

REVIEW ARTICLE ON AYURVEDIC APPROACH SANDHIGAT VATA W.S.R. TO OSTEOARTHRITISC. S. Tanmane¹, Akram Yusuf Khan²

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**ABSTRACT**

Ayurveda the science of life, healthy and higher longevity are always desirable from it. In today's modern era due to atmosphere, lack of proper healthy diet, travelling and old age etc. metabolic and degenerative disease of connective tissue and the joint problem is quite affluent, and the disease occurrence starts early. *Sandhigatavata* (Osteoarthritis) is a disease due to vitiated *Vata* in various *Sandhi* or joints in the body. It is described under *Vatavyadhi* in almost every literature of *Ayurveda*. Clinically the description of *Sandhigata Vata* explained in the classical texts is like the condition osteoarthritis in modern science. *Sandhigata Vata* is described under *Vatavyadhi* in all the *Samhitas* and *Sangraha Granthas*. *Ayurveda* highlighted degenerative diseases under the concepts like “*Dhatu Saithilyam*” and “*Dhatu Kshayam*”. *Sandhigata Vata* is one such disease, which needs a specific target of therapeutic intervention to check or slow down the process of “*Dhatu Kshaya*” and to pacify *Vata*. *Sandhigatavata* may be correlated with degenerative joint disease or Osteoarthritis, which in turn cripples the patient to the maximum, extends and reduces the total working capacity of the person. It limits everyday activities such as walking, dressing, bathing etc., thus making individuals handicapped.

Keywords: *Sandhigatavata*, Osteoarthritis, Joint, *Vata Vyadhi*.

INTRODUCTION

In today's modernized era, everyone is busy living life under stress, constantly running to match with the pace of this era. Osteoarthritis (OA) is the most common type of arthritis. Its high prevalence, especially in the elderly, and the high rate of disability related to disease make it a leading cause of disability in the elderly. Osteoarthritis (OA) is the second most common rheumatologic problem in India and has a prevalence rate of 22-39% [1][2]. It is characterized primarily by articular cartilage degeneration and a secondary periarticular bone response. Because obesity, a major risk factor, are increasing in prevalence, the occurrence of osteoarthritis is on the rise. OA is a joint failure, a disease in which all structures of the joint have undergone pathologic change, often in concert. Due to continuous changes in lifestyle, overexertion, improper and disturbed dietary habits, excessive travelling, improper working and sleeping schedules, as well as improper application of *Ritucharya* (Seasonal regimen) and *Dinacharya* (Daily regimen) and likewise other factors leads to vitiation of *Vata Dosh*. This vitiation of *Vata* leads to the production of several diseases and *Sandhigata Vata* is one of them. Now a day, this disease is having high prevalence and becoming a significant threat to the working population. In *Sandhigata Vata*, the deformity occurs in *Sandhi* i.e. joints. *Janu sandhi* i.e. Knee joint is one of the most affected joints in *Sandhigata Vata*. Since OA (*Sandhigata Vata*) is the most commonly disturbing joint disease but still no permanent relief is available in modern sciences and the same is still under research works. In modern medical science, mainly analgesics, anti-inflammatory drugs or surgery are the options for the treatment of Osteoarthritis, which provide symptomatic relief, but also become the causative factor for adverse effects. So, the present review helps the understand the disease of the modern era through the *Ayurvedic* approach and help in the integrative approach in the treatment of *Sandhigata Vata* or osteoarthritis.

Aim and Objectives:

- To review *Nidanapanchaka* (causative factor) of *Sandhigata Vata*.
- To understand Osteoarthritis in terms of *Ayurveda*.

Objectives:

Reviewing various literature related to *Sandhigata Vata* and its management.

Material and Methods

Etymology

The term *Sandhigata Vata* (Osteoarthritis) has its origin from a combination of three words: First *Sandhi* means Joints, the second one is *Gata* means located and the third one is *Vata* means *Vatadosha*. So *Sandhigata Vata* (Osteoarthritis) is the provoked *Vata* located in *Sandhi*. Osteoarthritis is derived from the prefix *osteo* means "bone" combined with *arthr* means "joint" and it is the latter suffix having come to be associated with inflammation.

Synonyms

No synonym of *Sandhigata Vata* (Osteoarthritis) is given in *Ayurvedic* classics. However, the probable synonyms of *Sandhigata Vata* (Osteoarthritis) used in the contexts or considered by the commentator equivalent to *Sandhigata Vata* (Osteoarthritis) are as follows.

- *Sandhigata Anila* (*Cha.Chi.28/37*)
- *Sandhivata* (*Bhavaprakash*)
- *Khuddavata* (*Cha.Chi.29/11*)
- *VataKhuddata* (*Cha.Chi.29/11*)
- *GulphaVata* (*Chakrapani*)
- *VataKantaka* (*Su.Ni.1/79*)

Synonyms of Osteoarthritis are degenerative arthritis and degenerative joint disease (DJD).

