

A Comparative Clinical Study on The Effect of Kottamchukkadi and Kolakulathadi Upanaha Sweda in Janusandhigatavata

Dr Anju K V
Assistant professor
Department of Panchakarma,
VPSV Ayurveda college
Kottakkal
Malappuram-676501

Abstract:- *Sandhigatavata (osteoarthritis)* is characterised by *Sandhi Shoola (pain in joints)*, *Shotha (swelling)*, *Prasarana Aakunchana Pravrutti Vedana (painful flexion and extension)*. Osteoarthritis is the leading cause of disability in India affecting over 15 million Indians each year. There is a steady rise in prevalence from age 30-65 years. *Upanaha Sweda (hot poultice)* is one among the modality of *Sweda* used widely in the management of *Sandhigatavata*, which is found to be beneficial clinically too. Descriptions about *Upanaha Sweda* are available in classics and it governs its own importance. Drugs used in the present study of *Upanaha* alleviate the cardinal symptoms of *Sandhigatavata (osteoarthritis)* i.e. *Sandhi Shoola, Shotha, Prasarana Aakunchana Pravrutti Vedana*. Drugs used in *Kottamchukkadi Upanaha* and *Kolakulathadi Upanaha* are having *Vatahara* and *Shothahara* action. The study was conducted on 40 Patients fulfilling the diagnostic and inclusion criteria belonging to either sex. They were randomly allocated into 2 groups A & B. Group A were administered with *Kottamchukkadi Upanaha* and Group B with *Kolakulathadi Upanaha* for 7 days. Patients were assessed on 1st day before treatment, 8th day after treatment and 14th day of follow up.

In Group A results revealed that 65% relief in pain at rest, 46% relief in pain on standing, 53% in pain on walking, 64% in duration of morning stiffness, 50% relief in WOMAC pain score, 63.38% in Swelling, 62.61% in tenderness, 24.91% in Crepitus and 64.58% in Range of movement. In Group B results revealed that 43% relief in pain at rest, 36% relief in pain on standing, 32% in pain on walking, 43% in duration of morning stiffness, 22% relief in WOMAC pain score, 49% in Swelling, 34% in tenderness, 14% in Crepitus and 43% in Range of movement. Overall effect of percentage in Group A shows 49% and in Group B shows 32%. *Kottamchukkadi Upanaha* has an effect over the *Kolakulathadi Upanaha* in the management of *Janu Sandhigatavata (osteoarthritis)* in almost all criteria's of assessment.

Keywords:- *Sandhigatavata, Osteoarthritis, Upanaha Sweda, Kottamchukkadi Churna, Kolakulathadi Churna,*

I. INTRODUCTION

Janu Sandhigatavata (osteoarthritis) is characterized by *Sandhi Shoola (Pain in joints)*, *Shotha (swelling)*, *Prasaarana Aakunchanapravrutti Vedana (pain during flexion and extension)*¹ which can be correlated with Osteoarthritis. According to WHO Osteoarthritis is the second commonest musculoskeletal problem in the world population (30%). There is a steady rise in prevalence from age 30-65 years. Women are more likely to suffer from OA than men. Management of osteoarthritis in modern science involves many problems and rarely substantial improvements are achieved. Prolonged administration of NSAIDS and steroids may suppress the symptoms, but causes gastric ulcers, kidney dysfunction, and also accelerates the progression of osteoarthritis, in future the condition is advanced and indicated for the surgery. Operative techniques like tibial osteotomy, arthroplasty, ortho diasis are quite expensive, also better results after surgery are quite uncertain and also follows the complications like blood loss and infection, Deep venous thrombosis etc². In Ayurvedic classics, Acharyas have mentioned various therapeutic procedures like Shehana, Upanaha, Agnikarma, Bandhana, Unmardana and other procedures are emphasized to provide better relief from Pain and Swelling and to restore the Mobility. *Upanaha* is one among the types of *Sweda*³ about which ample of descriptions are available in classics and it governs its own importance due to its systematic application and unique way of drug combination. Among all the treatment modalities *Upanaha Sweda* in *Janu Sandhigatavata (osteoarthritis)* is considered for the present clinical study.

