

Clinical Researches

Clinical study on *Sandhigata Vata* w.s.r. to Osteoarthritis and its management by *Panchatikta Ghrita Guggulu*

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Abstract

Sandhigata Vata is the commonest form of articular disorder. It is a type of *Vatavyadhi* which mainly occurs in *Vriddhavastha* due to *Dhatukshaya*, which limits everyday activities such as walking, dressing, bathing etc. thus making patient disabled / handicapped. It being a *Vatavyadhi*, located in *Marmasthisandhi* and its occurrence in old age makes it *Kashtasadhya*. *Vata Dosha* plays main role in the disease. *Shula Pradhana Vedana* is the cardinal feature of the disease associated with *Sandhishotha* with *Vata Purna Druti Sparsha*, lack of movements of the joints or painful movement of the joints. In this study total 49 patients having the complaints of Osteoarthritis were randomly divided into 2 groups. In Group A, patients were treated with *Panchatikta Ghrita Guggulu Vati* along with *Abhyanga* and *Nadi Swedana* and in group B patients were treated with only *Abhyanga* and *Nadi Swedana*. The data shows that *Panchatikta Ghrita Guggulu* along with local *Abhyanga* and *Nadi Swedana* i.e. group A has provided better relief in the disease *Sandhigata Vata*.

Key words: *Sanadhigata vata, Osteoarthritis, Panchatikta Ghrita Guggulu, Abhyanga, Nadi Sweda.*

Introduction

In *Vriddhavastha*, all *Dhatus* undergo *Kshaya*, thus leading to *Vataprakopa* and making individual prone to many diseases. Among them *Sandhigata Vata* stands top in the list. The incidence of osteoarthritis in India is as high as 12%. It is estimated that approximately four out of 100 people are affected by it. Osteoarthritis is the most common articular disorder begins asymptotically in the 2nd & 3rd decades and is extremely common by age 70. Almost all persons by age 40 have some pathologic change in weight bearing joint¹, 25% females & 16% males have symptomatic osteoarthritis.

Allopathic treatment has its own limitation in managing this disease. It can provide either conservative or surgical treatment and is highly symptomatic and with troublesome side effects. Whereas such type of conditions can be better treatable by the management and procedures mentioned in *Ayurvedic* classics.

Local *Abhyanga* and *Nadi Sweda* were selected for the

present study as it has shown best for the *Vata Vyadhis*. Here local *Abhyanga* was given with *Bala Taila* because *Bala Taila* and *Nadi Sweda* are having *Vatashamaka* and *Rasayana* properties. In another group *Panchatikta Ghrita Guggulu*, local *Abhyanga* and *Nadi Sweda* were given to the patients. *Panchatikta Ghrita Guggulu* has got *Vatashamaka* properties.

Aims & Objectives

- To observe the effect of *Panchatikta Ghrita Guggulu* with *Abhyanga, Nadi Swedana* in *Sandhigata Vata*.
- To observe the effect of only *Abhyanga* and *Nadi Swedana* in *Sandhigata Vata*.
- To compare the difference of results in the above treatment groups.

Material & Methods

Patients, suffering from Osteoarthritis, were selected from O.P.D. and I.P.D. of I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar.

Inclusion Criteria

- Classical sign and symptoms of *Sandhigatavata* are *Shula, Shotha, Stambha, Sparsha-asahyata, Sphutana, Akunchana Prasarana Vedana* etc. at the joints².

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- Patients between age group of 30 - 70 years.
- Patients without any anatomical deformity were included.

Exclusion Criteria:

- Patients below 30 and above 70 years of age.
- Patients suffering from disease like D.M., Carcinoma, Psoriatic arthritis, Vata Rakta, Phiranga, S.L.E., Polymyalgia Rheumatica & Tuberculosis are excluded.

Grouping

Group A: Patients were treated by local *Abhyanga* with *Bala Taila*+*Nadi Swedana* with *Dashamula Kwatha* + *Panchatikta Ghrita Guggulu*³⁻² Vati twice a day were given to the patient for 30 days with lukewarm water.

Group B: Patients were treated by local *Abhyanga* with *Bala Taila* + *Nadi Swedana* with *Dashamula Kwatha* for 21 days.

Observations

Total 49 patients were registered (group A- 31 & group B-18), amongst them in group A, 26 patients had completed the treatment and 05 were drop out. However in group B, 14 patients had completed and 04 were drop out.

