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Multi-modal treatment approach in management of *Sandhigata Vata* w.s.r. to Osteoarthritis

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ABSTRACT

The disease like *Sandhigata Vata* which is similar to modern disease entity Osteoarthritis, is a silent enemy of the physical ability of human beings. Besides other *Vata* provoking factors *Jara* (old age) is an important factor and hence the disease is prevalent more in aging population. The provoked *Vata* gets seated in the *Sandhis* (Joints) and damages the joint structure (*Hantisandhin*). Functional and structural deterioration is obvious in the disease. For effective management of the disease Multi-modal treatment approach is the need of time. *Amapachana*, *Snehana*, *Swedana*, *Lekhana*, *Basti*, *Upnaha*, *Agnikarma*, *Shamana Yoga* etc. treatment modalities are used in *Sandhigata Vata* according to the patient condition. Multi-modal approach in the management of *Sandhigata Vata* (osteoarthritis) is much useful to treat patient successfully.

Key words: *Sandhigata Vata*, Osteoarthritis, *Amapachana*, *Lekhana*, *Snehana*, *Swedana*.

INTRODUCTION

Charaka the pioneer of *Kayachikitsa* was the first who described *Sandhigata Vata* as *Sandhigata Anila*.^[1] *Sushruta* has described the disease under the broad umbrella of *Vatavyadhi*.^[2] In *Jaravastha* (old age) vitiation of *Vatadosha* is common. The vitiated *Vata* either combines with other *Dushyas*, *Ama* etc. or separately locates in the joints which is *Madhyama Rogamarga*, and generate *Sandhigata Vata*.^[3] The disease is either *Kashta-sadhya* or *Yapya*. On the basis of symptomatology and nature of the disease, *Sandhigata Vata* is much similar to Osteoarthritis, which is most common form of arthritis in old people.

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Osteoarthritis is one of the major causes of chronic disability, affecting the quality of life. According to a survey, osteoarthritis tops all the ailments in the country. Prevalence of osteoarthritis in India is more among menopausal women.^[4] Osteoarthritis is occurring primarily in older persons, characterized by joint pain, tenderness, crepitus, limitation of movements, occasional effusion and inflammation without systemic effects, erosion of the articular cartilage, hypertrophy of bone at the margins (i.e., osteophytes), subchondral sclerosis, and a range of biochemical and morphologic alterations of the synovial membrane and joint capsule. Pathologic changes in the late stages of OA include softening, ulceration, and focal disintegration of the articular cartilage, synovial inflammation also can occur.^[5] Clinical manifestations of OA range from mild to severe, and affects weight bearing joints such as knees, hips, feet, spine and also hands and later leading to chronic disability.^[6]

Osteoarthritis is the second most common rheumatologic problem and it is the most frequent joint disease with a prevalence of 22% to 39% in India.^[7] Nearly, 45% of women over the age of 65 years have symptoms while radiological evidence is

found in 70% of those over 65 years. OA was estimated to be the 10th leading cause of nonfatal burden.^[8]

Osteoarthritis strikes women more often than men and it increases in prevalence, incidence and severity after menopause. Etiology of OA is multi factorial and depends on age, gender, body weight, B.M.I., trauma, repetitive stress on affected joints, genetic factors. These all are the risk factors which play an important role in the manifestation of Osteoarthritis.^[9]

Thus, Osteoarthritis is burning issue for society and for treating the patient without any adverse effect, "A multimodal therapy" based on clinical condition of patient (*Purusham Purusham Vikshaya*) is needed.

MATERIALS AND METHODS

For this study, the basic and conceptual materials were collected from the *Ayurvedic* classics, namely, *Brihatrayee* and *Laghutrayee*, other texts, literature in Modern science concerned with these principles, scientific journals, dissertations, research papers, patients etc.