Different formulations are available in classics about *Upanaha Sweda*. Previous research shows significant result of *Kolakulathadi Upanaha Sweda* in *Janu Sandhigatavata (osteoarthritis)* which consists of *Kola, Kulatha, Suradaru, Rasna, Masha, Atasi, Tila, Kushta, Vacha, Shatahwa*⁴ and *Yava*. *Kottamchukkadi Upanaha* is a folklore formulation practised in the management and extensively used with encouraging

results. It comprises of *Kushta* (Sausrealappa), *Shunti*(Zingiber officinale), *Vacha* (Acoruscalamus) ,*Shigru*(Moringapterigosperma) ,*Lashuna* (Alliumsativum), *Devadaru*(Cedrusdeodara), *Himsra* (Capparissepia),*Rasna* (Alpininaofficinarum) and *Sarshapa* (Brassica campestris)Which is mentioned under *Taila Prakarana* of *Sahasrayoga*⁵. Drugs used in this study are having *Vatahara*, *Shothahara*, *Shoolagna*action.

Hence to evaluate the efficacy of the *Kottamchukkadi Upanaha* ,*Kolakulathadi Upanaha* is taken for comparative assessment and to compare the efficacy of both groups in the management of *Janusandhigatavata*, this study is planned with the following aims,

II. OBJECTIVE OF THE STUDY

- 1) To evaluate the effect of *Kottamchukkadi Upanaha* in the management of *Janusandhigatavata*.
- 2) To evaluate the effect of *kolakulathdi Upanaha* in the management of *Janusandhigatavata*.
- 3) To compare the efficacy of *Kottamchukkadi* and *kolakulathadi Upanaha* in the management of *Janusandhigatavata*.

III. MATERIALS AND METHODS

40 patients having classical signs and symptoms of *Janu Sandhigatavata (osteoarthritis)* were selected for the study. All the patients were randomly divided into two groups. In Group 'A' 20 patients were treated with *kottamchukkadi Upanaha* and Group 'B' 20 patients were treated with *Kolakulathdi Upanaha*.

The patient was diagnosed based on the following clinical features *Sandhi Shoola*(Pain in Knee joints),*Sandhi Shotha*(Knee Joints swelling),*Sandhi Atopa*(Crepitation),*Prasaarana* and *Aakunchana Apravrutti* (Limited range of movement and Tenderness)⁶. Inclusion Criteria are Patients fulfilling the Diagnostic criteria of *Janusandhigatavata*. Age group between 40 to 70 years and Patients fit for *Upanaha Sweda*. Patients with Tuberculosis, Secondary Arthritis, Rheumatoid Arthritis, Psoriatic Arthritis, Gouty Arthritis, Patients having history of Joint Trauma and other systemic illness are excluded.

100 grams of *Upanaha Choorna* was made into a paste by adding 20 ml of *Moorchita Tila Taila*, *Kanji* and *Saindhava Lavana* in sufficient quantity and 40 grams of *Godhuma* was added. Thus prepared paste was made into a homologous semi-solid paste and it was warmed before application. Patient is asked to lie down in supine position or to sit comfortably with exposed Knee joint. *Shanika Abhyanga* with *Moorchita Tila Taila* was performed to affected knee joints. Warmed paste was applied over the *Janusandhi*. Then covered with *Eranda Patra* and it was firmly bandaged with cotton or *Khora* cloth. *Upanaha* was retained for 12 hours, and

then removed and the part was cleaned with warm Water. Assessment of the condition was done based on the detailed proforma adopting standard method of scoring of subjective and objective parameters for further statistical analysis. [Table no 1].

IV. RESULTS AND DISCUSSION

In the present clinical study 40 patients of *Janu Sandhigatavata (osteoarthritis)* were treated in two groups. In Group 'A' 20 patients were treated with *Kottamchukkadi Upanaha* and in Group 'B' 20 patients were treated with *Kolakulathadi Upanaha*. The signs and symptoms were assessed before and after the treatment based on the assessment criteria mentioned earlier. The effects of the therapy are being presented here under separate headings. Pre-Post comparison done by Paired 't' test and Unpaired 't' test was applied for comparison between two groups. The effect of therapy is shown in Tables [1,2,3].

