A Conceptual Study To Evaluate The Effect Of *Guduchyadi Basti* And *Vachadi Upanah* In The Management Of *Sandhigata Vata* W.S.R To Osteo-Arthritis

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ABSTRACT: **Introduction –** *Sandhigata vata*, a *Vatavyadhi* can be compared with Osteo-Arthritis, a degenerative disorder in modern medical science. Most of the degenerative disorders lack effective line of treatment for the prevention and cure of the condition. This research work was conducted with the aim to establish an effective therapy under *Panchkarma Chikitsa* for the treatment of this disease.

Method–In this trial 20 patients of *Sandhigata vata* were selected from the O.P.D. of *Panchakarma* Deptt., RGGPG Ayurvedic College & Hospital, Paprola, Dist.- Kangra, H.P. Group-A was treated with *Guduchydi Niruh Basti* and *Ksheera Balataila Anuvasana Basti* along with *Vachadi Upanah* for 16 days. Group-B wastreated with only *Guduchyadi Niruh Basti and Ksheera Bala Taila Anuvasana Basti* for 16 days.

Results – The drugs used in this trial were found significantly effective in all symptoms of the disease except Radiological changes, taken in this trial.

Discussion – The disease *Sandhigata vata* is completely *Vatika* in nature. The drugs used i.e. *Guduchyadi Niruh Basti* and*Vachadi Upanah* are potent *Vata* pacifiers. *Basti* and *Upanaha* both are procedure of *Panchkarma* to pacify *Vata*. The treatment has shown a significant reduction in the symptoms.

Keywords: *Sandhigata vata,* Osteoarthritis, *Panchkarma, Basti, Upanaha.*

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INTRODUCTION

Sandhigata vata is defined as a disease of *Sandhi*(joints) with symptoms of *Sandhishula, Sandhishotha, Akunchan Prasarana Pravritti Savedana*which leads to stage of *Hantisandhi. Sandhivata* is a disease occurring as a result of affliction of *Sandhis* by vitiated *Vata dosha*.In Ayurveda, *Acharya Charaka* was the first person to describe the disease separately named "*Sandhigata Anila*" under the heading of *Vatavyadhi*[1]. Development of this disease is attributed to *Vata dosha vriddhi* due to age related *Kshaya.* According to modern point of view symptoms mentioned in *Ayurvedic* classics can be correlated with Osteoarthritis. Osteoarthritis is the most common type of arthritis affecting the elderly people. It is a slowly progressive degenerative joint disease and a major cause of disability,

limiting activity and impaired quality of life especially in elderly people. Main symptoms include pain, morning stiffness, restricted and painful joint movements. *Sandhivata* is enlisted in *Vatavyadhis* and*Vagbhata* has considered *Vatavyadhi* as *Maharoga*[2].*Basti karma* is one of the important procedures of *Panchkarma f*or *Vatavydhis*, also pronounced as *Ardhchikitsa* by *Acharyas*[3]. *Upanaha* is a type of therapy where a paste of drug applied topically over affected part. The typical action of *upanah sweda* on *vata dosha* has been mentioned in *Sushruta samhita*[4]. Therefore *Basti* and *Upanah* can play a significant role in management of *Sandhigata vata*.

AIM AND OBJECTIVES

1- To evaluate effect of *Basti* of *Guduchyadi Kwatha* and *Ksheera Bala*

Taila in management of *Sandhigata vata.*

2- To evaluate the efficacy of *Vachadi Upanah* in the management of *Sandhigata vata.*

3- To develop an effective *Ayurvedic* treatment for *Sandhigata vata.*

MATERIAL AND METHODS:-

Patients for the Clinical study were randomly selected from the O.P.D. and I.P.D. of Rajiv Gandhi Government Post Graduate Ayurvedic Hospital, Paprola and a detailed Research Performa was prepared to observe the clinical features and disease pathology. 20 Patients who fulfilled the inclusion criteria of diagnosis were selected. Out of which 18 patients completed the study and 2 patients discontinued the study in the initial phase.

