

A Clinical evaluation of efficacy of *Devadarvadi Upanaha* in management of *Janu Sandhigata Vata* vis a vis Osteoarthritis of Knee Joint

Dr. Lakshmi R¹, Dr. Divya Kini² M D(Ayu), Dr H M Harisha³ M D(Ayu)

P G Scholar¹ Department of P G studies in Panchakarma,

Ashwini Ayurvedic Medical College and Research Centre Ring road, Maraluru, Tumakuru, Karnataka, India
Pin: 572-105

Professor² Department of P G studies in Panchakarma,

Ashwini Ayurvedic Medical College and Research Centre Ring road, Maraluru, Tumakuru, Karnataka, India
Pin: 572-105

Principal³ Ashwini Ayurvedic Medical College and Research Centre Ring road, Maraluru, Tumakuru, Karnataka, India Pin: 572-105

ABSTRACT

Sandhi Gata Vata is one of the *Vata Vyadhi* where *Vata* will be afflicting the *Sandhis*. Commonest manifestation is seen in *Janu Sandhis*. This disease is characterised by manifestation of *Shola*, *Shotha*, *Vata Poorna Drithi Sparsha*, *Prasarana Akunchana Pravrutishcha* *savedana* and even *Atopa*. *Janu Sandhigata vata* described in Ayurveda shares the same symptoms as the Osteoarthritis of Knee joint mentioned in modern science. It is a disease of the elderly. Sedentary Life style, overweight, Trauma to Knee joint and diet deficient in calcium are some of the risk or causative factors. Available treatment options include NSAID's, calcium supplementations which are having their own side effects and ultimate option is Knee joint replacement. *Ayurveda* Offers better treatment protocol for this disease. *Bahirparimarjana Chikitsas* also gives wonderful benefits to the patients by reducing signs and symptoms. Here the clinical evaluation of *Devadarvadi Upanaha* is done in the management of *Janu Sandhi Gata Vata*. The patients were successfully managed and it can be concluded that *Devadarvadi Upanaha* provides relief in the signs, symptoms of the patients of *Janu Sandhigata Vata*.

Key words: - *Janu sandhi gata Vata*, *Devadarvadi Upanaha*, Osteoarthritis of Knee joint

INTRODUCTION

In Vardhakya, all Dhatus undergo Kshaya, thus leading to Vata Prakopa & many individuals are prone to Vata vyadhis. Among them Sandhigata Vata tops the list. Janu sandhigata Vata is a type of Vata vyadhi which occurs due to Dhatu Kshaya leading to Vata Prakopa in Janu Sandhi. Acharya Charaka described it as "Sandhi Gata anila"¹.

Various symptoms of Sandhi Gata Vata in different text involves: Akunchanaprasaranvedana, Shotha, Vata purnadrithi Sparsha, Atopa², Hanti Sandhi³ etc. This Janu Sandhigata vata displays the same signs & symptoms of osteoarthritis of knee joint.

Among the chronic rheumatic diseases, Hip and Knee osteoarthritis (OA) is the most prevalent and is a leading cause of pain and disability in most countries worldwide. It is the most common type of arthritis in developed & developing countries. It is a chronic, progressive musculoskeletal disorder characterised by gradual loss of cartilage in joints which results in bones rubbing together & creating stiffness, pain, impaired movement and swelling. The incidence of osteoarthritis in India is as high as 12%. It is estimated that approximately 4 out of 100 people are affected. According to WHO 9.6% of men & 18.0% of women aged over 60 years have symptomatic Osteoarthritis worldwide. OA is more common in women than men. Nearly, 45% of women over the age of 65 years have symptoms while 70% of those over 65 years show radiological evidence of OA⁴.

Contemporary science has its own limitation in managing this disease, Osteoarthritis. It can provide either conservative or surgical treatment and is highly symptomatic and with troublesome side effects. Whereas it can be better treated through treatment modalities of *Ayurveda*.

Sneha and Sweda are the basic therapy advised for Vata Rogas⁵. In this disease Sandhigata Vata, the treatment principles like Snehana, Upanaha, Lepa

and Bandhana⁶ are emphasized to provide better relief from pain and swelling and to restore the mobility

Swedana is highly praised therapy to cure contractures and other Vata afflictions. In Ayurveda “Agantujam Samayed Dosham Sthaninam Prakritya Va”⁷ is a main principle of treatment. So to pacify the Vata dosha in its Svasthana it is necessary to have more effective Sthanikachikitsa. Upanaha is one among the types of Sweda which governs its own importance due to its systematic application and unique way of drug combination. Therefore, if the Upanaha Sweda is applied directly on the affected joint then it may provide better relief. By considering all these points Upanaha Sweda in Janu Sandhivata is considered for the present clinical study. If we glance Charaka Samhita in Sootra Sthana itself we get references about drugs which can be used for Sthanika Chikitsas. One among such formulation is Devadarvadi Yoga⁸ which can be used for Upanaha. This formulation contains Devadaru, Jatamansi, Masha, Yava, Rasna, Kushtha and Kulattha as well as Godhuma along with Tila Taila and Kanji. They have Shulaprashamana, Shothahara and Vatakapashamana Properties. Hence the present study is done with this formulation.