In this study, maximum 44.89% patients were found in

Table 1: Status wise distribution of 49 patients of Sandhigata Vata

Status	Number of patients		Total	%
	Group A	Group B		
Completed	26	14	40	81.70
Drop out	05	04	09	18.36
Total	31	18	49	100

41 - 50 years of age group, 59.18% were female, 93.87% were Hindu, 95.91% were married, 37.73% were primary educated, 40.81% were housewives, 53.06% belonged to lower middle class, 81.63% were from urban area, 36.73% had *Samashana* type of habit, 85.71% had got gradual type of onset, 48.97% were found in chronic stage, 85.71% were aggravation of symptoms in cold season, 67.34% were having negative family history, 69.38% had

Madhyama Koshtha, 69.38% were having regular bowel habit & 40.81% was in menopausal state of life.

Vata-Kapha predominance was found in 55.10% of patients, 81.63% patients had got *Madhyama Sara*. *Madhyama Samhanana* was found 83.67% of patients and in *Pramanata Pariksha Sthaulya* was found in maximum number of patients i.e. 51.02% and *Madhyama Pramana* was found in 32.65% of patients, 65.30% were in *Madhyama Satmya* & *Avara Vyayama Shakti* was found in 53.06% patients.

Knee is one of the big weight bearing joints and thus 93.88% was found in involvement of knee joint. Involvement of other joint i.e. hip, ankle, shoulder were found 30.61%, 6.12% and 8.16% respectively, *Divaswapna* was found prevalent (65.30%), *Ati Ruksha Ahara* (51.02%), *Ati Sheeta Ahara* (40.81%), *Ati Vyayama* (38.77%), *Ati Alpa Ahara* (32.65%). Among the risk factors patients of female (57.14%), obesity (55.10%), psychological stress (28.57%) was found prevalent.

Table 2: Chief complaints wise distribution of 49 patients of Sandhigata Vata

Chief Complaints	Number of patients		Total	%
	Group A	Group B		
<i>Sandhishula</i>	31	18	49	100
<i>Sandhishotha</i>	19	10	29	59.18
<i>Akunchana</i>	23	13	36	73.46
<i>Prasarana Vedana</i>				
<i>Hanti Sandhigata</i>	04	04	08	16.32
<i>Sandhi Sphutana</i>	22	11	33	67.34
<i>Sparshasahyata</i>	17	07	24	48.97
<i>Vata Purnadruti</i>	03	00	03	06.12
<i>Sparsha</i>				

Apart from this *Vata Vriddhi* and *Vata Prakopa* were found in 100% patients & *Kaphakshaya* was found in 18.36% patients. *Asthi - Majjavaha Srotodushti* was found in all the patients. Other important Srotasa were involved in the pathogenesis of the disease are *Mamsavaha* (71.42%), *Artavavaha* (57.14%), *Medovaha* (28.48%), *Raktavaha* (18.36%) and *Purishavaha* (26.33%).

Results

Table 3: Effect of chief complaints in the patients of Sandhigata Vata in Group A

Symptoms	Mean score		% of Relief	S.D.	S.E.	't'	p
	B.T.	A.T.					
<i>Sandhishula</i>	2.38	0.54	77.41	0.54	0.11	16.82	<0.001
<i>Sandhishotha</i>	1.50	0.17	88.89	0.48	0.11	12.09	<0.001
<i>Akunchana Prasarana Vedana</i>	1.80	0.40	77.78	0.58	0.11	12.73	<0.001
<i>Sandhisphutana</i>	1.91	0.65	65.90	0.45	0.09	14.00	<0.001
<i>Sandhisparsha-asahatva</i>	1.44	0.12	91.30	0.60	0.15	08.73	<0.001
<i>Sandhigraha</i>	1.44	0.11	92.30	0.50	0.17	07.82	<0.001

P<0.001: Highly significant

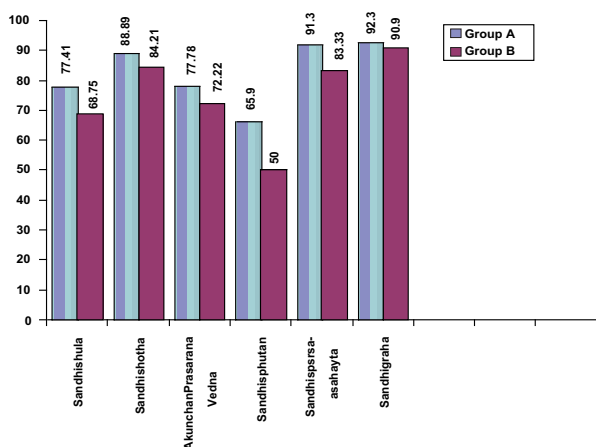
Table 4: Effect of chief complaints in the patients of Sandhigata Vata in Group B