For multi-modal treatment approach *Panchakarma* procedures as well as internal medicaments are used. *Narayanataila* and *Tilataila* are used for *Abhyanga* purpose. *Nirgundi-arka* and *Erandapatra* (leafs) are used generally for *Bashpasweda*. For *Virechana* purpose *Eranda Sneha*, *Haritaki-draksha Kashaya* are much useful. For effective pain management internal medicines like *Yograja Guggulu*, *Kaishor Guggulu*, *Rasna Guggulu*, *Kashayas* like *Rasnapanchaka-saptaka* are used. For *Rasayana* purpose *Ashvagandha*, *Balamoola Kvatha* are used.

DISCUSSION

Osteoarthritis is also known as degenerative arthritis or degenerative joint disease. It is a clinical syndrome in which low-grade inflammation (*Sandhishotha*), results in pain in the joints (*Sandhishoola*), caused by abnormal wearing of cartilage that covers and acts as a cushion inside joints and decrease of synovial fluid that lubricates those joints. As the bone is less protected by cartilage, the patient get pain in the

weight bearing joints like knee, ankle, hip etc. Due to pain and swelling the joint can't move properly as the movement is restricted (*Stambha*) and by movements extreme pain (*AakunchanePrasaraneVedana*) occurs. Usually Osteoarthritis takes time to develop but it becomes unbearable even on mild touch-tenderness (*Sparshasahyata*) later on it results in manifestation of crepitus (*Sandhisputana*). *Sandhigata Vata* and Osteoarthritis can be co-related in that matter.

Osteoarthritis is most challenging problem for developing as well as developed countries. This is one of the major causes of chronic disability, affecting the quality of life. It is a degenerative, low inflammatory disorder, where joint inflammation initially causes pain and later swelling. Due to pain and swelling, the mobility of joints is restricted and on movement results in excruciating pain, which becomes unbearable even on mild touch in the form of tenderness. The degenerative changes later results in manifestation of crepitus. The current standard modern medical pharmacological management of osteoarthritis includes the administration of analgesics and non-steroidal anti-inflammatory drugs (NSAIDs). However their use neither provides adequate and significant pain relief nor deceleration in disease process. In addition, NSAIDs are associated with adverse effects. Due to which the use of alternative therapies is on the rise.

Sandhigata Vata is a *Vata* dominant disease, in which, *Vata-prokopa* consequently produces *Agni Vaishmya* (*Agnimandhya*) *Anuloma Dhatukshaya* and *Asthivaha Strotodushti*. The term *Sandhigata Vata* denotes a condition in which, *Vata* is pathologically seated in *Asthi Sandhi* and causing damage in its structures. Localization of *Vata* in joints means increase of *Vata Guna* i.e. *Laghu*, *Ruksa*, *Visada* and *Khara* in it. Increase of these properties antagonizes the properties of *Kapha* resulting into *Shleshaka Kapha Kshaya*. The disease process of the *Sandhigata Vata* mainly produces by two major pathogenesis of *Vata* aggravation that is *Dhatukshaya* and *Margaavarana*. *Dhatukshaya* mainly happens due to *Kalaja* factor, *Jara* (age) and *Vata Vardhaka Nidana Sevana*. *Margaavarana* mainly happens when there is *Dushti*

of *Kapha* as well as *Meda Dhatu*, *Mamsa*, *Asthi* and *Majja*, but in both the ways *Agnidushti* is common. In *Margaavarana Dushti* of *Medadhatu* leads to *Stahulya* (Obesity) and it creates a vicious cycle of repetitive stress on weight bearing joints with functional deterioration. In females sex steroids decreased up to a great extent immediate after menopause, so that Osteoarthritis develops.

Clinical outcome of the patient depends on chronicity, severity, later age, obesity, multiple joint involvement, severe joint destruction and combination with other systemic diseases (*Vyadhisankarya*) does not yield good improvement in symptoms (taking more time). Consider all these facts approach of treatment should be according to patient's clinical condition,

Classification of patient base on clinical presentation (*Purushampurusham Vikshaya*)

- Patient with Obesity having the symptoms of *Sandhigata Vata*. (*Margaavaranajanya*)
- Patient with Obesity and history of menopause (*Dhatukshayajanya*) having symptoms of *Sandhigata Vata*.
- Patient have history of menopause (*Dhatukshayajanya*) without Obesity having symptoms of *Sandhigata Vata*.
- Patients having symptoms of *Vata Vrudhhi* along with *Sandhigata Vata*. (*Vataprakopajanya*)
- Patients having symptoms of *Jara-avasthajanya* (age>60 years) *Vata Vrudhhi* along with *Sandhigata Vata*. (*Vataprakopajanya*)
- Patients having symptoms of *Ama* generalized along with *Sandhigata Vata*.