IEC number:- Ayu/IEC/2017/1160

SELECTION OF PATIENTS:
INCLUSION CRITERIA

i)   Patients having classical signs and symptoms of *Sandhivata*.

ii)   Chronicity less than 10 years.

iii)   Patients of either sex aged between 40 – 70 years.

iv)   Diagnostic Findings: Degenerative changes in X-Ray.

EXCLUSION CRITERIA

i)   Cases which require surgical intervention.

ii)   Patient, suffering from any chronic debilitating disease like T.B., D.M., Gout, Varicose veins, Asthma & other chronic problems etc. and having other serious pathology.

iii)   Pregnant lady and lactating mother.

iv)   Patients contraindicated for *Basti Karma* and *Upanah* in classics.

CRITERIA FOR DIAGNOSIS:-

A special proforma was prepared, incorporating all the signs and symptoms based on both *Ayurvedic* and modern description. Proforma also incorporated all the points pertaining to the state of *Dosha, Dushya, Srotas* and *Agni* on *Ayurvedic* lines. Along with this, a detailed clinical history was taken and complete physical examination of each patient was done on the basis of Proforma. X-ray examination was carried out in all the patients. In addition, routine hematologicaland Biochemical examinations were carried out.

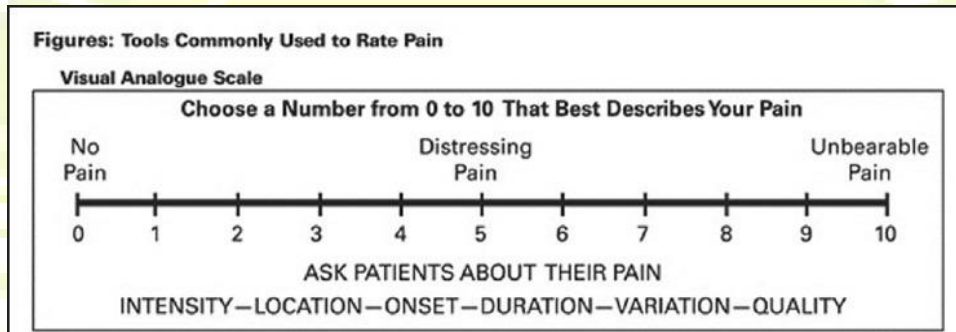**MANAGEMENT PLAN OF THE PATIENTS:-**After the diagnosis, following treatment plan was given –

❖ **Group-A**: Treated with *Guduchydi Niruh Basti* and *Ksheera Balataila Anuvasana Basti* Along with *Vachadi Upanah* for 16 days.

❖ **Group-B**: Treated with *Guduchyadi Niruh Basti and Ksheera Bala Taila Anuvasana Basti*for 16 days.

CRITERIA FOR ASSESSMENT:

The criteria used for the assessment of patients before and after the study is given below:

1. *Vedana* (**Joint pain**)

Pain was assessed on Visual Analogue scale (VAS)

Figures: Tools Commonly Used to Rate Pain

Visual Analogue Scale

Choose a Number from 0 to 10 That Best Describes Your Pain

No Pain — 0 ... Distressing Pain — 5 ... Unbearable Pain — 10

ASK PATIENTS ABOUT THEIR PAIN
INTENSITY—LOCATION—ONSET—DURATION—VARIATION—QUALITY

Symptoms	Acc.to VAS scale	Joint Pain Grading	BT	AT
No pain	0	0		
Mild pain	1-3	1		
Moderate pain without difficulty in walking	4-6	2		
Slight difficulty in walking due to pain	7-9	3		
Severe difficulty in walking	10	4		

2. *Vatpuran dritivata sparsha* (Air filled bag viz. collection of synovial fluid)

Symptoms	Grade	BT	AT
No effusion	0		
Minimum Effusion	1		
Moderate Effusion	2		
Excessive Effusion	3		

3. *Sandhishotha* (Swelling)

Symptoms	Grade	BT	AT
No Swelling	0		
Swelling may not be apparent on casual inspection	1		
Swelling obvious even on casual observation	2		
Markedly abnormal Swelling	3		
Swelling to a maximally abnormal degree	4		