Sandhigatavata (osteoarthritis) is the most common joint disorder arising with greater number of affected population in the world. *Vata* is the prime *Dosha* among the *Tridoshas* and it plays a very important role in the formation of *Vyadhi*. *Janu Sandhigatavata (osteoarthritis)* may be seen in two different conditions one in *Vruddhavastha* and other due to increased pressure on Knee Joints due to *Ativyayama* or *Sthula Sharira*. *Acharya Sushruta* has described specific treatment for the *Sandhigatavata (osteoarthritis)*. i.e. *Snehana*, *Upanaha*, *Agnikarma*, *Bandhana* and *Unmardana*. The application of heat with the paste of *Vatahara Choorna*'s over the joint may help in combating many of the symptoms as *Ushna Gunapacifies Vata*. *Swedana Karma* relieves *Stambha* (stiffness), *Gaurava* (heaviness), *Sheeta* (coldness) and induces *Sweda* (sweating)⁷. 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. Seven days course of *Upanaha Sweda* was given to the patients of both the groups. The *Upanaha Sweda* is kept for a period of 12 hours. This is to increase the bioavailability of the drug to the affected area. Trans-dermal absorption depends upon lipid solubility of the drug. Drugs of lipid soluble carriers can penetrate the epidermis, as it is a lipid barrier. The movement is slow, particularly through the layers of cell membranes in the stratum corneum. However, once the drug reaches the underlying tissues it will be absorbed into the circulation. Suspending the drug in an oily vehicle can enhance absorption

through the skin. Because hydrated skin is more permeable than dry skin.

It was observed from the clinical study in 40 patients, that age incidence of the disease was maximum in the patients of age group 51-60 years (50%). This supports that when person is nearer to In *Vruddhavastha* there will be *Dhatukshaya* which also leads *Vata Prakopa*⁸. *Vata* and *Asthi* have *Ashraya-Ashrayi Sambandha* which means *Vata* resides in *Asthi*⁹. The *Vridhdha Vata* reduces the *Shleshaka Kapha* from *Janu Sandhi* by its *Ruksha Guna*¹⁰. Due to diminution of *Shleshmatva*, *Khavaigunya* occurs in the *Sandhi* which produces symptoms of *Janusandhigatavata*. 57.14% of the patients were females and Even the universal data says different prevalence studies revealed that the Osteoarthritic changes and its manifestation exist in a female to male ratio of 3:1. 35.71% of the patients were in different jobs followed by 19.05% were doing business. However nature of work in the patients of present study was working in standing position, *Anashana*, *Alpashana*, *Ativyayama* and *Vega Dharana* are common with their work, definitely makes *Vata Prakopa* in a short duration which can have an influence on *Janusandhigatava*. Also it was noticed that some patients of *Pitta Kapha Prakruti* were getting rashes after removal of *Upanaha*. In such patients advised to apply *Sneha or Kumari pulp*. This may be due to the fact that *Swedana* is contraindicated in *Pitta Prakruti* persons. The observation reveals majority of the patients had gradual onset of pain followed by sudden onset proving that Osteoarthritis is a degenerative disorder.

The effect of the therapies is being discussed here on individual Symptoms and Signs in *Janusandhigatavata*. Based on the above results it can be said that the effect of *Upanaha* with *Kottamchikkadi* was better than *Kolakulathadi*. The drugs in 'A' group and 'B' group are *Kapha-Vata Shamaka* and have *Vedanasthapana* in action. The homologous paste was made by heating with the combination of *Tila Taila* and *Kanji*, which are both *Vatahara*. Pain is due to the *Prakopa* of *Vata Dosha*. Heat is effective to provide analgesic. Heating of peripheral nerves elevate pain threshold remarkably reduces muscle spasm. The variation in percentage of relief may be because of the varied chronicity of the patients. To climb up stairs there should not be joint stiffness or muscle spasm associated with pain. By the therapy pain and stiffness was reduced significantly, which was hindering the joint activity. The medicaments used in the *Upanaha* have *Vedanashamaka* and *Vatahara* action. This properties along with the combined action of *Taila* and *Kanji* when applied as the heat modality helps in reducing the tenderness. Crepitus is due to the degenerative changes. It is due to increased *Khara* and *Rooksha* properties of *Vata* and decreased *Kaphabhava*. Both Group 'A' and 'B', has *Vatahara* property and *Tila Taila* is *Sanghatakara* and does the *Snehana*. Supplementation of *Sneha* is necessary to reduce the *Kharatva* and *Rookshata* in the joints.

