

A CLINICAL STUDY ON THE ROLE OF *GUGGULU VATAKA* IN THE MANAGEMENT OF *SANDHIGATA VATA* (OSTEOARTHRITIS)”

Dr. Mahipatsinh Dodiya^{1*}, Dr. K. B. Roy² and Dr. Prasad Mamidi³

¹P.G Scholar Department of Kayachikitsa, Parul Institute of Ayurved, Limda, Vadodara, Gujarat, India.

²Professor, Department of Kayachikitsa, Parul Institute of Ayurved, Limda, Vadodara, Gujarat, India.

³Associate Professor Department of Kayachikitsa, Parul Institute of Ayurved, Limda, Vadodara, Gujarat, India.

Article Received on
20 May 2017,

Revised on 10 June 2017,
Accepted on 30 June 2017

DOI: 10.20959/wjpr20177-9110

*Corresponding Author

Dr. Mahipatsinh Dodiya

P.G Scholar Department of
Kayachikitsa, Parul
Institute of Ayurved,
Limda, Vadodara, Gujarat,
India.

ABSTRACT

Introduction: Osteoarthritis is the most common articular disorder which begins asymptotically in the 2nd and 3rd decades and is extremely common by above age 70yrs. Almost all persons by age 40 have some pathologic change in weight bearing joint. 25% females and 16% males have symptomatic OA. The disease Osteoarthritis may be regarded as a reward of longevity. It seems man has paid price for standing on hind limbs in form of osteoarthritis of weight bearing joints of the body. The disease Arthritis causes work disability. It limits everyday activities such as walking, dressing, bathing etc., thus making individual handicapped. No treatment is available which can prevent the disease process. **Aims:** To know the effectiveness of

Guggulu Vataka in the management of *Sandhigata Vata*, to study the etiology, pathogenesis and symptomatology of *Sandhigata Vata* according to ayurvedic science. **Materials and methods:** Total 30 patients of *Sandhigata Vata* were treated with *Guggulu Vataka* 1 gm thrice per day with luke warm water. The results were assessed in terms of clinical recovery, symptomatic relief, and joints function improvement along with assessment of pain, swelling, crepitus, stiffness control with clinical examination. **Results:** Significant improvement was observed in all the cardinal symptoms of *Sandhigata Vata*. Statistically significant improvement observed. **Conclusion:** This study highlights the significance of traditional herbal remedy in non-communicable diseases such as *Sandhigata Vata* which can be used as

an effective remedy for the patients of *Sandhigata Vata* in place or along with conventional medicines.

KEYWORDS: *Sandhigata Vata*, Osteoarthritis, *Guggulu Vataka*.

INTRODUCTION

Sandhigata Vata is described under Vatavyadhi in all the Samhita`s and Sangraha Grantha. In Vriddhavastha, all Dhatus undergo Kshaya, thus leading to Vataprakopa and making an individual prone to many diseases and among these Sandhigata Vata tops the list.^[1]

Acharya Charaka was the first person who described the disease separately named “Sandhigata Anila”, but has not included it under 80 types of Nanatmaja Vyadhi.^[2] The affliction of Sandhi is by Prakupita Vata is the main phenomena in Samprapti of Sandhigata Vata. Sandhis come under the Madhyama Roga Marga and thus, involvement of Madhyama Roga Marga, Vata Dosha and Dhatukshaya figures disease Kashta Sadhya.

Proper locomotion of an individual is necessary to live a trouble free life. Inability to move properly can make life miserable. Recent life style, food habits, increased incidence of hypertension etc. have great impact in manifestation of several Vatavyadhis.

Osteoarthritis simulates with Sandhigata Vata described in Ayurvedic classical texts, which is a disease of Sandhi (joint) characterized by symptoms of Sandhishula (pain), Sandhishotha (swelling) and Akunchana Prasarana Pravritti Vedana (pain on flexion and extension of the joint and in the later stage Hanti Sandhigatah (diminution of the movements at joints).^[3]

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. Ayurveda advocates the use of single or combined drugs of herbal, mineral and animal origin. Because of their simple method of administration, single herbal drugs have their own importance in Ayurvedic therapeutics. Going through all the texts, Guggulu Vataka was selected for the clinical evaluation.

MATERIALS AND METHODS

Sample size: 30 patients.

Patients of both sexes, between the ages of 30 to 70 years with intermittent, mild to moderate persistent cases of Osteoarthritis, were registered in randomly for clinical trial from outdoor and indoor patients department of Parul Ayurved hospital, Limda. The study obtained Institutional Ethics Committee clearance (PIA/IECHR/KC/05 dated 01/05/2015) and registered at Clinical Trial Registry of India (REF/2017/04/014045). A written informed consent from each patient was taken before enrolling in the clinical trial.

