

A REVIEW STUDY ON SANDHIGATA VATA AND ITS MANAGEMENT THROUGH AYURVEDA

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ABSTRACT

Sandhivata (Osteoarthritis) is that the commonest disorder of the joints especially affecting weight bearing joints like knee joint; elbow etc. leads to restriction within the movement of the affected joint alongside pain. In today's era *Sandhivata* (Osteoarthritis) is that the commonest disease affecting an outsized population. *Sandhivata* (Osteoarthritis) is made from two distinct words: *Sandhi*, means a joint; and *Vata*, means one among the three *Doshas*. *Sandhivata* (Osteoarthritis) is that the disease mentioned in Ayurveda and may be a sort of *Vatavyadhi* which most ordinarily occurs in adulthood thanks to *Dhatukshaya* (emaciation of tissues). *Sandhivata* (Osteoarthritis) is one among the challenging diseases for the clinicians thanks to its

chronicity, incurability, complications etc. The *Sandhivata* (Osteoarthritis) are often correlated with Osteoarthritis on the idea of its clinical presentation. In Ayurveda various formulations like *Kwatha* (decoction), *Guggulu Kalpana*, *Ghrita* (ghee), *Taila* (oil), *Gutika* (tablet), *Rasa Aushadhi* and *Panchakarma* procedures like, *Abhyanaga* (oil massage), *Swedana* (sudation), *Basti* (enema), *Janubasti* (oiling of knee joint), *Rasayana* (rejuvenating) therapy, *Agnikarma* are mentioned in classics for treatment of *Sandhivata* (Osteoarthritis) So, this study deals with systemic review of *Sandhivata* (Osteoarthritis) and therefore the aim of this work is to review and highlight the effectiveness of various Ayurvedic interventions in patients with osteoarthritis (OA).

KEYWORDS: *Agnikarma, Basti, Dhatukshaya, Osteoarthritis, Rasayana, Sandhivata.*

INTRODUCTION

Sandhigata Vata (Osteoarthritis) is one among *Vatavyadhi* characterized by the symptoms like *Shula* (joint pain), *Shotha* (swelling), *Prasaarana-Aakunchanayopravruttscha Vedana* (Painful joint movement) and *Vata Poornadriti Sparsha* (affected Sandhi resembles a bag crammed with air). *Sandhivata* (Osteoarthritis) is one among the challenging diseases for the clinicians thanks to its chronicity, incurability, complications etc. within the Ayurvedic classics the aetiopathogenesis and symptomatology of *Sandhigata vata* is described in concise form. Clinically the outline of *Sandhigata vata* explained within the classical texts is analogous to the condition osteoarthritis in modern science. *Sandhigatavata* is described under *Vatavyadhi* altogether the *Samhitas* and *Sangraha Granthas*. In *Vriddhavastha*, all *Dhatu*s (tissues) undergo *Kshaya* (emaciation), Thus leading to *Vataprakopa* (aggravation of *vata*) and making individual vulnerable to many disorders. Among them *Sandhigatavata* (Osteoarthritis) stands top within the list. Having the symptoms like pain, swelling, crepitus, and restricted joint movements. Ayurveda highlighted degenerative diseases under the concepts like “*Dhatu saithilyam* (flaccidity in tissues)” and “*Dhatu kshayam* (emaciation in tissues)”. *Sandhigata Vata* is one among such disease, which needs a selected target of therapeutic intervention to see or hamper the method of “*Dhatu kshaya*” and to pacify *Vata*. Osteoarthritis (OA) is degenerative joint disorder, represents failure of the diarthrodial (movable, synovial-lined) joint. OA of knee comes under the inflammatory group which is almost like *Sandhigata Vata* (Osteoarthritis) described in Ayurveda with regard to aetiology, pathology, and clinical features.^[1] The clinical presentation of Sandhivata (Osteoarthritis) closely mimics with the disorder called Osteoarthritis which is that the second commonest rheumatologic problem. Osteoarthritis (OA) is that the commonest sort of arthritis, which is degenerative in nature. It's characterized by progressive disintegration of articular cartilage, formation of cartilage lesions (eburnation) and at the joint margins (osteophytes), and results in chronic disability at older ages. The highest layer of cartilage breaks down and wears away.

