

A COMPARATIVE STUDY ON EFFECT OF KOLADI UPANAHA SWEDA AND KUSHTADI UPANAHA SWEDA IN JANU SANDHIGATA VATA W.S.R.TO KNEE OSTEOARTHRITIS

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ABSTRACT

The most common form of arthritis is Osteoarthritis. In present days, reduction in physical activity due to sedentary lifestyle and degenerative changes in joints with advancing age are strong contributory factors for *Sandhigata Vata*. Knee commonly gets affected, being the most weight bearing joint. *Janu Sandhigata Vata* interferes with the functional ability of knee joint and is a major cause of pain and disability in the elderly. *Upanaha sweda* is an excellent method for subsiding *Vata* which helps to conquer the *rooksha* and *sheeta guna* of *Vata* by its *snigdha* and *ushna guna*. Hence, for quick symptomatic relief and early mobility of patients, an attempt is made to assess the role of *Koladi Upanaha sweda* and *Kushtadi Upanaha sweda* in the management of *Janu Sandhigata Vata*. The observations were drawn from the results obtained from the study on 40 patients. Statistical analysis revealed that both the interventions were effective in reducing all the signs and symptoms of *Janu Sandhigata Vata*, however in parameters like pain, tenderness and crepitus, *Koladi Upanaha Sweda* showed better response than *Kushtadi Upanaha Sweda*. Thus, there is significant effect of *Koladi Upanaha Sweda* over *Kushtadi Upanaha Sweda* in *Janu Sandhigata Vata*.

Keywords: *Janu Sandhigata Vata*; *Upanaha sweda*; Osteoarthritis

INTRODUCTION

Since time immemorial, *Ayurveda*, the eternal science of life, has proved to be a great blessing to mankind. *Ayurveda* not only concentrates on the presenting signs and symptoms of the patient, but treats the pa-

tient as a whole. Thus, *Ayurveda* has earned a special position for itself in the field of medicine, which makes it unique among the different systems of medicine. To keep a person healthy, it is essential that a

state of equilibrium is maintained among the *Doshas*, *Agni*, *Dhatu* and *Malas*. Any imbalance in the above factors leads to diseases. Diseases cripple a person affecting his day to day normal activities. *Prakruta Vata* is responsible for maintaining this state of equilibrium. This *Prakruta Vata* is responsible for all the activities (*cheshta*) of the body whereas *Vikruta Vata* leads to many diseases^[1]. When *Vikruta Vata* gets lodged in the *Sandhis*, it leads to the disease *Sandhigata Vata*. In *Ayurveda*, *Acharya Charaka* was the first person to describe *Sandhigata Vata* separately. He has explained it as “*Sandhigata Anila*” in *Vatavyadhi chikitsadhyaya*^[2]. *Vagbhata* has included *Vatavyadhi* as one among the *Ashta Maharoga*^[3]. The disorders commonly affecting the joints are *Amavata*, *Sandhivata*, *Koshtukashirsha*, *Vatarakta* etc. *Janu sandhi* is the major weight bearing joint in the body. It is more subjected to wear and tear because of *Sleshaka kapha kshaya* and *Vata prakopa* due to *Vata prakopaka ahara vihara* leading to *Janu Sandhigata Vata*. The clinical features of *Sandhigata vata* as described in various *Ayurvedic* texts are – *Sandhishoola*, *Sandhishotha*, *Savedana Prasarana Akunchana pravritti*, *Vatapoornadruti sparsha*, *Sandhi Atopa*.^[4,5,6,7] *Vata dosha vriddhi* due to age related *Dhatu kshaya* leads to development of this disease. *Sandhigata Vata* is a *Gambhira sthanashrita roga* as it occurs in deep seated *Dhatu* like *Asthi* and *Majja*. *Sandhi* is a type of *marma* and *Sandhigata vata* is a *Marmasthi Sandhigata roga*, which belongs to *Madhyama roga margas*. Due to all these factors, *Janu Sandhigata Vata* is a *Kashtasadhya vyadhi*. Our *Acharyas* have given great importance to *Swedana karma* in the management of *Janu Sandhigata Vata*. Different modalities of treatment have been explained in the *shastras*. *Sushruta Samhita* and *Chakradatta* have given the following methods of treatment for *Sandhigata Vata* - *Snehana*, *Upanaha*, *Agnikarma*, *Bandhana* and *Mardana*.^[8,9] Among different types of *Vatopakramas*, *Bahya snehana* and *swedana karma* are said to be the best *sthanika chikitsa* to pacify *vata* in localised area. Here the use of *Upanaha* as *Swedana karma* may prove more effective for quick relief from symptoms and early mobility of the pa-