Kottamchukkadi Upanaha provided highly significant relief ($P < 0.001$) in Pain at Rest, Pain on standing, pain on walking, Duration of Morning Stiffness, womac pain score, Swelling, Tenderness, crepitus and Range of movement. The percentage of improvement in Group 'A' on Pain at Rest is 62.16%, Pain on Standing is 43.75%. Pain on walking is 53.06%, Duration of morning stiffness is 60.71%, WOMAC Pain score is 51.10%, Swelling in right leg is 65.21% and left leg is 69.44%, Tenderness in right leg is 65.85% and left leg is 59.37%, Crepitus in right leg is 23.07% and left leg is 26.66% and Range of Movement in right leg is 58.06% and 64.28%. In the present clinical study of *Kottamchukkadi Upanaha* provided significant relief; where 55% of the patients got moderate relief, 30% of patients got mild relief, 10% of the patients got marked relief and only 5% of the patients got poor relief.

Kolakulathadi Upanaha provided highly significant relief ($P < 0.001$) in Pain at Rest, pain on standing, Pain on walking, Duration of morning stiffness, womac pain score, Swelling, Tenderness and Range of Movement. Significant ($P < 0.05$) result in crepitus and range of movement. The percentage of improvement in Group 'B' on Pain at Rest is 47.2%, Pain on Standing is 36.36%, Pain on walking is 36.95%, Duration of morning stiffness is 47.82%, Womac Pain score is 22.14%, Swelling in right leg is 42.85% and left leg is 48.57%, Tenderness in right leg is 35.55% and left leg is 31.57%, Crepitus in right leg is 11.76% and left leg is 16.12%. Range of Movement in right leg is 38.70% and left leg is 35%. *Kolakulathadi Upanaha* provided mild relief for 55% of the patients, 20% of the patients got moderate relief followed by 25% of the patients got poor relief (Table: 3)

In intergroup comparison, it is highly significant ($P < 0.001$) in Womac Pain Score, significant ($P < 0.05$) in pain at rest, pain on walking, swelling and tenderness and insignificant at Pain on standing, Duration of morning stiffness, crepitus and range of movement. On the basis of the above results it can be stated that overall effect of *Kottamchukkadi Upanaha* was better in majority of signs and symptoms in comparison with *Kolakulathadi Upanaha* (Table no 4)

V. SUMMARY AND CONCLUSION

Janu Sandhigatavata (osteoarthritis) is a type of *Vata Vyadhi* commonly associated with the *Vardhakya Avastha*, *Dhatu Kshaya* and *Madhyama Rogamargajanya*. So it is *Kashthasadhya* for *Chikitsa*. *Upanaha Sweda*, a variety of *Shamananga Sweda* useful in reliving *Stambha*, *Gaurava*, *Sheetata* and *Shoola*. From the conceptual study, clinical trials, observations and discussions it can be concluded that *Kottamchukkadi Upanaha* provided better relief in majority of the signs and symptoms in comparison with *Kolakulathadi Upanaha*. This may be due to *Teekshna*, *Kapha Vatahara* properties of drugs used in *Kottamchukkadi Upanaha*. Statically *Kottamchukkadi Upanaha* and *kolakulathdi Upanaha* provides equal effect in pain on standing, duration of

morning stiffness and in crepitus, as the duration of treatment was short. Both *Kottamchukkadi Upanaha* and *Kolakulathadi Upanaha* provides better relief in the criteria's like pain at rest, pain on walking, womac pain score, swelling, tenderness and range of movement. This study proves that *Upanaha Sweda* is

much beneficial in relieving the signs and symptoms instantly as we are applying the medicaments over the affected joint but only short duration of treatment is not effective in relieving the signs and symptoms.