4. *Jadyama* (Morning stiffness of joints)

Symptoms	Grade	BT	AT
No Stiffness	0		
Stiffness up to 10 minutes	1		
Stiffness up to 20 minutes	2		
Stiffness up to 30 minutes	3		

5. *Atopa*(**Crepitation***)*

Symptoms	Grade	BT	AT
No Crepitus	0		
Fine Crepitus	1		
Coarse Crepitus	2		
Clacking/snapping	3		

6. *Sandhihanti* (**Restriction of movement**)

Symptoms	Grade	BT	AT
Full flexion without pain	0		
Full flexion with pain	1		
Flexion restricted ≥ 30 degree	2		
Flexion restricted ≥ 60 degree	3		
Flexion restricted ≥ 90 degree	4		

7. *Prasaran Akunchan Pravriti Vedana* (**Pain during movements**)

Symptoms	Grade	BT	AT
No pain on movement	0		
Pain without winching of face	1		
Pain with winching of face	2		
Prevents complete flexion	3		
Does not allow passive movement	4		

8. Radiological changes

Symptoms	Grade	BT	AT
No radiological changes	0		
Early space reduction without osteophytes	1		
Space reduction with osteophytes	2		
Space reduction with osteophytes and subchondral sclerosis	3		

9. *Sparsha Asahyata*(Tenderness)

Symptoms	Grade	BT	AT
Absent	0		
Mild	1		
Moderate	2		
Severe	3		

OBSERVATION & RESULTS –

Cardinal symptoms wise distribution of 20 patients of *Sandhigata Vata*.

Symptom	Number of patients	Percentage
Vedana	20	100%
Sparsha Asahyata	19	95%
Sandhihanti	20	100%
Sandhishotha	14	70%
Prasaran Akunchan pravriti vedana	20	100%
Atopa	19	95%
Jadyama	17	85%
Vatpuran dritivata sparsha	1	5%
Radiological changes	20	100%

Effect of therapy on the Symptoms in Group-A patients.

Symptoms	N	Mean Score		% of relief	S.D. (±)	S.E. (±)	"t"	P
		B.T.	A.T.					
Vedana	8	2.87	1.25	56.44%	0.518	0.183	8.881	p<0.001
Sandhishotha	5	1.125	0.25	77.78%	0.548	0.245	5.715	P=0.005
Jadyama	7	1.75	0.25	85.71%	0.756	0.286	6.000	P<0.001
Atopa	8	1.375	0.25	81.82%	0.354	0.125	9.000	p<0.001
Sandhihanti	8	1.5	0.5	66.67%	0.000	0.000	+(inf)	p<0.001
Prasaran Akunchan pravriti vedana	8	2.125	0.875	58.82%	0.463	0.164	7.638	p<0.001
Radiological changes	8	1.625	1.625	0%	0.000	0.000	-	P=1.000
Sparsha Asahyata	7	1.5	0.375	75%	0.488	0.184	6.971	P<0.001

1. *Vedana*: Before treatment mean score of *Vedana* in Group A patients was 2.87 which was reduced to 1.25 after treatment, showing a relief of 56.44%. The result was statistically highly significant (p<0.001).

2. *Sandhishotha*: The mean score before treatment was 1.125 which was reduced to 0.25 after treatment showing a relief of 77.78%. The result was statistically significant (p=0.005).

3. *Jadyama*: A reduction in mean score from 1.75 to 0.25 was observed as a result of treatment and relief percentage was 85.71%. The result was statistically highly significant (p<0.001).

4. *Atopa*: Before treatment mean score was 1.375 which was reduced to 0.25 after treatment and relief percentage was 81.82%. The result was statistically highly significant (p<0.001).

5. *Sandhihanti*: Before treatment mean score was 1.5 which reduced to 0.5 after treatment and relief percentage was 66.67%. The result was statistically highly significant (p<0.001).