tients, which is the main purpose of this study. So, here, *Upanaha* with *Charakokta Vatahara Koladi choorna* and *Kushtadi choorna*^[10,11] have been selected for comparative study, which may prove to be efficacious in reducing the pain, swelling, stiffness and restore the normal movements of Knee joint. But, unfortunately, the lacuna in current knowledge is the modalities of treatment mentioned for *Janu Sandhigata Vata* in both *Ayurveda* and *Allopathic science* are neither able to repair the damaged structures nor reverse the degenerative process of the Knee joint.

MATERIALS AND METHODS

Source of Data: The patients attending the *Panchakarma* OPD and IPD of *Dhanvantari Ayurveda* College and Hospital, Siddapur, with complaints of Knee joint pain and swelling were screened. Out of these, 40 patients of *Janu Sandhigata Vata*, who fulfilled the below mentioned Inclusion criteria were selected for the study.

Selection Criteria:

The patients were selected based on the Inclusion and Exclusion criteria.

Inclusion Criteria:

1. Patients between the age group of 40 – 70 years.
2. Patients suffering from *Sandhigata vata* having classical signs and symptoms as mentioned below.
3. *Sandhi Shoola* - Pain in Knee joints., *Sandhi Shotha* - Knee Joint swelling., *Sandhi Atopa* - Crepitus., *Savedana Prasaarana and Aakunchana pravrutti* - Painful/restricted flexion and extension movements of knee joint.
4. *Swedana yogya*

Exclusion Criteria:

1. Patients below 40 and above 70 years.
2. Patients with skin diseases and open lesions on Knee joints.
3. Patients with diseases such as Gouty arthritis, Rheumatoid arthritis
4. *Swedana ayogya*.
5. Patients with systemic disorders like major cardiovascular or renal diseases.

Study Design:

The study design set for the present study is a “randomized comparative clinical study”.

A minimum of 40 patients, fulfilling the inclusion criteria of *Janu Sandhigata Vata* were selected for the study irrespective of sex, religion, occupation and economic status and they were randomly distributed into 2 groups of 20 patients each.

Group A - 20 patients were subjected to *Koladi Upanaha Sweda*.

Group B - 20 patients were subjected to *Kushtadi Upanaha Sweda*.

Duration of Treatment – Patients from both the groups were treated for a period of 7 days.

Follow-up - After 7 days. Total Duration of the Study – 14 days

Intervention:

Table 1: Showing Ingredients of *Koladi Upanaha Sweda* and *Kushtadi Upanaha Sweda*

Group(A): <i>Koladi Upanaha</i>	Group(B) <i>Kushtadi Upanaha</i>
Choornas of <i>Kola, Kulattha, Suradaru, Rasna, Masha, Atasi, Tila, Eranda, Kushta, Vacha, Shatapushpa</i> and <i>Yava</i> are taken in equal quantity. <i>Saindhava lavana, Tila taila, amla kanji</i> – Q.S.	Choornas of <i>Kushta, Shatapushpa, Vacha, Yava</i> are taken in equal quantity <i>Saindhava lavana, Tila taila, amla kanji</i> – Q.S.

Method of Therapeutic Intervention:

Upanaha Sweda was administered to the patients of both the groups. There is difference only in the drugs used for the procedure. The whole procedure comprising of *Poorva karma, Pradhana karma* and *Paschat karma* is same in both the groups.