AIMS AND OBJECTIVE

To evaluate the effect of Devadarvadi Upanaha sweda in the management of Janusandhigatavata.

MATERIAL AND METHODOLOGY

This is a randomized clinical study. 20 patients of Janu Sandhigata Vata is given Devadarvadi Upanaha. Nine days course of Upanaha was given to the patients of both the groups. After

completion of 9 days of treatment, the patients were advised to come for follow-up study after an interval of 9 days i.e., on 18th day. Sample size and Grouping 20 patients of Janu-Sandhigatavata

were selected from the O.P.D and I.P.D of Aswini Ayurveda College and Hospital, Tumkur, irrespective of age, sex, religion, occupation,

marital status etc. The detailed clinical history was taken and examination was done as per special case proforma prepared for this purpose.

INCLUSION CRITERIA

1. Patients with pain, restricted movements, joint stiffness, swelling and crepitus.
2. Patients between the age 40 and 70 years.
3. Radiological evidence of osteoarthritis.

EXCLUSION CRITERIA

1. Patients with Tuberculosis, Rheumatoid Arthritis, Psoriatic Arthritis, Gouty Arthritis, Carcinoma of Bone.
2. Patients having history of joint trauma, Secondary and other systemic illness.
3. Patients below 40 years & above 70 years
4. Patients having congenital deformity of Knee Joint
5. Patients who are unfit for Swedana.

Devadarvadi Upanaha: Devadaru, Rasna, Jatamansi, Kushta, Kulatha, Masha, Yavachooranam all the drugs were collected in the quantity 5.5 kg each from the local market after proper identification. It was powdered in the pulveriser to get *Choorna*. For each patient 120 gm of *Devadarvadi Churna* and 60 gm of *Godhuma Churna* were made into a paste by adding 20 ml of *TilaTaila* and sufficient quantity of *Kanji* and *Saindhava*. The paste of the drugs thus prepared was warmed and kept ready.

1. *Poorvakarma*: It includes preparatory measures like preparation of patient, preparation of medicine and collection of materials required for the smooth conduction of the procedure.

a) *AturaPariksha*: The patient is examined in relation to *Prakriti*, *Vikriti* etc. by tenfolds of examination and by applying.

Pratyaksha, *Anumana* and *Aptopadesha* to assess *Vyadhi* and *Deha Bala*. Then, the affected knee joint should be examined properly and mark the tender region. Examine for scares, wounds if any at the joint.

b) *AturaSiddhata*: Patient is asked to sit erect by extending lower limbs on the table. Expose the affected knee properly. Support the limbs, so that they are placed horizontally and comfortably.

MATERIALS REQUIRED FOR UPANAHA SWEDA

1. *Droni*/ chair
2. Vessel having round bottom, spoon -1
3. Gas cylinder, Stove
4. Gauze / kora cloth – 1
5. Threads – 2
6. *Upanaha Sweda Dravya*– 120 gm
7. *Eranda Patra*

2. *Pradhana karma* :120gm of *Churna* used for the *Upanaha* were made into a paste by adding 20 ml of *TilaTaila* and sufficient quantity of *Kanji* and *Saindhava*. The drugs thus prepared was warmed and made into a homologous semi-liquid paste and there after was evenly applied over the *Janu Sandhi*. After keeping the leaves of *Eranda* (*Ricinus communis*) covering over the paste applied to the *Janu Sandhi*, It was firmly bandaged with cotton cloth.

3. Paschat karma: *Upanaha* was kept for 12 hours and then was removed and the part was cleaned with warm water.

OBSERVATION AND RESULT

Cardinal signs and symptoms of 20 patients

Signs and symptoms	No patients	of percentage
Pain at rest	15	75
Pain on standing	20	100
Ability to climb up	18	90
Ability to climb down	18	90
Restricted movements	20	100
Joint stiffness	16	80
Tenderness	14	70
Crepitus	10	50
Swelling	15	75
Warmth	14	70

Effect of upanaha on pain during rest

Symptom	Mean score			%	SD	SE	T value	P value
	BT	AT	BT-AT					
Pain during rest	1.90	0.80	1.10	57.89	0.307	0.070	5.53	<0.05

Effect of upanaha on pain on standing

Symptom	Mean score			%	SD	SE	T value	P value
	BT	AT	BT-AT					
Pain on standing	2.05	1.25	0.80	39.02	0.523	0.120	3.81	<0.05

Effect of upanaha on Ability to climb upstairs

Symptom	Mean score			%	SD	SE	T value	P value
	BT	AT	BT-AT					
Ability to climb upstairs	2.00	1.25	0.75	37.50	0.550	0.126	3.47	<0.05

Effect of upanaha on Ability to climb downstairs

Symptom	Mean score			%	SD	SE	T value	P value
	BT	AT	BT-AT					
Ability to climb downstairs	1.85	0.85	1.00	54.05	0.324	0.074	5.38	<0.05