Osteoarthritis is of two types, primary (idiopathic) and secondary. In idiopathic osteoarthritis, the foremost common kind of the disease, no predisposing factor is clear. Secondary OA is pathologically indistinguishable from idiopathic OA but is due to an

underlying cause.^[2] According to epidemiology, the prevalence of OA in India is 22-39%. Radiographic evidence of OA is present in majority of individuals over age 65; among them, 80% people are over 75 years. Approximately, 11% of those over 65 have symptomatic OA of the knee. In India, 5.3% males and 4.8% females are aged more than 65 years^[3] It has been postulated that age, gender, body weight, repetitive trauma and genetic factors are the risk factors which play crucial role within the manifestation of OA.^[4]

AIMS AND OBJECTIVES

1. To Analyze the *Nidana* (Causative factors), *Samprapti* (Pathophysiology) of the *Sandhigata vata* (Osteoarthritis) and the aetio-pathogenesis of the osteoarthritis.
2. To review the various treatment modalities mentioned in *Ayurveda* for treatment of *Sandhivata* (Osteoarthritis)
3. To Analyze the drugs useful for the management of the disease.

MATERIALS AND METHODS

As the study is a review study, the available literature like *Charaka samhita*, *Sushruta Samhita*, *Astang Hridaya* and *Samgraha*, *Yogaratanakar*, *Bhavaprakash* and *Sharangadhar Samhita Chakradatta*, *Bhaishajya Ratnavali* and other relevant modern books other books are searched for the disease and all the relevant content along with internet sources is taken into account considered and analysed to get a comprehensive concept in the management of the *Sandhivata* (Osteoarthritis).

Observations

Nidana (Causative Factor)

Ruksha (dry), *Laghu* (light), *Sheeta* (cold), *Katu ahara* (bitter food) and *vihara* (routine) like *Ati Vyayama* (excessive exercise), *Langhana* (fasting), *Abhighata* (trauma). In *Manasika* (mental) like *Chinta* (tension), *Shoka* (sorrow), *Bhaya* (fear) are the causative factors of the disease. In *Kalaja* factors, *Shishira* (winter) and *Greeshma ritu* (summer season) are the major seasons where the patients get affected or have the increased incidence of the disease. Other factors like weakness during diseased state (*Rogatikarshana*) and injury to the *marma sthanas* (*Marmaghata*), emaciation (*Dhatu Kshaya*) etc are considered as the causative factors for osteoarthritis, *Margavorodha* (obstructions in channels) are comes under *Vishesh Nidana* (specific causes).

Viprakrishta Hetu

- *Rasa* (taste) – *Kashaya* (astringent), *Katu* (hot), *Tikta* (bitter).
- *Guna* (qualities) – *Rooksha* (dry), *Sheeta* (cold), *Laghu* (light)
- *Aharakrama* (diet routine)– *Alpahara* (less diet), *Vishamashana* (unsalutary diet), *Adhyashana* (over eating), *Pramitashana*.
- *Manasika* (mental) – *Chinta* (tension), *Shoka* (sorrow), *Bhaya* (fear).
- *Viharaja*– *Atijagarana* (excessive exercise), *Vishamopacara*, *Ativyavaya* (excessive coitus), *Shrama* (physical activity), *Divasvapna* (day sleep), *Vegasandharana* (suppression of urges).
- Other Causes Living in *Jangaladesha* is another causative of *Vataprakopa*.^[5] During the end of *Greeshma ritu* (summer season), *Varsharitu* (rainy season) and *Shishira kala* (winter).^[6]
- **Risk Factors** Injury or over use- Knee bending and repetitive stress on a joint, can damage a joint and increase the risk of OA.
- **Age**- The disease is more common as the age advances. Gender- Women are more likely to develop OA than men, especially after the age of 50.
- **Obesity**– The chances increases with increase in weight as extra weight puts more stress on joints.
- **Genetics**- People having family history are more likely to develop OA.
- **Occupational factors**- Men whose jobs require knee bending and at least medium physical demand had a higher rate of radiographic evidence of knee OA and more severe radiographic changes.