Classification:

No reference is available for the classification of *Sandhigata Vata* (Osteoarthritis). As *Sandhigata Vata* (Osteoarthritis) is a *Vatavyadhi*, it mainly occurs due to *Prakopa of Vata* and so it can be classified in three types as below.

- *Dhatukshyajanya* (Depletion of body tissues)
- *Vataprakopaka Nidana Sevanajanya*
- *Avaranjanya* (Covering)

Sandhigatavata (Osteoarthritis) can be classified according to its *Nidana* (causative factor) – *Nija*, and *AgantujaNija Sandhigatavata*

Agantuja Sandhigatavata (Traumatic)

Several classification systems are used for the gradation of osteoarthritis:

- WOMAC scale [5], based on pain, stiffness, and functional limitation.
- Kellgren-Lawrence grading scale [6] especially for the knee joint.
- Tonnis classification [7] for the hip joint,

Osteoarthritis can be classified into either primary or secondary [8] depending on whether or not there is an identifiable underlying cause. Different categories of Osteoarthritis based on the joint affected:

- Hand
- Wrist (wrist osteoarthritis)
- The vertebral column (spondylosis).
- Hip osteoarthritis.
- Knee osteoarthritis.

Nidanapanchaka Or Pathogenesis:

Nidan There is no specific description about *Hetu* of the disease *Sandhigat Vata*. as it is one of the *Vatvyadhi*, the *Hetu* of the *Vatvyadhi* are to be accepted as the *Hetu* of the *Vatvyadhi*.

General *Hetu* of *Vatvyadhi* [9]:

1. *Aaharaja Hetu*
2. *Viharaja Hetu*

➤ *Aaharaja-Hetu*: Acharya Charaka has told that *Ruksha* (dry), *Sheet* (cold), *Alpa* (in small quantity), *Laghu* (light diet), *Agnimandya*, *Tikta*, *Katu*, *Kashay Rasatmaka Aahara* (diet) is responsible for the *Vataprakop* which leads to the formation of *Vatvyadhi*.

➤ *Viharaja-Hetu*. *Viharaja-Hetu* also plays an important role in the production of *Sandhigat-Vata*. *Laghan* (starvation), *Plawan* (swimming), *Ativyayam* (excessive exercise), *Atimaituna* (excessive sexual activity), *Mala Mutra Rasadi Dhatukshaya*, *Diwaswap* (daydreaming), *Ratri-Jagran* (Insomnia), *Datukshya*, *Aaghat* (accidental fall) *Vegadharana* are included in *Vihara Hetus*.

Samprapti (Pathogenesis) [10]

Acharyas have described the following *Samprapati*

of the disease *Sandhigatavata*.

HetuSevan



Vataprakop



Dhatukshaya at Strotus



Increases *Rukshta*, *Parushata*, *Kharata at Stotas*



Rikta Strotas Vayupuran



Vatvyadhi (Dhatukshayanya)

Samprapti Ghatakas: *Samprapti Ghatakas* of *Sandhigatavata*

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

Purvarupa [9] There is no classical description regarding the *Purvarupa* of *Sandhigatavata*, ‘*Avyaktanam Lakshana*’ of *Vatvyadhi*

Rupa [12] *Rupa* of *Vatvyadhi*, according to different *Ayurvedic* classics areas –

- *Bhedoparvasti Sandhi Shool* (joint pain)
- *Vatpurnadrutisparsh*
- *Shoth* (swelling)
- *Prasarna-Kunchnayo Pravruttsich Svedana* (pain during moment)
- *Atop* (crepitation)
- *Hantisandhigat* (degenerative changes at joints)
- *Mans-balkshyam*
- *Astishosha* (osteoporosis)

Sadhya Asadhyata [9] :

If *Sandhigata* vat is occurred newly, having strong

immunity not making any complication then it is *Sadhya*. Otherwise, it is *Krichha Sadhya*. Moreover, if there is a dominance of the *Vata Dosha* & patients develop a complication of *Vatvyadhi* then it is *Yapya*.

Differential-diagnosis:^[15]

Sandhishool which are present in *Sandhigatavata* have been also described in other diseased conditions which are as follows – - *Aamvata*-along this *Jwaranubhuti* also - *Majjagatvata* - Third *Vega* of *Visha* - *RaktavritaVata*– *Sama Sannipataja Jvara*

Pathya – Apathya:

Pathya Aahar and *Vihar* ^[9]: *Sarpi, Tail, Vasa, Majjaseven, Snigdha, Guruaahar, Sek, Abhyang* (massage), *Basti* (enema), *Payas, Madhur, Aamla, lawanrasatmaka Aahar Seven. Apathya: Katu, Tikta, Laghu, Atichinta, Ativyayam* etc.