Symptoms	Mean score		% of Relief	S.D.	S.E.	't'	p
	B.T.	A.T.					
Sandhishula	2.29	0.71	68.75	0.65	0.17	09.23	<0.001
Sandhishotha	1.90	0.30	84.21	0.52	0.16	10.00	<0.001
Akunchana Prasarana Vedana	1.64	0.45	72.22	0.40	0.12	9.83	<0.001
Sandhisphutana	1.67	0.83	50.00	0.39	0.11	7.54	<0.001
Sandhisparsha-asahatva	1.50	0.25	83.33	0.50	0.25	5.00	>0.05
Sandhigraha	1.83	0.17	90.90	0.52	0.21	7.95	<0.001

P<0.001: Highly significant.

Table 5: Total Effect of therapy

Gradation	Group A		Group B	
	No. of Pts.	%	No. of Pts.	%
Complete Remission (100%)	04	15.38	01	07.14
Maximum Improvement (>75 to 99%)	16	61.54	02	14.28
Moderate Improvement (>50 - 75%)	06	23.07	09	64.28
Mild Improvement (>25 - 50%)	00	00.00	02	14.28
No Improvement (0 - 25%)	00	00.00	00	00.00

**Figure 1: Comparative results in both the groups (Group A & Group B)**

In case of walking time in group A, percentage of improvement was 11.15%, while in group B percentage of improvement was found 5.34%, which is insignificant at the level of $p>0.05$. In case of climbing time in group A, percentage of relief was 11.88%. While in group B, percentage of improvement was 9.09%. This result shows statistically significant at the level of $p<0.01$.

In group A, in left knee joint flexion percentage of relief was 36.31%, while in right knee joint flexion it was 47.42%. In hip joint flexion (left), percentage of relief was 38.51% and in hip joint flexion (right) percentage of relief was found 36.82%, which is statistically highly significant. In group B, in left knee joint flexion, the percentage of relief was found 27.05% & right knee joint flexion, improvement was found 20.15%. While in hip joint flexion (left), percentage of relief was found 18.85% & hip joint flexion

(right), percentage of relief was found 14.58% (Table 3-4).

The above mentioned data shows that *Panchatikta Ghrita Guggulu* along with local *Abhyanga* and *Nadi Swedana* i.e. group A has provided better relief in the disease *Sandhigata Vata* (Osteoarthritis) in the present study (Table 5).

Discussion

In this study 44.89% patients were found in 41 - 50 years of age group. *Sandhigata Vata* starts at the age of 40 which is declining stage of *Madhya Vaya*. According to sex 59.18% were female patients, which indicates that *Sandhigata Vata* is more common in female and here the lack of female hormone (oestrogen) in the pre-menopausal period also plays an important role. Modern text also reflect the same type of prevalence, Osteoarthritis or Degenerative Joint Disease (DJD) may first appear without symptoms between 20 and 30 years of age⁴. The symptoms, such as pain and inflammation, appear in middle age. Till the age of 55 it occurs equally in both sexes; after 55 the incidence is higher in women⁵.

Among the female patients 40.81% were in menopausal state of life. Due to *Dhatukshaya (Rasa Dhatu)* aggravation of *Vayu* occurs that causes the *Sandhigata Vata*. In the menopausal condition the deficiency of female hormone leads to different bone and joints problem. While 87.75% patients did not have regular exercise in their routine life. Lack of practice or exercise gradually leads to the weight gain which ultimately leads to *Sandhigata Vata*. In *Prakrutivise* distribution shows that *Vata-Kapha* predominance was found in 55.10% of patients, due to *Vaya* of patients and also intake of the *Vata Vardhaka Nidana*.

Among the different *Nidana* of the disease *Divaswapna*

was found in 65.30%. Day time sleeping increases *Kapha* and *Meda* which leads to weight gain and *Agnivaishamya* which is a common risk factor for *Sandhigata Vata*. Among the other causative factors *Ati Ruksha Ahara* (51.02%), *Ati Sheeta Ahara* (40.81%), *Ati Vyayama* (38.77%), *Ati Alpa Ahara* (32.65%) also were found. These *Nidana* played an important role in aggravation of *Vayu* and thus causes *Sandhigata Vata*.