6. *Prasaran Akunchan Pravriti vedana*: Before treatment mean score was 2.125 which reduced to 0.875 after treatment and relief percentage was 58.82%. The result was statistically highly significant (p<0.001).

7. **Radilogical changes**: Before treatment mean score was 1.625 which remain same after treatment and relief percentage was 0%. The result was statistically insignificant (p=1).

8. *Sparsha Asahyata*: Before treatment mean score was 1.5 which reduced to 0.375 after treatment and relief percentage was 75%. The result was statistically highly significant (p<0.001).

Effect of therapy on the Symptoms in Group-B patients.

Symptom		Mean Score		% of relief	S.D. (±)	S.E. (±)	"t"	P
	N	B.T.	A.T.					
Vedana	10	3.5	2.3	34.28%	0.789	0.249	4.811	p<0.001
Sandhishotha	8	1.3	0.6	53.85%	0.354	0.125	7.000	p<0.001
Jadyama	8	1.1	0.4	63.64%	0.354	0.125	7.000	p<0.001
Atopa	9	1.6	0.8	50%	0.333	0.111	8.000	p<0.001
Sandhihanti	10	1.8	0.9	50%	0.316	0.1000	9.000	p<0.001
Prasaran Akunchan pravriti vedana	10	2.3	1.3	43.48%	0.000	0.000	(+inf)	p<0.001
Radiological changes	10	2.2	2.2	0%	0.000	0.000	-	P=1.000
Sparsha Asahyata	10	1.8	0.9	50%	0.316	0.1000	9.000	P<0.001

1. *Vedana:* Before treatment mean score was 3.5 which reduced to 2.3 after treatment and relief percentage was 34.28%. The result was statistically highly significant (p<0.001).

2. *Sandhishotha:* Before treatment mean score was 1.3 which reduced to 0.6 after treatment and relief percentage was 53.85%. The result was statistically highly significant (p<0.001).

3. *Jadyama:* Before treatment mean score was 1.1 which reduced to 0.4 after treatment and relief percentage was 63.64%. The result was statistically highly significant (p<0.001).

4. *Atopa*: Before treatment mean score was 1.6 which reduced to 0.8 after

treatment and relief percentage was 50%. The result was statistically highly significant (p<0.001).

5. *Sandhihanti:* The mean score before treatment was 1.8 which reduced to 0.9 after treatment showing a relief of 50%. The result was statistically highly significant (p<0.001).

6. *Prasaran Akunchan Pravriti vedana:* The mean score before treatment was 2.3 which reduced to 1.3 after treatment showing a relief of 43.48%. The result was statistically highly significant (p<0.001).

7. **Radilogical changes***:* The mean score before treatment was 2.2 which remain same after treatment showing a relief of 0%. The result was statistically insignificant (p=1).

8. *Sparsha Asahyata***:** The mean score before treatment was 1.8 which reduced to 0.9 after treatment showing a relief of 50%. The result was statistically highly significant (p<0.001).

DISCUSSION:

Effect of therapy in Group A- 10 patients were registered in which 8 patients completed the trial and 2 patients left the trial against medical advice.

1. *Vedana*: All the 8 patients (100%) included under study was presented with *Vedana.* Before treatment mean score of *Vedana* in Group I patients was 2.87 which was reduced to 1.25 after treatment, showing a relief of 56.44%. The result is highly statistically significant (p<0.001).

2. *Sandhishotha*: This symptom was observed in 5 patients. The mean score before treatment was 1.125 which reduced to 0.25 after treatment showing a relief of 77.78%. The result was statistically significant (p=0.005).

3. *Jadyama*: This symptom was observed in 7 patients. A reduction in mean score from 1.75 to 0.25 was observed as a result of treatment and relief percentage was 85.71%. The result was statistically highly significant (p<0.001).

4. *Atopa*: All the 8 patients (100%) included under study was presented with *Atopa.* Before treatment mean score was 1.375 which reduced to 0.25 after treatment and relief percentage was 81.82%. The result was statistically highly significant (p<0.001).