Symptoms of Kupita vata

सङ्कोचः पर्वणां स्तम्भो भेदोऽस्थनां पर्वणामपि॥

लोमहर्षः प्रलापश्च पाणिपृष्ठशिरोब्रहः॥

खाञ्ज्यपाङ्गुल्यकुब्जत्वं शोषोऽङ्गानामनिद्रता॥

गर्भशुक्ररजोनाशः स्पन्दनं गात्रसुप्तता॥

शिरोनासाक्षिजत्रूणां ब्रीवायाश्चापि हुण्डनम्॥

भेदस्तोदार्तिराक्षेपो मोहश्चायास एव च॥

एवंविधानि रूपाणि करोति कुपितोऽनिलः॥च०वि० २८/२०-२३॥

- *Sankochaha Parvanaam* – The phalanges, inter-phalangeal joints get constricted, restricted and crooked, movements of fingers and toes will be hampered

- *Parva Stambha* – Stiffness of inter-phalangeal joints
- *Asthi Bhanga* – fracture or dislocation of bones
- *Parva bhanga* – fracture or dislocation of inter-phalangeal joints
- *Roma harsha* – horripulation
- *Pralapa* – delirium
- *Pani graham* – catch, stiffness, tightness in the hands
- *Prushta graham* – catch, stiffness, tightness of back
- *Shiro graham* – catch, stiffness, tightness of head
- *Khanjya* – limp
- *Pangulya* – lameness
- *Kubjatwam* – dwarfness, hunch-back
- *Angaanaam shotha* – swelling of body parts
- *Anidrataa* – sleeplessness
- *Garbha nasha* – destruction of fetus, abortion, miscarriage
- *Shukra nasha* – destruction of sperms, semen, azoospermia, infertility
- *Rajo nasha* – destruction of ovum, scanty menstruation or absence of menstruation (oligomenorrhea, amenorrhoea)
- *Spandana* – pulsations
- *Shiro hundanam* – twitch, twist, crookedness of head
- *Nasa hundanam* – twitch, twist, crookedness of nose
- *Akshi hundanam* – twitch, twist, crookedness of eye
- *Jatru hundanam* – twitch, twist, crookedness of root of neck, Clavicle region
- *Greeva hundanam* – twitch, twist, crookedness of neck
- *Bheda* – splitting pain
- *Toda* – pricking pain
- *Arti* – discomfort, pain
- *Aakshepa* – convulsions, tremors
- *Aayaasa* – tiredness

Rupa (Clinical features):- The disease may not show any *poorvaroopa* (prodromal symptoms). But the clinical signs and symptoms include *Shula* (joint pain), *Shotha* (swelling), *Prasaarana-Aakunchanayopravruttischa Vedana* (Painful joint movement) and *Vata Poornadriti Sparsha* (affected *Sandhi* resembles a bag filled with air), crackling sounds (*Atopa*) and degeneration of the joint (*Hanti sandhi*).^[7]

वातपूर्णदृतिस्पर्शः शोथः सन्धिगतोऽनिले।

प्रसारणाकुञ्चनयोः प्रवृत्तिश्च सवेदना॥ च०वि० २८/३७॥

- In *Sushruta Nidanasthan Lakshana* are described as *Hanti sandhi* (stiffness), *Sandhi sophia*, *Sandhishola* (pain in joints), *Asthishosha* (degeneration).^[8]
- In *Ashtangasanghrraha* and *Hridya*, the *Lakshana* are described as- *Vatapurnadrati*.
- *Madhav nidan* has described the *Lakshan* of *Sandhivata* (Osteoarthritis) (Osteoarthritis) as *Hantisandhi*, *Sandhishool* (joint pain), *Sandhiaatop* (crepitus).