For effective treatment tripod of, *Pathya*, *Vyayama* (*Yogasana*) and *Chikitsa Upkrama* is essential.

Ahara

Ahara Varga	Pathya	Apathya
Anna Varga	Godhuma (Wheat), Masha (Black gram),	Yava (Barley), Kodrava (Sanva millet), Shyamaka

	Rakta Shali (Red rise)	(Common millet), Chanaka (Chick-pea), Kalaya (Common peas) etc.
Dugdha Varga (Milk and milk products)	Gau (Cow), Aja (Goat) Dugdha, Ghrita (Ghee)	-
Jala Varga	Ushna Jala (Boiled water), Shritashita Jala.	Shita Jala (Cold water)
Shaka Varga	Patola, Rasona (Garlik), Shigru.	
Sneha Varga	Taila, Ghrita.	

Sandhigata Vata is *Vata* dominant disease so that we can use the *Aharadravya* which have quality of *Snigdha*, *Sthira*, *Ushna*.

Vihara

Do	Don't
Avoid grasping action that strain you finger joints	Use of fast moving vehicles
Spread the weight of an object over several joints	Excessive use of the affected parts/Joints
Maintain good posture	In adequate rest in the nights
Limit stair climbing	Excessive <i>Langhana</i>
Avoid low beds, chairs, and toilets, elevate them when possible.	Suppression of natural urges

Yogasanas

Makarasana, *Tadasana*, *Veerasana*, *Suryanamaskara*.

The role of proper *Vihara* and *Yogasanas* in *Sandhigata Vata* (Osteoarthritis) is vital. "Vyayama *Sthairyakaranam Srestham*" means by the use of these *Yogasanas* joints become stable in their function. It increases muscle strength and also make

good posture. In the patient with obesity it plays key role in maintain joint function normally by reduced abnormal Medadhatsu.

Chikitsa Upkrama in patients of Sandhigata Vata base on clinical condition,

1. Involvement of Ama

- 1st step: Amapachana by Sunthi / Pippali
- 2nd step: Abhayanga, Swedana and Mrudu Virechana Karma
- 3rd step: If pain is more dominant during use of the joints then, externally: Agnikarma, Bandhana, Guggulu Lepa, cupping therapy.
- 4th step: If swelling is more dominant, difficulty in movement of the joint then, externally: Eranda / Arka Patrapinda Upanaha, Guggulu Lepa.
- 5th step: Basti Karma: Niruhabasti - Dashmoola Kvatha, Erandmoola Kvatha. Matrabasti - Narayana Taila, Nirgundi Taila.

2. Involvement of Meda (Obesity)

- 1st step: Abhayanga, Swedana and Tikshana Virechana
- 2nd step: If pain is more then, externally: Agnikarma, Udavartana with Lodhra-vacha-amalaki.
- 3rd step: If swelling is more then externally: Eranda / Arka Patrapinda Upanaha, Guggulu Lepa
- 4th step: Basti Karma: Niruhabasti - Dashmoola Kvatha, Lekhana Basti / Gaumutra Basti.
- 5th step: Makarasana, Tadasana, Veerasana, Surya Namaskara.

3. Obesity with Menopause

- 1st step: Abhayanga, Swedana and Tikshana Virechana
- 2nd step:- Abhyantara Snehapana of Shatavari Ghruta, 20 ml with luke warm water.
- 3rd step: If pain is more then, externally - Agnikarma, Bandhana, Mardana, Guggulu Lepa

- 4th step: If swelling is more then, externally - Eranda / Arka Patrapinda Upanaha, Guggulu Lepa.
- 5th step: Niruhabasti - Dashmoola Kvatha, Pathyadi Kvatha.
- 6th step: Matrabasti - Narayana Taila, Nirgundi Taila, Ashvagandha Taila (menopause), Tila Taila , Kshira Basti.
- 7th step:- Satvavajaya Chikitsa.