Treatment Schedule

Group A - *Koladi Upanaha Sweda*

Group B - *Kushtadi Upanaha Sweda*

POORVA KARMA: Collection of essential materials required for *Upanaha Sweda*, Preparation of the medicine., Preparation of the patient

Materials required: *Koladi choorna* for Group A/*Kushtadi choorna* for Group B - 50 to 100 gms., *Eranda patra.*, *Amla Kanji* - 50 to 100 ml., *Tila taila* - 50 ml., *Saindhava lavana* - 20 to 30 gms ., Bandage cloth (15cm x 2 m) – 1., Chair – 1., Small bowls – 2., Gas stove., A spoon for stirring., A water bath to heat., A small towel

Preparation of the medicine- The ingredients of *Koladi choorna* (Group A)/*Kushtadi choorna* (Group B) were collected in raw form. Then the drugs individually were pulverized to get a fine powder. Powder of each drug was taken in equal quantity and all of them were mixed together to get a uniform mixture. Then a paste of these powdered drugs was prepared by adding *Saindhava lavana, Tila Taila* and *Amla Kanji*. This paste was taken in a small bowl and warmed gently by placing the bowl in a water bath. *Tila Taila* was taken

separately in another bowl, luke warmed and kept ready for *Abhyanga*.

Preparation of the patient – The patient was asked to sit comfortably on a chair, exposing the knee joint to be tied with *Upanaha Dravya*. The affected knee joint was cleaned with a piece of cotton dipped in warm water and then the area was wiped dry with a towel. *Sthanika Abhyanga* with *Sukhoshna Tila Taila* was done.

PRADHANA KARMA – *Lepa* of the prepared paste was applied (approximately about 2-3mm thickness) and spread uniformly on the affected knee joint. *Eranda patra* were placed over the paste to cover the area properly. Later it was tied with a bandage cloth. The procedure was done in the evening and the *Upanaha* was retained for a period of 12 hours.

PASCHAT KARMA – The next morning, the bandage along with the paste was removed and the knee joint was washed with lukewarm water. The procedure was done for 7 consecutive days in both the groups.

Follow up – The patient was advised to report on the 14th day for follow up counting from the day the treatment schedule started.

Assessment Criteria:

Subjective and Objective Parameters were used to assess the response to the treatment. Assessment was done on 1st day before starting the treatment, on 7th day after the treatment and on 14th day after follow-

up. The grades for assessment of all Subjective and Objective parameters are as follows

Subjective Parameters: Pain, Morning Stiffness, Pain on Walking, Ability to Squat

Objective Parameters: Swelling, Degree of Flexion, Tenderness, Crepitus

OBSERVATIONS:

20 patients were registered in Group A and 20 patients in Group B. All the patients were thoroughly examined before and after treatment as well as after follow up.

The age limit of the subjects in the study was 40 to 70 years. The incidence was highest in the age group 60 – 69 years (55%), females (72.5%), married (100%), middle class (52.5%), post menopausal period in women (83%), *Vatapittaja Prakriti* (37.5%), bilateral knee joints (60%) and chronicity of disease more than 2 years (37.5%). All 40 patients (100%) had *Sandhi shoola* and *Savedana Prasarana Akunchana pravritti*, 34 patients (85%) had *Sandhi Atopa*, 31 patients (77.5%) had *Sandhi shotha* and 24 patients (60%) had *Sandhi graha*.

Table 2: Showing Overall response for the treatment

Group	Response							
	Marked improvement		Moderate improvement		Mild improvement		No Change	
	No. of patients	%	No. of patients	%	No. of patients	%	No. of patients	%
Group A	01	05	14	70	04	20	01	05
Group B	00	00	09	45	11	55	00	00

RESULTS

Table 3: Showing the Statistical Analysis of Group A and Group B after treatment

Parameters	Group A			Group B			t value	df	p value	Remarks
	N	MD	SD	N	MD	SD				
Pain	20	1.40	0.60	20	0.80	0.62	3.11	38	<0.05	SS
Morning Stiffness	20	0.95	0.76	20	0.55	0.83	1.59	38	>0.05	NS
Pain on Walking	20	0.85	0.67	20	0.50	0.69	1.63	38	>0.05	NS
Able to Squat	20	1.35	0.88	20	1.25	0.72	0.39	38	>0.05	NS
Swelling	20	0.85	0.49	20	0.75	0.55	0.61	38	>0.05	NS
Degree of flexion	20	0.35	0.49	20	0.25	0.44	0.68	38	>0.05	NS
Tenderness	20	0.70	0.86	20	0.05	0.22	3.27	38	<0.05	SS
Crepitus	20	1.05	0.94	20	0.45	0.83	2.14	38	<0.05	SS

Statistical Interpretation

Based on unpaired t test, the following observations were recorded

After treatment - On comparing the results between Group A and Group B, the difference between the two groups is statistically significant w.r.t Pain, Tenderness and Crepitus whereas the difference between the two groups is not significant w.r.t the rest of the parameters. The mean difference in Group A is comparatively higher than that in Group B w.r.t Pain, Tenderness and Crepitus.