Samprapti Ghatakas

- *Nidana* (causes) : *Vata Prakopaka Nidana*
- *Dosha* (tissue) : *Vata esp. Vyanavayu, Shleshaka Kapha*
- *Dushya* : *Asthi, Majja, Meda*
- *Srotas* (channel) : *Asthivaha, Majjavaha and / or Medovaha*
- *Srotodusti* : *Sanga*
- *Agni* (digestion): *Mandagni*
- *Dosha Marga* : *Marmasthi Sandhi*
- *Roga Marga* : *Madhyam*
- *Udbhavasthana* : *Pakvashaya*
- *Vyaktasthana* : *Asthi – Sandhi*

Prognosis:- *Sandhigatavata* is one of the *Vatavyadhi*, therefore it is *Kastasadhya* because it occurs in aged people and is situated in *Marma sthana*, It is *Madhyama roga marga*, And it is *Asthi*, and *Majja Dhatu Ashrita*.

Factors	<i>Janu Sandhivata</i> (Osteoarthritis)	<i>Amavata</i>	<i>Vatarakta</i>	<i>Koshtrukashirsha</i>
<i>Amapradhanya</i>	Absent	Present	Absent	Absent
<i>Jvara</i>	Absent	Present	Absent	Absent
<i>Hridgauraya</i>	Absent	Present	Absent	Absent
Prone age	Old age	Any age	-	
Vedana	<i>Prasarana akunchana pravritti</i>	<i>Vrischik dansha vata and sanchari</i>	<i>Mushika damshavat vedana</i>	<i>Tivra</i>
Shotha	<i>Vatapurna driti sparsha</i> (affected <i>Sandhi</i> resembles a bag filled with air),	<i>Sarvang and Sandhivata</i> (Osteoarthritis)	<i>Mandala yukta</i> (circular patches)	<i>Koshtruksa shirsvata</i>
Sandhi	Weight bearing joint (knee joint)	Starts from small it later effects big joints small it. later effects big <i>sandhi</i>	Small joints	<i>Only janu</i> (knee joint)

		<i>sandhi</i>		
<i>Upashaya</i>	<i>Abayanga</i>	<i>Ruksha Svedana</i> (dry sudation)	<i>Rakta shodhna</i>	<i>Rakta shodhna</i>

Management of *Sandhivata* (Osteoarthritis)

The treatment of *sandhigatavata* in *Ayurveda* is intended to minimize *Vata dosha* and increase *shleshaka kapha* in such a way that the joint spaces are sufficiently lubricated for the free movement of the joints. Acharyas have listed numerous therapeutic and parasurgical procedures in Ayurvedic classics, as well as several *Vatahara yogas* (formulation to pacify *Vata*) to handle the *Sandhivata* (Osteoarthritis) such as *Shehana* (oleation), *Upanaha*, *Agnikarma* (thermal cautery), *Bandhana* (bandage) *Unmardana* and other procedures.

The treatment adopted for osteoarthritis in the western medical system includes the application of anti-inflammatory medications and pain relief analgesics. Such surgical techniques, such as joint substitutions, are often adopted in very serious situations.

कुर्यात् संधिगते लाते दाहस्वेदोपनाहनम्॥भा०प्र०॥

Drugs that proved clinically effective in osteoarthritis

In *Ayurveda*, a number of medicines are prescribed to treat *Sandhivata* (Osteoarthritis). For the treatment of this disorder, several *Panchakarma* procedures are recommended in addition to the oral medications.

