48%
Pramaanataha ⁹	Healthy weight	09	36%
	Over weight	11	44%
	Obese	05	20%
Joint involved	Right knee	02	08%
	Left knee	04	16%
	Both	19	76%
Duration of illness	<1 year	07	28%
	1-5 years	11	44%
	>5 year	07	28%
Symptom	Shoola(pain)	25	100%
	Tenderness	15	60%
	Shoatha(swelling)	16	64%
	Stabdhata(stiffness)	11	44%
	Sputana(crepitus)	24	96%
	Vedanayukta pravritti	25	100%

Table 3: Result

N 25	Attributes	BT	AT	Diff. in Mean	%	Paired 't' Test			
						S.D.	S.E.M.	't'	P
	Pain	2.160	1.36	0.800	37.03	0.408	0.081	9.798	<0.001
	Stiffness	0.520	0.40	0.120	23.07	0.332	0.066	1.809	0.083
	Swelling	1.000	0.56	0.440	44	0.507	0.101	4.342	<0.001
	Tenderness	0.200	0.08	0.120	60	0.332	0.066	1.809	0.083
	Crepitus	2.000	2.00	0.000	0	0.000	0.000	.000	1.000
	Pain on walking	0.96	0.80	0.160	20	0.374	0.074	2.138	0.043
	Ability to squat	2.840	2.60	0.240	8.45	0.436	0.087	2.753	0.011
	Ability to getup	0.720	0.52	0.200	27.77	0.408	0.081	2.449	0.022
	Climbing stairs	2.160	1.76	0.400	18.51	0.500	0.100	4.000	<0.001
	Climbing down stairs	2.160	1.76	0.400	18.51	0.500	0.100	4.000	<0.001

RESULT

Statistical analysis of the Pre-treatment (BT) & Post-treatment (AT) on different attributes of *Janu sandhigata vata* was carried out. Statistical analysis revealed that the change that occurred with the treatment is greater than would be expected by chance, there is a statistically significant change ($P < 0.001$) in the attributes like pain, swelling, intensity of pain on walking, Ability to squat-to get up and significant improvement in climbing & climbing down stairs. Whereas in attributes like stiffness, tenderness, and crepitus study reveals that the change that occurred with treatment is not great enough to exclude the possibility that the difference is due to chance.

DISCUSSION

The procedure where stimulating the body temperature by contact with the external heat source and there by producing the *Sweda* for therapeutic reason is termed as *Swedana*. Through *Swedana* one can achieve the therapeutic benefits in the form of elimination of *Shula*, *Sthambha*, *Gourava*, *Sheeta*.

There are list of drugs mentioned by the *Acharyas* for *Pindasweda*. We may understand these in terms of different Medias used like-

- Liquid Media- *Payasa*, *Krushara*, *Odana* etc.
- Solid Media- *Sikata*, *Pamshu* etc.

a) Dry Drugs – *Kakolyadi Gana*, *Goshakrut* etc

b) Wet Drugs – Fresh Leaves (*Patrabhanga*).

Further, these lists of drugs are also based upon the availability or the utilitarian factor holds good here. Based upon the type of *Sweda* either *Snigdha* or *Ruksha* these drugs can be grouped. There are some drugs which facilitates the absorption of the drugs like *Amladravyas*, *Lavana*, some drugs where by withholding the heat for prolonged period is possible with use of media like *Payasa* etc mentioned.

By considering all the factors, *Jambheera Pindasweda* was formulated. *Jambheera Pindasweda* contains Powder of dry drugs which are *Vatahara*, *Shothahara* & added with *Amladravya* and *Snigdha dravya (taila)*.

Prior to the procedure of *Swedana* application of oil is preferred which plays a role as,

- Prevention from the complication like burn etc.
- Enhances absorption through lipid media.
- Sustenance of heat in that particular area will be prolonged.

As there is no specific time duration for the procedure of *Swedana* mentioned in the classics, till the attainment of *Samyak swinna lakshana* one can perform this procedure and study showed the average time taken for the completion of procedure is around 35 minutes.

Effect of Heat:

Diffusion through the skin is a temperature dependent process (According to Kligman), so raising the skin temperature will enhance the transdermal delivery of various drugs by increasing skin permeability, body fluid circulation, blood vessel wall permeability, drug solubility. External heating will dilate the penetration pathways in the skin, increases kinetic energy & movement of particles in the treated area & facilitate drug absorption.

Local heating of the cutaneous tissues doesn't generally affect the body core temperature however & will result in a local increase in subcutaneous blood flow rather than a body wide redistribution of systemic blood flow.

Heating the tissue results in increased blood flow, increased metabolic activity and stimulation of neural receptors in the skin or tissues & also has many other indirect effects.

- Due to heat → Vasodilatation particularly in superficial tissues where the heating is greatest, stimulation of superficial nerve endings can also cause a reflex dilatation of arterioles. By this necessary O₂ & nutritive materials supplied.
- Heat has been applied as a counter irritant, which is the thermal stimulus, may affect the pain sensation (Theory of Melzack & Wall).
- Heat is having indirect effect on,
a) Muscle tissue → Increase in temperature → Muscle relaxation, increased muscle action efficiency.
b) Increased activity of Sweat glands → Reflex stimulation of Sweat glands resulting from effect of heat on the sensory nerve endings.

CONCLUSION

Sandhigata vata is one of *Vatavyadhi* may be correlated with osteoarthritis. *Snehana*, *swedana* are prescribed as common line of treatment for *Vatavyadhi*. In *Sandhigata vata*, *Sweda* plays an important role. *Pinda sweda*, a form of *Sankara sweda* explained in

the classics serves the purpose of alleviation of vitiated *Vata dosha*. The benefit of the procedure is achieved more rather than the absorption of the drug. Study showed statistically significant change in the following attributes–Pain (P=<0.001), Swelling (P=<0.001), Pain on walking (P=0.043), Climb up of stairs, climbing down of stairs (P<0.001), Able to squat or bend at knee(P=0.001), Pain or discomfort after getting up from bed (P=0.022) and statistically insignificant change in attributes stiffness (P=0.083), tenderness (P=0.083), crepitus (P=1.000).

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