PARAMETER	FINDING	GRADING
Pain during rest	- No pain	0
	-Mild (pain not interfering with activities or sleep)	1
	-Moderate (pain interfering activities or sleep)	2
	- Severe (pain reducing activities or sleep)	3
Pain on standing	-No Pain	0
	-Pain Increases For Standing 30min.	1
Pain on walking	- without difficulty	0
	- Mild difficulty	1
	-Moderate Difficulty	2
	- Severe Difficulty	3
Ability to climb down stairs	-without difficulty	0
	- Mild difficulty	1
	-Moderate Difficulty	2
	- Severe Difficulty	3
Duration of morning stiffness	-Absent	0
	-< 15 Min	1
	-> 15 Min	2
Swelling	-No Swelling	0
	-Mild Swelling	1
	-Moderate Swelling	2
	Severe Swelling	3
Tenderness	-No Tenderness	0
	-Pt. Complains Of Pain	1
	-Pt. Complains Of Pain & Winces	2
	- Pt. Withdraws The Joint	3
Crepitus	-No Crepitus	0
	-Palpable Crepitus	1
	-Audible Crepitus	2
Range of movement of joints	- Full range of the joint movement	0
	->50% &< full range of joint movements	1
	-Up to 50% of the joint movement	2
	-No movement	3

Table No:1: Scoring pattern of subjective and criteria.

CRITERIA	BT	AT	AF	%	SD	SE	T Value	P Value
Pain at rest	1.85	0.70	0.65	62.16	0.66	-1.47	7.667	<0.001
Pain on standing	2.4	1.35	1.30	43.75	0.74	0.092	8.718	<0.001
Pain on walking	2.45	1.15	1.15	53.06	0.745	0.167	10.17	<0.001
Duration of morning stiffness	1.40	0.55	0.55	60.71	0.686	0.153	7.768	<0.001
Womac pain score	43.15	21.10	21.50	51.10	7.539	1.686	11.043	<0.001
Swelling								
Rt	2.30	0.8	0.75	65.21	0.696	0.156	13.07	<0.001
Lt	1.60	0.65	0.65	59.37	0.58	0.131	8.32	<0.001
Tenderness								
Rt	2.05	0.70	0.70	65.85	0.47	0.165	10.28	<0.001
Lt	1.60	0.65	0.65	59.37	0.58	0.131	8.32	<0.001
Crepitus								

Rt	1.95	1.50	1.50	23.70	0.607	0.136	3.943	<0.001
Lt	1.50	1.10	1.10	26.12	0.447	0.10	3.559	<0.001
Range of movement								
Rt	1.55	0.650	0.650	58.06	0.489	0.109	9.00	<0.001
Lt	1.440	0.55	0.45	64.28	0.513	0.115	9.00	<0.001

Table no :2 Kottamchukkadichurna

	BT	AT	AF	%	SD	SE	T Value	P Value
Pain at rest	1.15	0.60	0.65	47.82	0.598	0.134	4.819	<0.001
Pain on standing	2.2	1.4	1.4	36.36	0.598	0.134	8.71	<0.001
Pain on walking	2.3	1.45	1.55	36.95	0.605	0.135	7.768	<0.001
Duration of morning stiffness	1.15	0.60	0.650	47.82	0.598	0.134	4.189	<0.001
WOMAC pain score	36.80	28.65	28.65	22.14	13.092	2.927	14.351	<0.001
Swelling								
Rt	1.75	1.00	0.95	42.83	0.644	0.145	6.097	<0.001
Lt	1.75	0.90	0.85	48.57	0.447	0.10	10.37	<0.001
Tenderness .								
Rt	2.05	1.45	1.45	35.55	0.605	0.135	6.839	<0.001
Lt	1.90	1.30	1.30	31.57	0.571	0.128		<0.001
Crepitus								
Rt	1.70	1.50	1.50	11.76	0.668	0.154	2.179	<0.001
Lt	1.55	1.30	1.30	16.12	0.571	0.128	2.517	<0.001
Range of movement								
Rt	1.55	0.950	0.90	38.71	0.394	0.088	5.339	<0.001
Lt	1.45	0.850	0.80	41.37	0.366	0.819	5.947	<0.001