Inclusion criteria

- Classical sign and symptoms of Sandhigata Vata are Shula, Shotha, Stambha, Sparsha-Asahyata, Sphutana, Akunchana Prasarana, Vedana etc. at the joints.
- Patients between age group of 30 - 70 years.
- Patients have selected only with knee joint pain with abnormality confirmed with x ray.

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. (Systemic Lupus Erythematosus), Polymyalgia Rheumatica and Tuberculosis was excluded.
- Traumatic Osteoarthritis excluded.

Investigations

- ✓ Hematological Investigation.
- ✓ Random Blood Sugar.
- ✓ Serological investigation will include RA factor.

Trial drugs

The raw material for the preparation of *Guggulu Vataka* have been formulation were prepared in Parul Ayurveda Pharmacy, Limada, Waghodia, Vadodara.

The prescribed medication to reduce pain, swelling, crepitus, stiffness, pain on flexion and extension of the joint.

Table 1: Ingredients of Guggulu Vatak^[4]

No.	Name	Part use	Proportion
1.	Sh. Guggulu	<i>Niryasa</i>	5 Part
2.	<i>Haritaki</i>	<i>Fruit</i>	1 Part
3.	<i>Bhibhitaki</i>	<i>Fruit</i>	1 Part
4.	<i>Amlaki</i>	<i>Fruit</i>	1 Part
5.	<i>Pippali</i>	<i>Fruit</i>	1 Part
6.	<i>Ela</i>	<i>Fruit</i>	½ Part
7.	<i>Tvak</i>	<i>Bark</i>	½ Part
8.	<i>Dashamool Kwath</i>	<i>Root</i>	Q.S.

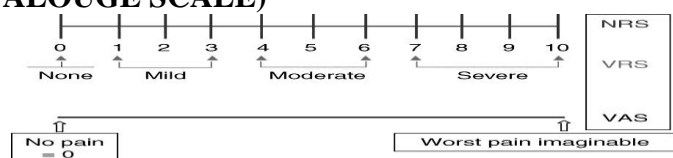
Posology

Guggulu Vataka was given in the dose of 1 gm three times per day orally with Usnodaka.

Criteria for assessment

The improvement in the sign and symptoms of Sandhigata Vata were assessed by Monthly after treatment 30 days, To assess the effect of therapy, all the signs and symptoms were given scoring depending upon their severity.

A special scoring pattern was adopted for the symptomatic relief of subjective & objective parameters as follows during assessment period which are mentioned as below.

VAS (VISUAL ANALOUGE SCALE)

Sr. No.		Criteria	Grade
1	Pain (VAS)	No Pain Mild pain Moderate pain severe pain	0 1-3 4-6 7-10
2	Swelling	No swelling Slight swelling Moderate swelling Severe swelling	0 1 2 3
3	Tenderness	Normal : Absent or no tender Mild : Tender Moderate : Tenderness and wincing Severe : Tenderness, wincing and withdrawal	0 1 2 3
4	Crepitus	Normal : No crepitus Mild : Crepitus complained by patient but not felt on examination Moderate : Crepitus felt on examination Severe : Crepitus felt and heard on examination	0 1 2 3
5	Walking Velocity	Time to take complete 3 meter distance (time up and go test) ^[5]	-

Statistical analysis

Obtained data were statistically analyzed using paired t-test.

OBSERVATIONS AND RESULTS

Total 30 patients were registered for the clinical trial Majority of the patients (53.3%) were reported in the age group of 60-70 years. Demographic studies revealed that osteoarthritic changes commence above 4th- 5th decades of life.^[6] Maximum number of female patients (80%). The post menopausal hormonal variations play a role in bone mineralization.^[7] Sandhigata Vata is the disease of Vriddhavastha due to Dhatukshya which has been found here also. Majority of the patients were female (66.6%) followed by male (33.3%). Females are more prone for obesity in geriatric age group.

Occupation wise, maximum patients were housewives (66.6%). Reasons behind this may be that while performing domestic works, they have to stand for a long period and have to lift weights and also negligence of own care. The occupation has great impact on Sandhigata Vata. Also involvement of particular joints is dependent on occupation. The joints which are used more for the work on which repetitive stress is present; these joints are more prone for osteoarthritis. Majority of the patients (60%) were belonging to rural habitat while rest (40%) of the patients was from urban habitat, due to the study conducted in rural area.