In case of chronicity, 48.97% patients were found in chronic stage & 85.71% were having gradual type of onset. This data also supported by literary data. While 85.71% were suffering from Osteoarthritis in cold season and in this season *Vata* usually aggravates and causes the disease. Maximum number of patients i.e. 93.88% had involvement of knee joint. Knee is one of the big weight bearing joints and thus mostly affected by Osteoarthritis. Involvement of other joint i.e. hip, ankle, shoulder were found 30.61%, 6.12% and 8.16% respectively.

Among the risk factors patients of female sex 57.14%, obesity 55.10%, psychological stress 28.57% was found prevalent. These are also supported by the literary data. Osteoarthritis mainly occurs on the weight bearing joints. Data shows 11 pound weight reduction, reduce 50% risk for Osteoarthritis. 5% weight loss in over weight patients gives 18% gain in overall function. So weight reduction is very important in case of osteoarthritis.

Among the Chief Complaints *Sandhishula* was found in all cases. In *Sandhigata Vata* there will be aggravation of *Vata Dosha* which is responsible for any kind of *Shula Pradhana Vedana*. *Akunchana Prasaranajanya Vedana* & *Hantisandhigati* was found more in the patients, which occurs due to aggravation of *Vata Dosha* and *Kaphakshaya*. In chronic stage osteophyte formation occurs due to this *sandhishotha* was seen in chronic case of osteoarthritis. (Table-02)

Panchatikta Ghrita Guggulu along with local *Abhyanga* and *Nadi Swedana* i.e. group A has provided better relief in the disease *Sandhigata Vata* (Osteoarthritis) in the present study.

In both the groups (A & B) i.e 15.38% & 07.14% patients achieved complete remission, while 61.54% & 14.28% patients found in maximum improvement and 23.07% & 64.28% were having moderately improvement. No patients found mild improved in group A whereas 14.28% mild improvement in group B. No patient found unchanged in both the groups (Table 05).

In the present study, in affected patients knee X ray was done before and after the treatment, but no changes was observed in any X ray. No significant change of S. Calcium was found before and after treatment. It shows that there is no direct role of S. Calcium in the etiology or in the prognosis of Osteoarthritis. S. calcium level was found elevated both before and after treatment in female

patients of pre-menopausal or menopausal period. That may be due to the Osteoporotic changes of bones, due to lack of oestrogen hormone.

Probable Mode of Action

Sandhigata Vata is *Madhyama Roga Margagata Vatika* disorders in which vitiated *Vata* gets lodged in *Sandhi*. Hence to treat *Sandhigata Vata* drugs acting on both *Vata* and *Asthi* should be selected. According to *Charaka*, in *Asthi Dhatu Dushti* the treatment should be given *Tikta Dravya Ghrita* and *Kshira*. In *Panchatikta Ghrita Guggulu* predominance of *Tikta Rasa* is there.

Tikta Rasa has *Vayu* and *Akasha Mahabhuta* in dominance. Hence it has got affinity towards the body elements like *Asthi* having *Vayu* and *Akasha Mahabhuta* in dominance. Though, *Tikta Rasa* aggravates *Vayu* which may enhance the pathogenic process of *Sandhigata Vata* but, the main principle of *Ayurvedic* treatment is “*Sthanam Jayate Purvam*”. The main site of *Sandhigata Vata* is *Sandhi* which is the site of *Shleshaka Kapha*. So, by decreasing the *Kapha Dosha Tikta Rasa* fulfils the principle.

Most of ingredients of *Panchatikta Ghrita Guggulu* have *Tikta Rasa*, *Ushna Virya* and *Madhura* and *Katu Vipaka*. The *Tikta Rasa* increase the *Dhatvagni* (metabolic stage). As *Dhatvagni* increase, nutrition of all the *Dhatu*s will be increased. As a result *Asthi Dhatu*, *Majja Dhatu* may get stable and *Asthi Dhatu* and *Majja Dhatu Kshaya* will be decreased. So degeneration in the *Asthi Dhatu* may not occur rapidly. It can be said, it slows down the degeneration processes.

Tikta Rasa has got *Deepana*, *Pachana* and *Rochana* properties. So it helps in the improvement of the general condition of health and thus strengthen the whole body as well as joints⁶. On other hand *Tikta Rasa* possess *Lekhana* property, so it helps in the weight reduction of the patients and helps in the management of Osteoarthritis⁷. *Tikta Rasa* is also has got *Jwaraghna* and *Daha Prashamana* properties that it may act as anti-inflammatory agent and can reduce the pain and swelling of the joints.