Table no 3-Kolakulathadi churna**FOR SUBJECTIVE CRITERIA**

SYMPTOMS	MEAN SCORE A	MEAN SCORE B	't'	P VALUE
PAIN AT REST	1.15	0.55	3.183	<0.05
PAIN ON STANDING	1.05	0.80	1.530	>0.05
PAIN ON WALKING	1.30	0.450	2.675	<0.05
DURATION OF MORNING STIFFNESS	0.85	0.90	-0.387	>0.05
WOMAC PAIN SCORE	22.05	13.90	6.696	<0.001

FOR OBJECTIVE CRITERIA

SYMPTOMS		MEAN SCORE A	MEAN SCORE B	't'	P VALUE
SWELLING	RIGHT LEG	1.50	0.75	4.459	<0.001
	LEFT LEG	1.25	0.40	2.707	<0.05
TENDENESS	RIGHT LEG	1.35	0.80	3.128	<0.05
	LEFT LEG	0.95	0.60	2.185	<0.05
CREPITUS	RIGHT LEG	0.45	0.20	1.707	>0.05
	LEFT LEG	0.40	0.25	1.00	>0.05
RANGE OF MOVEMENT	RIGHT LEG	0.90	0.60	1.994	>0.05
	LEFT LEG	0.90	0.60	0.100	>0.05

Table No:4: Comparative results between the groups (Group A and Group B)

REFERENCES

- [1]. Acharya Agnivesha, CharakaSamhita with 'Ayurveda Deepika' Commentary of Chakrapanidatta, edited by Vaidya Y T Acharya, Chaukamba Orientation, Varanasi, Reprint 2004, Uttar Pradesh, Chikistasthana 3/285-286 Pp 424.
- [2]. Davidson's Principle and Practise of Medicine, edited by Nicholas A. Boon, Nicki R. Colledge, Churchill Livingstone Elsevier, 20th edition 2007, Pp 1096.
- [3]. AcharyaSusruta,SusrutaSamhitha with Nibandhasangraha commentary of Dalhanacharya and NyayachandrikaPanjika of GayadasaAcharya on Nidanasthana edited VaidyaYadavjiTrikamjiOrientalia,Varanasi,Reprint 2004,Chikitsa sthana 4/7,Pp 420.
- [4]. AcharyaAgnivesha, CharakaSamhita with 'Ayurveda Deepika' Commentary of Chakrapanidatta, edited by Vaidya Y T Acharya, Chaukamba Orientation, Varanasi, Reprint 2004, Uttar Pradesh, Sutrasthana 4/18 Pp 28.
- [5]. Sahasrayoga with SujanapriyaVyakhyana edited by K.v Krishnan Vaidyan and S.G Gopalapillai,TailaPrakarana 23.Vidyarambham Publications ,Alappuzha ,Pp 280.
- [6]. AcharyaSushruta, SushrutaSamhita, with Nibandhasangraha commentary of Dalhanacharya and NyayachandrikaPanjika of GayadasaAcharya on Nidhanasthana edited VaidyaYadawjiTrikamjiAcharya, Chaukambaorientalia, Varanasi, Reprint 2004, Uttar Pradesh, Chikitsasthana 4/7 Pp 420.
- [7]. Vagbhata: AshtangaHridaya, commentary by Arunadatta and Hemadri, edited by HarishastriParadkar, published by Krishnadas Academy, 1995 edtn.Sutrasthana,11/26-28,Pp 168.
- [8]. Vagbhata: AshtangaHridaya, commentary by Arunadatta and Hemadri, edited by HarishastriParadkar, published by Krishnadas Academy, 1995 edtn.Sutrasthana,11/26-28,Pp 167.
- [9]. Vagbhata: AshtangaHridaya, commentary by Arunadatta and Hemadri, edited by HarishastriParadkar, published by Krishnadas Academy, 1995 edtn.Sutrasthana,11/26-28,Pp 168.
- [10]. Vagbhata: AshtangaHridaya, commentary by Arunadatta and Hemadri, edited by HarishastriParadkar, published by Krishnadas Academy, 1995 edtn.Sutrasthana,12/26-28,Pp 180.