5. *Sandhihanti:* All the 8 patients (100%) included under study was presented with *Sandhihanti.* Before treatment mean score was 1.5 which reduced to 0.5 after treatment and relief percentage

was 66.67%. The result was highly statistically significant (p<0.001).

6. ***Prasarna akunchan pravriti vedana***: All the 8 patients (100%) included under study was presented with *Prasarna akunchan pravriti vedana* . Before treatment mean score was 2.125 which reduced to 0.875 after treatment and relief percentage was 58.82%. The result was statistically highly significant (p<0.001).

7. **Radiological changes**: All the 8 patients (100%) included under study was presented with Radiological changes. Before treatment mean score was 1.625 which remains same after treatment and relief percentage was 0%. The result was statistically insignificant (p=1).

8. ***Sparsha Asahyata***: This symptom was observed in 7 patients. Before treatment mean score was 1.5 which reduced to 0.375 after treatment and relief percentage was 75%. The result was statistically highly significant (p<0.001).

Effect of therapy in Group B- 10 patients were registered out of which all patients completed the trial.

1. ***Vedana:*** All the 10 patients (100%) included under study was presented with *Vedana.* Before treatment mean score was 3.5 which reduced to 2.3 after treatment and relief percentage was 34.28%. The result was statistically highly significant (p<0.001).

2. ***Sandhishotha:*** This symptom was observed in 8 patients. Before treatment mean score was 1.3 which reduced to 0.6 after treatment and relief percentage was 53.85%. The result was statistically highly significant (p<0.001).

3. ***Jadyama:*** This symptom was observed in 8 patients. Before treatment mean score was 1.1 which reduced to 0.4 after treatment and relief percentage was 63.64%. The result was statistically highly significant (p<0.001).

4. ***Atopa***: This symptom was observed in 9 patients. Before treatment mean score was 1.6 which reduced to 0.8 after treatment and relief percentage was 50%. The result was statistically highly significant (p<0.001).

5. ***Sandhihanti:*** All the 10 patients (100%) included under study was presented with *Sandhihanti*. The mean score before treatment was 1.8 which reduced to 0.9 after treatment showing

a relief of 50%. The result was statistically highly significant (p<0.001).

6. *Prasarna akunchan pravriti vedana*: All the 10 patients (100%) included under study was presented with *Prasarna akunchan pravriti vedana*. The mean score before treatment was 2.3 which reduced to 1.3 after treatment showing a relief of 43.48%. The result was statistically highly significant (p<0.001).

7. **Radiological changes***:* All the 10 patients (100%) included under study was presented with Radiological changes. The mean score before treatment was 2.2 which remain same after treatment showing a relief of 0%. The result was statistically insignificant (p=1).

8. *Sparsha Asahyata***:** All the 10 patients (100%) included under study was presented with *Sparsha Asahyata*. The mean score before treatment was 1.8 which reduced to 0.9 after treatment showing a relief of 50%. The result was statistically highly significant (p<0.001).

Inter group comparison of different symptoms of *Sandhigatavata*.

The results of intergroup comparison on effect of therapy in both the groups on all criteria of assessment other than *Jadyama* were found insignificant, with p value of >0.05, in *Jadyama* it was significant at p<0.05. However percentage relief on *Vedana, Sandhishotha, Jadayma, Atopa, Sandhihanti, Prasarna akunchan pravriti vedana, Sparsha-Asahyata* was more in group I as compare to group II. It shows that treatment protocol selected in group I was more effective as compare to group II.

Probable mode of action of drug
Mode of action of *Upanaha*:

Sweda have the properties like *Ushna* (*Tejas Mahabhuta Pradhana*), *Tikshna*, *Sara*, *Snigdha/Ruksha*, *Sukshma*, *Drava*, *Sthira* and *Guru*[5]. *Upanaha* is a one type of *Sweda*. Contents of *Vachadi Upanaha* (*Vacha, Devadaru, Rasana, Eranda, Sathawa, Masha, Ksheera Balataila, Saindhava*) having *Ushna Virya, Sukshma, Tikshna, SnigdhaGunas*, when these *Dravya* are used for *Upanaha,* due to combined effect with heat the following changes take place in joints:

1) Heat creates higher tissue temperatures, which produce vasodilation that increases the blood supply of oxygen

and nutrients and the elimination of carbon dioxide and metabolic waste.