Ghrita is *Vata-pittashamaka*, *Balya*, *Agnivardhaka*, *Madhura*, *Saumya*, *Sheeta Virya*, *Shula*, *JwarAhara*, *Vrishya* and *Vayasthapaka* also⁸. Thus, it pacifies *Vata*, improve the general condition of the body and acts as a rejuvenator of the body. Thus, helps in the *Samprapti Vighatana* of the *Sandhigata Vata*. *Ghrita* is having property like *Yogavahi* which is helpful in increasing bio-availability of other drugs without losing its own property. *Ghrita* also contains vitamin D which plays an important role to utilize calcium and phosphorous in blood and bone building⁹.

Due to the *Ushna* property of *Guggulu*, it is one of the major *Vatashamaka Dravya*. Due to its *Ruksha* and *Vishada Guna* it acts as a *Medohara*. According to *Sushruta*, *Guggulu* has got *Lekhana* property which helps in reducing body weight. Due to its *Katu Rasa* it acts as a *Deepana*. Thus help in the improvement of general condition of the patient. *Purana Guggulu* also acts as a *Rasayana* which

may help to prevent the any degenerative change in the body. Pharmacologically Guggulu has got the properties of anti-inflammatory, immunomodulatory and anti-lipidaemic action.

On the overall effect of the Panchatikta Ghrita Guggulu, it has been found that drug is predominant in Ushna Virya which helps in pacification of aggravated Vata and subside the pain.

Snehana pacifies the Vata, softens the body and eliminates the accumulated Malas. Swedana relieves the stiffness, heaviness and coldness of the body and produce sweating. By the process of Snehana and Swedana the blood vessels of skin become dilated and local circulation of blood will be increased. The medicine applied locally is also absorbed by the skin and exerts its effects locally.

Conclusion

Sandhigata Vata is one of the Vata Vikara & it is Yapya Vyadhi. South Asian countries like Bangladesh, India, Nepal, Sri Lanka are having higher incidence. Sandhigata Vata vis-à-vis Osteoarthritis is multi-factorial, non-inflammatory degenerative joint disorders.

The data shows that Panchatikta Ghrita along with local Abhyanga and Nadi Swedana i.e. group A has provided better relief in the disease Sandhigata Vata (Osteoarthritis) in the present study. In group A, 15.38% patients achieved

complete remission, while 61.54% patients found in maximum improvement and 23.07% were having moderately improvement. No patients found unchanged and mild improved. In group B, 07.14% patients obtained complete remission, while 64.28% patients were having moderate improvement, whereas 14.28% patients each were having maximum improvement and mild improvement. No patient found unchanged. There was no apparent change was observed in x-ray before and after treatment. Present study reveals that the selected management have potential effect on Sandhigatavata with the added advantage of being free from side effects.

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हिन्दी सारांश

सन्धिगत वात की चिकित्सा में पंचतिक्त घृत गुग्गुलु का चिकित्सीय अध्ययन

बाबुल अख्तर, राजा राम महतो, अलंकृता दवे एवं वी. डी. शुक्ला

सन्धिगत वात एक वात व्याधि का प्रकार है जो मुख्यतया वृद्धावस्था में धातुक्षय के कारण होती है। जिसके कारण रोजमर्रा के कार्यों जैसे चलना-फिरना, कपड़े पहनना आदि में बाधा पहुँचती है। यह मांस अस्थि सन्धि में स्थानसंश्रय करने, वातजन्य व्याधि होने से तथा वृद्धावस्था में धातुक्षय के कारण कष्टसाध्य होता है। इसमें वात दोष की मुख्य भूमिका होने के कारण प्रधानतया शूलप्रधान वेदना होती है, साथ में सन्धिशोथ, वातपूर्णदृति स्पर्शः, हन्ति सन्धिगति तथा आकुञ्चन प्रसारण वेदना आदि लक्षण होते हैं। आचार्यों ने वात व्याधि की सामान्य चिकित्सा में बाह्य स्नेहन - स्वेदन तथा आभ्यन्तर औषध सेवन बताया है। जिसके आधार पर इस अध्ययन में ४९ रूग्णों पर समूह 'अ' में पंचतिक्त घृत गुग्गुलु के साथ स्नेहन तथा स्वेदन 'ए' और समूह 'ब' में केवल स्नेहन - स्वेदन का प्रयोग किया गया। जिसमें पाया गया कि समूह 'अ' के रूग्णों पर औषधि का प्रभाव अधिक अच्छा रहा।