- 1. *Tila* (*Sesamum Indicum*):** - *Tila*'s assets include *Snigdha*, *Guru*, *Suksma*, and *Vyavayi* (*Sesamum Indicum*). *Usna* (hot) is *Virya* (potency), and *karma* is *Vatahara*. *Sesamum* is a wonderful *Snehan*. It is very beneficial for dry skin and body ache since it acts as *Vatashamanan*.
- 2. *Nirgundi* (*Vitex negundo*):**- *Vishnu dharmasutra* is quoted by *Nirgundi*. For a long time, the words *Shephalika* and *Nirgundi* were synonymous. *Karma* is *VataKapha hara*, *Caksushya* (increase eye sight), *Keshya* (improve hairs), *Krimigna* (wormicide), and *Vrunaropana* (wound healer). *Upayokta* contains *Gandamala*, *Kasa* (cough) *Swasa* (dyspnea), and *Vatavyadhi*. Hepatoprotective, anti-cancer, anti-microbial, anti-inflammatory, anti-fungal, and anti-inflammation science.^[9]
- 3. *Eranda* (*Ricinus communis*):**- In *guna* (qualities), there is *Snigdha* (oleated), and in *karma* (action), there are *Tiksna*, *Suksma*, *Rechana*, and *Vrishya*. *Pliharoga* (spleen disorder), *Udavarta*, *Vastishoola*, *Gulma*, *Antravruddhi*, *Katishoola*, *Vatarakta*, *Antravruddhi*, *Katishoola*, *Vatarakta* All *Kasa* are *Upayokta*. Studies on anti-

inflammatory, hepatoprotective, and anticholestatic properties.^[10]

4. **Koranta (*Barberia prionitis*):-** *Ushna* (hot) is *Virya* (potency), *Madhura* (sweet) is *Vipaka*, *Rasa* is *Tikta* (bitter), *Laghu* (light) is *Guna*, *Karma*, *Vatahara*, and *Kapha Doshagnata* are *Keshyaranjaniya* and *Vedanashamaka*. *Scutellarein*, *Barlerin*, *Acetylene barlerin*, *Neophesperidoside* CNS depressant activity in mice appears to be a chemical component, according to studies.^[11]
5. ***Vishwa (Zingiber officinale Roscoe. -Zingiberaceae)***-It is observed that *Shunti* is considered as *Vibandhahara* (alleviates constipation) but at the same time it is also indicated for *Atisara*. Here it is important to identify that the former indication is for *Shunthi* when it is given in the powder form without *Anupana*, the later property is exhibited when administered along with *Takra*. *Rasa* is *Katu*, *Guna* are *Guru*, *Ruksha*, *Teekshna*, *Virya* is *Ushna*, *Vipaka* is *Madhura*, *Doshagnata* are *Kapha Shamaka*, *Karma* are *Vata Kapha hara*, *Deepana* and *Bhedana*. Chemical constituents are *Gingiol*, *Alpha and Beta Zingiberenes*, *Zingirone*, *Alphacurcumene*, *citronellol*, etc. Research works said that Anti-inflammatory and anti-arthritic activity. It has shown marked anti-inflammatory activity in rats which is comparable to prednisolone.^[12]

Pathya Apathya (Do and donts)

- ***Pathya Aahara:*** *Godhuma* (wheat), *Mamsa* (meat), *Raktashali*, *Godugdha* (cow's milk), *Ajadugdha* (goat milk), *Ghrita* (ghee) *Draksha* (grapes), *Ama* (mango), *Madhuka*, *Ushna Jala*, *Sura*, *Surasava*, *Madhura – Amla – Lavana Rasa pradhana ahara*.
- ***Pathya Vihara:*** *Atapa Sevana*, *Mridu Shayya*, *Ushnodaka Snana* etc.
- ***Apathya Aahara:*** *Yava*, *Kodrava*, *Chanaka*, *Kalaya*, *Sheeta Jala*, *Ati Madya Pana*, *Sushka Mamsa*, *Katu-Tikta Kashaya Rasa pradhana ahara*.
- ***Apathya Vihara:*** *Chinta*, *Ratri Jagarana*, *Vega Vidharana*, *Shrama*, *Anashana*, *Vyavaya*, *Vyayama*, *Chankramana*, *Kathina Shayya*.