Chronicity wise, majority of patients (56.6%) had chronicity of 6 month-1 years followed by 26.6% of more than 1 years suggesting OA is a slow progressive disease. Sandhigata Vata is encountered as a Yapya or Kashtasadhya variety and all the Yapya Vikara are chronic in nature. As per observations, the chronicity of the Sandhigata Vata is reflected. The chronicity is inversely proportional to the prognosis of disease i.e. if chronicity is less, prognosis is good.

Observations regarding Dietary Factors revealed that majority of patients followed Vishamaashana (63.3%) and Adhyashana (26.6%) in their daily food habits which lead to Agni Vaishmya and Vataprakopa resulting in Dhatukshaya which coupled with old age leads to Sandhigata Vata Dominancy of Katu rasa in diet was present in 63.3% of patients followed by Amla Rasa (60%), Lavana (50%), Madhura (40%) and Tikta (13.3%). Excessive use of Katu Rasa in routine food would lead to Vata Prakopa and play a major role in manifestation of Sandhigata Vata. Study revealed that maximum numbers of patients (53.3%) were having Madhya Kostha, followed by 30% Krura Kostha and 16.6% having Mridu

Kostha suggesting the dominance of Vata Dosha and Kapha Dosha. Agni wise, maximum patients had Mandagani (63.3%) followed by Vishmagani (26.6%), and Tikshmagani (10%) suggesting impaired digestion which is due to predominance of Kaphadosha-Vatadosha which further result in Dhatukshaya due to improper nutrition.

Addiction wise, it was found that most of patients were addicted to consuming tea (26.66%), alcohol (20%), tobacco (16.6%) and 10% of the patients were addicted to Gutka and 6.66% of smoking. Tea, Alcohol and Tobacco can be considered as general addictions of the society and all of these are Vata Dosha aggravating as well as Agnimandyakara and Dhatukshayakara. According to mental status, majority of patients (46.6%) had sentimental status followed by anxious (16.6%) and jovial (16.6%). Psychological factors for Sandhigata Vata as Charaka mentioned are Atichinta, Atibhaya and Atikrodha which seemed common for most of the Vatavyadhi.^[8]

Analyzing the Prakriti, Sara and Samhanana, it was reported that 63.3% patients had Vata-Kapha Prakriti and 26.6% patients had Vata-Pitta Prakriti. All the patients included in the study found to have Dwandwaja Prakriti with predominance of Vatakapha Prakriti suggesting the susceptibility of these patients to Sandhigata Vata where Vata and Kapha vitiation play a vital role in initiation and manifestation of this disease. Analyzing the Manasa Prakriti, majority of the patients had Rajasa Prakriti (70%) followed by Tamasa Prakriti (30%). According to Ayurvedic texts, Vata is preponderate in Rajoguna, and Rajoguna itself provokes Vata and may be a factor in manifestation of this disease. The Saratva is the supreme part of the Dhatu-Vishuddhatara Dhatu.^[9] which provides strength to that Dhatu and also provides resistance to the disease. In this study, 70% patients had Madhyama Sara. The absence of or less of Saratva especially of Asthi, Mamsa, Majja Sara may be a risk factor for Sandhigata Vata. Maximum patients had Avara Samhanana (86.6%) followed by Madhyama Samhanana (13.3%) suggesting susceptibility of body structures, particularly joints as prime target for Sandhigata Vata. Maximum patients had Madhyama Sattva (66.6%) followed by Avara Sattva (26.6%). Avara Sattva normally suffer from stress, fear, anxiety, which may cause Vata Prakopa. Charak has mentioned that a person having Avara Sattva are more prone to Vatavyadhi, which is supported in this disease. Majority of the patients had Madhyama Satmya (63.3%). Maximum number of patients i.e. 100% patients were having Asthivaha and Majjavaha Srotodushti, while 73.3% of patients had Mamsavaha Srotodushti, 56.6% of Medavaha Srotodushti and 50% of patients had Purishavaha Srotodushti.

Effect of therapy on cardinal symptoms

Statistically highly significant results were observed in all the cardinal symptoms like Pain, Swelling, Tenderness, Crepitus, Walking Velocity.

Table 1: Effect of Guggulu Vataka in 30 patients of Sandhigata Vata.

Assessment Parameter	Mean		Mean	%	SD(±)	SE(±)	‘t’	P
	BT	AT						
Pain	6.13	2.76	3.36	55	1.809	0.33	10.19	<0.001
Swelling	2.1	0.9	1.2	57	1.21	0.22	5.14	<0.001
Tenderness	1.2	0.4	0.8	67	0.66	0.121	6.5	<0.001
Crepitus	2.6	1.2	1.46	54	0.68	0.124	11.78	<0.001
Walking Velocity	8.36	7.13	1.23	15	0.67	0.123	9.95	<0.001

Effect of therapy on objective parameters

In the present study, the improvement was seen in chief complaints like Sandhishula, Sandhishotha, Aakunchane Prasarane Vedna, Stambha, Sparshasahyata and Sandhisphutana due to Shulahara, Shothahara effect of Gugglu Vataka (Table 1).