2) Effect of heat on nerves- proper channelized heat appears to produce soothing effects. The effect of heat on nerve conduction is still to be properly investigated.

3) Increased activity of sweat glands- As the heated blood circulates throughout the body, it affects the centers concerned with regulation of temperature, and there is increased activity of sweat glands through the body, which helps to remove the water soluble toxin through sweat.

4) Effect on muscle tissue- Heat of *Upanah* application increases the extensibility of collagen tissue and relieve the stiffness of joints, reduces muscle spasm, melts the superficial fascia, increases the range of motion in joints, reduces pain and is generally relaxing.[6]

Mode of action of the *Basti*

Basti introduced in the colon acts upon the whole body and on every system of the body from head up to feet and draws out the impurities by its potency like sun draws out or evaporates the juices/ liquid from the earth by its heat (*Niruha* action).

According to *Ayurveda* actions of *Basti* can be explained as follows.

- *Acharya Parashara* opined that *Guda* (anus) is the main root of the body and having blood vessels in it, when we administer the *Basti* in anus, it nourishes all the limbs and organs of the body[8]. *Basti* eliminates the vitiated *Doshas* from the rectal route. Medicines which are administered through rectal route are absorbed in rectum and large intestines.

- While describing action of *Basti, Acharya Susruta* says that *Basti* retains in *Pakvasaya* and dwells *Doshas* from all over the body i.e. head to toe as the Sun stands millions of Kilometers away from the earth and evaporates the water with power full sun rays[9]. Further, he explains the importance of *Basti* and says that *Basti* is the only therapy which pacifies the provocated *Vata Dosha* like cyclonic storm is sustained and controlled by waves of the sea.

- The ingredients of *Guduchyadi Basti* mainly possess *Vedanasthapana, Shothahara, Deepana, Pachana, Mutrala, Vatahara, Rasayana*. These *Gunas* helps to alleviate *Kapha* and *Vata* in the body.

- After administration of *Basti*, *Dravyas* reaches various parts of the body like *Sandhis* and minute channels like by its *Sukshma Guna* and liquefies the *Doshas* which was present in various forms.

- Liquification of them is caused by *Ushna, Teekshna, Lekhana Gunas* which in turn decreases the *Sroto Abhishyandana* meanwhile *Ushnata* and *Snighata* of contents pacifies the *Vata*.

- *Guduchi is* of *Ushna Virya* and *Madhur Vipaka,* so acts as *vata shamaka, Rasana* is of *Ushna* and *Katu vipak* and act as *vata-kapha shamaka, Bala* is *Tridosha shamaka* and *Trifala* whole also acts as a *Tridosha shamaka*.

- Maximum drugsin *Dashmoola* are *Ushna veerya* and having *Vata-kaphashamaka* property.

- Therefore *Guduchyadi Basti* collectively pacifies the *Vata dosha* and nourishes *Asthi* and *Majja Dhatu*. It leads to *Samprapti vighatan* of *Sandhigata vata* by removing of vitiated *Doshas*.

CONCLUSION –

- Among the 8 patients of Group A two patients were markedly improved while four patient were Moderately improved and Two patient were Mildly improved. In Group B patients, three patients were moderately improved while seven patient were mildly improved

- Percentage relief on *Vedana, Sandhishotha, Jadyama, Atopa, Sandhihanti, Prasarna akunchan pravriti vedanaSparsha Asahyata* were more in GroupA but without any statistically significant difference in comparison to group B except in symptom of *Jadyama* where it was significant.

- The effect of therapy on all the symptoms in both groups is significant except Radiological changes which are insignificant in both groups.

- From the present study it can be concluded that overall *Vachadi Upanah* and *Guduchyadi Basti* together can be a better choice in the management of *Sandhigata vata*.

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