Treatment:^[14]

In Ayurveda, the treatment of *Sandhigatavata* is aimed at reducing the *Vata Dosha* and increasing the *Shleshaka kapha* so that the joint spaces are adequately lubricated for the free movement of the joints. For this many procedures have been mentioned like *Snehana, Swedana, Mridu Samshodhana, Basti* and *Vatahara Aushadha, Ahara* and *Vihara*. In some cases, practices like *Upanaha, Agnikarma, Bandhana, Mardhana* etc are also described. *Sandhigata Vata* may be correlated with degenerative joint disease or Osteoarthritis, which in turn cripples the patient to the maximum, extends and reduces the total working capacity of the person. In the modern system of medicine, the treatment adopted for osteoarthritis includes the administration of anti-inflammatory drugs, analgesics for pain relief. In many extreme cases, some surgical procedures like joint replacements are also adopted.

Drugs that proved clinically effective in osteoarthritis: There are so many drugs are mentioned in *Ayurveda* that is said to be having *Vata Hara* property and are useful for the treatment of all types of *Vata* disorders. But a few drugs are typically useful for the treatment of joint disorders. They are as follows:

1. *Nirgundi* (*Vitex negundo* L. – *Verbenaceae*) [15]
2. *Eranda* (*Ricinus communis* L. - *Euphorbiaceae*).^[15],16]
3. *Koranta* (*Barleria prionitis* L. - *Acanthaceae*).^[17]
4. *Bala* (*Sida cordifolia* L. - *Malvaceae*)
5. *Vishwa* (*Zingiber officinale* Roscoe. - *Zingiberaceae*)^{[15][18]}

MODERN REVIEW OF OSTEOARTHRITIS:

Osteoarthritis (OA) Osteoarthritis is an abnormality of synovial joints characterized by softening splitting and fragmentation (Fibrillation) of articular cartilage not attributable to direct contact with inflammatory tissue ^[19]. This is usually accompanied by subchondral sclerosis and bone cysts, joints space narrowing and bony overgrowth at tissue joints margins. (osteophytes)

ETIOLOGY

- a) Age is a major risk factor.
- b) Race hip OA is less common in Chinese and Asians than in those of western origin, whereas knee osteoarthritis is more common in Afro- Caribbean.
- c) Genetic predisposition clinical evidence of inheritance of OA.
 - Heberden’ nodes are more common in sisters of affected women.
 - 20% of individuals with osteoarthritis have a positive family history.
 - The first-degree relative are at a twofold risk of generalized radiological osteoarthritis.
 - There is greater concordance in identical twins at several joint sites.
 - Heritability of radiological knee and hand osteoarthritis is 40-65%.
- d) Gender and hormonal factors- below 45 years, the disease in whom it usually involves one or two joints, above 55 years, it is more common in women, usually involving several joints.
- e) Obesity- the relationship is stronger in women than men and is strongest at the knee.
- f) Other systemic factors- in women a significant association between hand disease and elevated serum cholesterol levels. Hypertension has been associated

with generalized osteoarthritis in nonobese women. Trauma is associated with the development of osteoarthritis.

PATHOGENESIS [20]: The earliest changes of OA may begin in cartilage. The two major components of cartilages are type 2 collagen, which provides tensile strength, and aggrecan, proteoglycan. OA cartilage is characterized by gradual depletion of aggrecan, the unfurling of the collagen matrix, and loss of type 2 collagen, which leads to increased vulnerability.

CLINICAL-MANIFESTATIONS:

OA can affect almost any joint but usually occurs in weight-bearing and frequently used joints such as the knee, hip, spine, and hands. The hand joints that are typically affected are the distal interphalangeal (DIP), proximal interphalangeal (PIP), or first carpometacarpal (thumb base); metacarpophalangeal joint involvement is rare.

Symptom

- Use-related pain acting one or a few joints (rest and nocturnal pain less common)
- Stiffness after rest or in the morning may occur but is usually brief (<30 min)
- Loss of joint movement or functional limitation
 - Joint instability
- Joint deformity
- Joint crepitation (“crackling”) 1. Physical-Examination
 - Chronic monoarthritis or asymmetric oligo/polyarthritis
 - Firm or “bony” swellings of the joint margins, e.g., Heberden’s nodes (hand DIP) or Bouchard’s nodes(hand PIP)
 - Mild synovitis with a cool effusion can occur but is uncommon.
 - Crepitant—audible creaking or crackling of joint on passive or active movement.
 - Deformity, e.g., OA of the knee may involve medial, lateral, or patella-femoral compartments resulting in varus or valgus deformities.
 - Restriction of movement, e.g., limitation of internal rotation of the hip
 - Objective neurologic abnormalities may be seen

with spine involvement (may affect intervertebral disks, apophyseal joints, and paraspinal ligaments)

CONCLUSION

Sandhigatvata is well explained in *Ayurvedic Samhita*. That ancient knowledge of *Ayurveda* will help in the diagnosis and management *Sandhigata Vata* in the present era very well. So, it is an attempt to highlighting details of *Sandhigat Vata* and osteoarthritis.

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