DISCUSSION

In the present study, *Sagni* and *Snigdha* type of *Upanaha Sweda* is used. Initially, *Sthanika Abhyanga* is done with *Tila taila* on the affected Knee joint. *Snehana*, whether used externally or internally is said to pacify *Prakupita Vata*. Here, *Tila taila* used for *Abhyanga* as well as for preparing the paste for *Upanaha* helps in alleviating the aggravated *Vata*. Among the *Chaturvidha Sneha*, *Acharya Charaka* has mentioned that *Taila* is predominantly *Vataghna*.^[12] As seen earlier, *Tila taila* is best *Vatahara* because of its properties like *Madhura, Tikta, Kashaya rasa, Guru, Snig-*

dha Guna and *Ushna veerya*. So, use of *Tila taila* helps in doing the *Samprapti Vighatana* (reduces *Srotoriktata*) to some extent. The *Snigdha guna* of *Tila taila* helps in reducing *Rookshata* caused due to *Vata Prakopa* and increases *Snehadi gunas* in the Knee joint. This helps significantly in restoring the joint mobility. Also *Taila* serves as a lipoidal medium to carry the potency of the drugs (*Koladi* and *Kushtadi*) by penetrating the epidermis and exerts immediate analgesic and anti-inflammatory effect. *Sneha* also prevents *Upanaha* from drying up and causing skin irritation. So, *Upanaha* can be retained for a longer duration compared to other *Lepas*. *Saindhava Lavana*, because of its *Sookshma Guna* helps the *veerya* of the drugs to penetrate into *sookshma srotas* and deeper tissues and pacify the *Doshas*. Use of *Amla Kanji* helps to permeate the active principles from one medium to another.

Acharya Sushruta explains the mode of action of *dravyas* as follows- The *veerya* of *Dravyas* applied externally on the skin is absorbed by the *Tiryak Dhamanis* which are attached to the *Romakoopas*. Through these *Romakoopas*, the *veerya* of the *dravyas* enter into the body after undergoing absorption (*paka*) through *Bhrajaka Pitta* present in the skin thus pacifying the *Doshas*. Warming the paste before application and *Ushna veerya* of the *dravyas* used in *Upanaha* help in relaxation of the smooth muscles and local vasodilatation. This increases the blood circulation in the area facilitating supply of oxygen and nutritive materials to the tissues and removal of waste products. Excess heat is also lost to the environment via radiation and conduction. Also the sweat glands of the skin are stimulated which results in increased excretion of liquefied vitiated *Doshas* from the body leading to *Srotoshodhana*. Thus, *Vatahara chikitsa* in the form of *Snehana* and *Swedana* helps in relieving the symptoms. In addition, it hinders the progression of degenerative changes of the Knee joint.

CONCLUSION

Janu Sandhigata Vata is a *Vatavyadhi* which is one among *Ashta Maharoga* by *Vagbhata*. *Sleshaka kapha kshaya* and *Vata prakopa* due to *Vata pra-*

kopaka ahara vihara, Dhatu kshaya, Sthoulya and *Vardhakya* have got a major role to play in the manifestation of *Janu Sandhigata Vata*. By comparing the overall response for the treatment it can be concluded that *Koladi Upanaha Sweda* proved to be more effective than *Kushtadi Upanaha Sweda*. When analysed statistically, both the groups showed similar effects in reducing all the signs and symptoms of *Janu Sandhigata Vata*. However, in parameters like pain, tenderness and crepitus, Group A patients showed better response than Group B patients. Thus, it can be concluded on the basis of results as well as overall response for the treatment that there is significant effect of *Koladi Upanaha Sweda* over *Kushtadi Upanaha Sweda* in *Janusandhigatavata*.

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