Effect of upanaha on Ability to squat

Symptom	Mean score			%	SD	SE	T value	P value
	BT	AT	BT-AT					
Ability to squat	2.00	1.25	0.75	37.50	0.550	0.126	3.68	<0.05

Effect of upanaha on Duration of knee joint stiffness

Symptom	Mean score			%	SD	SE	T value	P value
	BT	AT	BT-AT					
Duration of knee joint stiffness	1.85	0.90	0.95	51.35	0.224	0.051	5.26	<0.05

Effect of upanaha on goniometric assessment of range of motion on knee joint of janu sandhigata vata

Symptom	Mean score			%	SD	SE	T value	P value
	BT	AT	BT-AT					
Goniometric assessment of range of motion of knee joint	1.45	0.50	0.95	65.52	0.224	0.051	5.87	<0.05

Effect of upanaha on knee joint tenderness

Symptom	Mean score			%	SD	SE	T value	P value
	BT	AT	BT-AT					
Knee joint tenderness	1.80	0.75	1.05	58.33	0.224	00.051	4.54	<0.05

Effect of upanaha on crepitus

Symptom	Mean score			%	SD	SE	T value	P value
	BT	AT	BT-AT					
Crepitus	1.40	0.70	0.70	50.00	0.470	0.108	4.11	<0.05

Effect of upanaha on swelling

Symptom	Mean score			%	SD	SE	T value	P value
	BT	AT	BT-AT					
Swelling	1.65	0.65	1.00	60.61	0.324	0.074		<0.05

Result

Class	Grading	No of patients
0-25%	No improvement	0
26-50%	Mild improvement	9
51-75%	Moderate improvement	11
76-100%	Marked improvement	0

Devadarvadi Upanaha provided significant relief in pain at rest 57.89%, pain on standing 39.02%, ability to climb up 37.50%, ability to climb down 54.05%, ability to squat 37.50%, range of movement 65.52%, joint stiffness 51.35%, tenderness 58.33%, crepitus 50%, swelling 60.61%.

DISCUSSION

In the present clinical study, UpanahaSweda was selected for the trial. Swedana Karma relieves Stambha (stiffness), Gaurava (heaviness), Sheeta (coldness) and induces Sweda (sweating). Before the administration of UpanahaSweda, Snehana is done with TilaTaila on the affected joints. When Abhyanga is done Taila get absorbed through the Tvacha, nourishes, and lubricates the joints. It also helps in reducing Shotha and Shula. TilaTaila helps to pacify the Vata due its main qualities like Snigdha and UshnaGuna. The drugs selected for

the Upanaha yoga are having all most all the properties that are mentioned for Sweda Dravyas. The drugs are Devadaru, Jatamansi, Masha, Yava, Rasna, Kushtha and Kulattha as well as Godhuma along with TilaTaila and Kanji. They have Shulaprashamana, Shothahara and Vatakaphashamana Properties. Upanaha Sweda is Vatanashaka by virtue of its Ushna, Snigdha Guna. It combats with the properties of Vata like Sheeta, Ruksha, and Laghu Guna. Due to increased temperature produced, the harmful

metabolic products are removed through increased blood circulation and sweat. The action of the skin is coordinated with the functions of the other excretory organs. The secretion of sweat is under nervous control, especially autonomous. Thus, sudation can bring about changes indirectly on the autonomic nervous system and the heat can bring about changes in conduction of nerve stimuli there by acting over the pain stimuli. The application of heat promotes local circulation and metabolic activities and opens the pores of the skin to permit transfer of medicaments and nutrients towards to needed sites. Our body is complex network of blood and venous supply. The Tiriya Dhamani

openings are attached to the Romakupa. Through them, the Veerya of the drug action is seen after undergoing the Paka with the Bhrajaka Pitta situated in the skin. Cell membrane act as a barrier to the passage of watersoluble molecules but provide free passage to lipid and lipid soluble substances. Rapid diffusion of lipid soluble substances through cell membranes and the dependency of the rate of diffusion on solubility in lipids are high. Lipoid substances, which are similar to the cell membrane lipids, get directly incorporated into the cell membrane. Some of the lipids and lipid soluble substances directly reach the cytoplasm through cell membrane.

CONCLUSION

Effect of Devadarvadi Upanaha in Janu Sandhigata Vata Devadarvadi Upanaha provided significant relief in pain at rest 57.89 %, pain on standing 39.02 %, ability to climb up 37.50 %, ability to climb down 54.05 %, ability to squat 37.50 %, range of movement 65.52 %, joint stiffness 51.35 %, tenderness 58.33 %, crepitus 50 %, swelling 60.61 %. The drugs in the Devadarvadi yoga are Kaphavatahara, Vedanastapaka, Shothahara and Swedanajanana. The media for the

preparation of the homologous paste is Tila Taila which is also Vatahara and Sanghatakara; Eranda Patra is Shothahara and Vedanasthapaka; Kanji also have got Vedanasthapaka, Shothahara and Swedanajanana properties. It provides better media for absorption of drugs processed with it when used externally. Thus, Devadarvadi Upanaha have provided relief in Janu Sandhigata Vata.

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