4. Menopause without Obesity

- 1st step: Abhayanga, Swedana and Mrudu Virechana.
- 2nd step: If pain is more then, externally - Agnikarma, Bandhana, Mardana, Guggulu Lepa
- 3rd step: If swelling is more then, externally - Guggulu Lepa.
- 4th step: Matrabasti - Narayana Taila, Nirgundi Taila, Ashvagandha Taila, Tila Taila, Kshira Basti.
- 5th step: Rasayana - Abhyantara Snehapana by Ashvagandha or Shatavari Ghruta 20 ml, Chyavanaprashavleha.
- 6th step: Satvavajaya Counseling.

5. Involvement of Vata(Prakopa)

- 1st step: Abhayanga, Swedana , Mrudu Virechana, Shamana Snehapana
- 2nd step: If pain is more then, externally - Agnikarma, Bandhana, Mardana, Guggulu Lepa
- 3rd step: If swelling is more then, externally Eranda / Arka Patrapinda Upanaha.
- 4th step: Basti Karma - Matra Basti - Narayana Taila, Nirgundi Taila, Ashvagandha Taila, Bala Taila, Tila Taila.
- 5th step: Vajrasana, Pavanamuktasana, Surya Namaskara.

6. Involvement of Jara (age)

- 1st step: Abhayanga, Swedana and Mrudu Virechana

- 2nd step: If pain is more then, externally - *Mardana, Guggulu Lepa, Agnikarma.*
- 3rd step: If swelling is more then, externally - *Eranda / Arka / Nirgundi Patrapinda Upanaha.*
- 4th step: *Basti Karma: Matrabasti - Narayana Taila, Nirgundi Taila, Ashvagandha Taila, Bala Taila, Tila Taila, Mashadi Taila, Kshira Basti.*
- 5th step: *Rasayana Karma: Abhyantara Snehapana* by *Ashvagandha Ghruta* 20 ml, *Chyavanaprashavleha.*

Probable mode of action

<i>Sandhigata Vata</i> with <i>Ama</i> generalized	<i>Ama-pachana</i> removes cover of actual disease and <i>Virechana</i> expelled out the <i>Malabhoota Dosh</i> a after that, local <i>Upkrama</i> like <i>Upnaha-Agni Karma</i> due to their site specific <i>Ushna</i> properties removes pain and swelling.
<i>Sandhigata Vata</i> with Obesity	<i>Tikshana Virechana</i> helps to reduce excessive fat from body, which causes mechanical pressure on joints of the body. <i>Vyayama</i> and <i>Asana</i> also help by make <i>Agni (Dhatvagni)</i> proper.
<i>Sandhigata Vata</i> with Obesity and menopause	<i>Tikshana Virechana</i> helps to reduce excessive fat from body, which causes mechanical pressure on joints of the body. <i>Dhaukshaya</i> results in numerous <i>Vata-Vikara</i> like <i>Osetoporosis</i> , so to stop further disease progress - <i>Satvavajaya</i> along with <i>Rasayana</i> is helpful.
<i>Sandhigata Vata</i> with Menopause (<i>Dhatukshayajanya</i>) without Obesity	<i>Mrudu Virechana</i> helps to remove <i>Malabhoota Dosh</i> a. As <i>Dhatukshaya</i> a prime cause, <i>Rasayana</i> and <i>Satvavajaya</i> play a key role to stop disease progress.
<i>Sandhigata Vata</i> with <i>Vata Vrudhhi</i>	<i>Mrudu Virechana</i> helps to remove <i>Malabhoota Dosh</i> a as well as make the path normal so that <i>Dosh</i> a can easily move (<i>Vatanulomana</i>)

<i>Sandhigata Vata</i> associated with <i>Jara-avastha</i> (<i>age>60 years</i>)	<i>Mrudu Virechana</i> helps to remove <i>Malabhoota Dosh</i> a as well as do <i>Vatanulomana Karma</i> . As <i>Jara</i> (<i>age</i>) a prime cause, <i>Rasayana</i> helps to stop further tissue damage.
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As said in *Ayurveda* that “treatment which have less side effect and treat all the systems and make the patient well physically as well as mentally is the right path”. In this way by multi-modal approach towards the patient not only towards the disease we can sure treat *Sandhigata vata* (*Osteoarthritis*) systematically.