DISCUSSION

Sandhigatavata (Osteoarthritis) causative factors are mentioned in depth for the incidence of *Vatavyadhi*, such as *Aharaja* (dietry), *Viharaj*, *Manasa* and other *Vata Prakopaka Nidan* (causative factors which aggravate *vata dosha*). While *Sandhigatavata* (Osteoarthritis) occurs exclusively in *Vriddhavastha* (old age), which is *Pariharanikala*, in which *Vataprakopa* leads *Dhatu kshaya* (emaciation of tissues). *Ashraya-Ashrayi Sambandha's Vata* and *Asthi* (bone). This implies that *Vata* is situated in *Asthi*. *Vata* improved in *Vridhdha kala* decreases *Sneha*

from *Asthidhatu* by its opposite qualities to *Sneha*. *Khavaigunya (Rikta Srotas)* occurs in *Asthi*, which is responsible for the development of *Sandhigatavata*, because of the decrease in *Sneha*. *Sandhishula*, *Sandhishotha*, *Akunchana Prasarana Janya Vedana*, and *Hanti Sandhi Gati*, mentioned by various Acharyas, are symptoms of *Sandhigatavata*. *Sandhishula* and *Sandhishotha* exist here because of *Vataprakopa*. The special *Shotha* form, i.e. It mentions *Vatapurna driti Sparsha* or *Atopa*, which implies *Shotha's Vata* supremacy. Because of *Kaphakshaya* and *Vata Prakopa*, *akunchana prasaranjanya vedana* and *Hanti sandhi gati* occur.

Osteoarthritis symptoms are similar to *Sandhigatavata*, i.e. Joint pain, swelling, impairment of stiffness and joint crepitations. The most prevalent form of arthritis is osteoarthritis. It is a degenerative kind of arthritis that develops mostly in old age. The entire joint, including the nearby muscles, the underlying bone, the ligament, the synovium and the capsule, are involved. Old age, obesity, gender, major joint trauma, repetitive stress, genetic factors, past inflammatory joint diseases and metabolic or endocrine disorders are the risk factors for osteoarthritis.

In allopathic science, scientists agree that it is very difficult to reverse or obstruct the process of the disease after the Osteoarthritis disease has occurred. There are no medications available to date that can reverse or delay or obstruct the progression of the disease. The science of allopathy has only palliative Osteoarthritis therapy. In order to alleviate pain and swelling, the following group of medications help.

- **Analgesics**-to offer pain relief.
- **Anti-inflammatory medicine**- to reduce swelling.
- **Anti-oxidants such as vitamin A, B, C, E, etc.**- to stop oxidative damage to the joint. All the tissues are nourished by antioxidants.
- **Weight reduction** - In weight bearing joints, osteoarthritis usually occurs. A risk factor for Osteoarthritis is obesity. Excess weight gives the joint a strain and that causes damage to the joint. The 11 pound reduction in weight decreases the risk of osteoarthritis by 50 percent. 5% weight loss in over weight patients gives 18% gain in overall function. So weight reduction is very essential for the treatment of Osteoarthritis. So weight reduction is extremely essential for the treatment of Osteoarthritis.

The repeated use of *Snehana*, *Svedana Basti* and *Mrudu Virechana* within the treatment

of *Vatavyadhi* was stated by *Acharya Charaka*. He did not mention *Sandhigatavata* Treatment separately. Specific treatments for the first *Sandhigatavata*, i.e. *Snehana*, *Upanaha*, *Agnikarma*, *Bandhana* and *Unmardana*, have been identified by *Acharya Sushruta*.

CONCLUSION

Osteoarthritis or *Sandhivata* (Osteoarthritis) according to its progressive condition require specific treatment to get cured. The treatment of *Sandhivata* (Osteoarthritis) is mainly done by reducing the alleviated *Vata dosha* and increase the *Shleshakakapha* in joints so that movement of joints can be increased. Since this is an age-related degenerative disorder, it may persist for lifetime but through change in lifestyle and treatment the symptoms of *Sandhivata* (Osteoarthritis) can be reduced and the disease can be stopped in its primordial and primary stage to lead a good quality of life.

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