Overall effect of treatment

In assessing overall effect of therapy it was seen that none of the patients was completely relieved while marked improvement in 6, moderate improvement in 19 patients was recorded whereas 5 patients remained unchanged.

DISCUSSION

These all symptoms occur due to Vataprakopa and Kaphakshya, Asthi Dhatu and Majja Dhatu Dusti are responsible for manifestation of symptoms. Sandhishula, Sandhishotha, Akunchana Prasarana Vedana, Sandhisphutana, Sthambha and Sparshasahatva, were prominently seen in the subjects indicating active phase of the disease.

In the present study, the improvement was seen in chief complaints like Sandhishula, Sandhishotha, Aakunchane Prasarane Vedna, Stambha, Sparshasahyata and Sandhisphutana due to Shulahara, Shothahara effect of Gugglu Vataka. As per pharmacological action of Gugglu Vataka, it has inhibitory action on inflammatory substances and proved that anti-inflammatory properties mediated via PG synthesis inhibition. It acts as COX-2 inhibitors and reduces inflammation that might be responsible for its NSAID's like activity.^[10] It soothes the joints and also helps treating levels of synovial fluid making the entire structure lubricated and easy to rotate or to move.

Dashmoola is Vata-Kaphahara Dravya, so it could work in both ways-in Avaranajanya Samprapti it works by Katu, Tikta Rasa, Ushana Virya and its Amapachana Karma. In Dhatukshayajanya Samprapti it works by their Madhura Skandhi Dravyas like Shaliparni, Prushniparni, Gokshura, Bruhati, Kantakari etc.^[11] Azulene, glycoside oroksilonom, aegelin, oxalic acid, steroid, new phenlethyllamine, volatile oil, harmine, diosgenin, gilogenin, sitosterol, some saponin, glycozyde, tannin of Dashmoola - provide analgesic, anti arthritic and anti-inflammatory effect.

CONCLUSION

The Guggulu Vataka is effective in reducing the subjective parameters and improves the diseases Sandhigata Vata. The better result obtained in reduction of tenderness which was 67% followed by improvement in swelling which was reduced by 57%. Pain and crepitus were reduced and improved by 55% and 54% respectively whereas walking velocity was improved by 15%. All the findings were statistically highly significant at the level of $P < 0.001$.

Financial support and sponsorship

Parul Ayurveda collage, Limada, Waghodia, Gujarat.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Acharya Yadavji Trikamji, Sushruth samhita: Choukambha publication, Varanasi, 2000; 824.
2. Acharya Yadavji Trikamji Agnivesha: Charaka samhitha, Chaukambha Orientalia, 5th Edition Varanasi, 2001; 860.
3. Tripathi Brahmanand Vimla and Madhudhara Hindi Commentary on Madhava Nidana of Shri Madhavkara with Madhukosha Sanskrit Commentary, Chaukhambha Surbharti Prakashan, Varanasi, 2nd Edition, 1998; Chapter 22/21.
4. Shodhala Krit Gada Nigraha, Part-II, Reprint, commented by Indradev Tripathi, Vata Roga Adhikara, 2005; 507.
5. Podsiadlo D, Richardson S. The timed 'Up & Go': a test of basic functional mobility for frail elderly persons. J Am Geriatr Soc, 1991; 39: 142–148. [PubMed]

6. Felson DT, Nevitt MC. The effects of estrogens on osteoarthritis, *Curr Opin Rheumatol*, 1998; 10: 269-72.
7. A Mahajan, S Verma, V Tandon, *Osteoarthritis, JAPI*, 2005; 53: 634-641.
8. Anil Mahajan, Vishal Tandon, Sourabh Verma, Sudhaa Sharma, *Osteoarthritis And Menopause, J Indian Rheumatol Assoc*, 2005; 13: 21–25.
9. Charaka Samhita, sutra sthana, with vidhyotini vyakhya by Kashinath pandey and Gorakhanath chaturvedi, chaukhambha bharti academy, varansi, 221001, 28/7: 570.
10. Charaka Samhita, vimana sthana, with vidhyotini vyakhya by Kashinath pandey and Gorakhanath chaturvedi, chaukhambha bharti academy, varansi-221001, 8/139: 789.
11. <http://www.globalmedicaltech.com>.