Multi-modal approach is shown in detail in flow-chart.

Algorithm for treatment of patients of Sandhigata Vata (Osteoarthritis)

Obtain History, do functional assessment of particular joint. (X-ray can be done)					
Differentiate the involvement and condition of <i>Ama, Meda, Dhatukshaya</i> (menopause), <i>Jara</i> (age), <i>Vata</i> .					
Involvement of <i>Ama</i>	Involvement of <i>Meda</i> (Obesity)	Obesity with Menopause	Involvement of <i>Jara</i> (age)	Involvement of <i>Vata</i> (<i>Prakop</i> a)	Menopause without Obesity
↓	↓	↓	↓	↓	↓
Do <i>Amapachana</i> by <i>Sunthi / Pippali</i>	Do <i>Abhayanga, Swedana</i> and <i>Tikshana Virechana</i>		Do <i>Abhayanga, Swedana</i> and <i>Mrudu Virechana</i>		
↓	↓		↓		
Do <i>Abhayanga, Swedana</i> and <i>Mrud</i>	Do treatment of <i>Sthaulya</i> with- <i>Sunthi / Pippali,</i>	First treatment of <i>Sthaulya</i> with- <i>Varunadi</i>	<i>Rasayana</i> and <i>Vata-Prashama</i> by <i>Ashvagandha</i>	<i>Vata-prashama</i> therapy by <i>Ashvagan</i> <i>ndha</i>	<i>Shankha-Shukti Bhasma</i> along with

u Virech ana ↓	Varunadik vatha, Aarogyav ardhini Vati ↓	Kvatha, Aarogy avardhi ni Vati After that Shankh a-Shukti Bhasma along with Shatava ri Churna ↓	Churna, Masha Taila, Balamool a- Kwatha, Ashvagan dha- Ghruta Yograja Guggulu ↓	Churna, Balamoo la- Kwatha, Rasnapa nchaka Kvatha, Eranda moola- Kvatha, Yograja- Guggulu ↓	Shatav ari Churn a Rasay ana - Ashva gandh a Churn a, Masha Taila, Balam oola Kwath a, Ashva gandh a Ghrut a ↓
<p>If pain is more dominant during use of the joints then use- <i>Rasnasaptakakvatha, Yograja and Kaishorguggulu, Nirgundichurna/ Ghanavati</i></p> <p>Externally: <i>Nirgundi / Erandapatra Pinda Upanaha, Agnikarma, Bandhana, Mardana, Guggulu Lepa</i></p> <p style="text-align: center;">↓</p>					
<p>If swelling is more dominant, difficulty in movement of the joint then use, <i>Eranda moola and Dashmoola Kvatha, Gokshuradi Guggulu, Eranda Bhursta Haritaki Churna, Shallaki Churna,</i></p> <p style="text-align: center;">↓</p>					
<p><i>Basti Karma: 1) Niruhabasti - Dashmoola Kvatha - all conditions, Lekhana Basti / Gaumutra Basti in Obesity with OA. 2) Matrabasti - Narayana Taila, Nirgundi Taila, Ashvagandha Taila (menopause), Tila Taila (Jara), Kshira Basti (menopause, Jara).</i></p>					

CONCLUSION

Sandhigata Vata manifests mostly in women in their middle to old age. Obesity worsens the conditions along with age. Functional impairment is obvious when all these factors join together. Multi-modal approach based on patient's clinical presentation is wholesome remedy for *Sandhigata Vata* (Osteoarthritis).

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