



“Sandhigata Vata” A Disease Of Modern Era: A Conceptual Review

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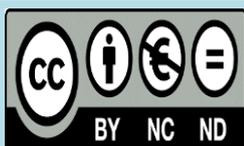
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ABSTRACT: -

Shandhigatavata (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. When the vitiated *Vata* increased, the dhatus (body tissues) undergoes *Kshayaavatha*. There is the role of many environmental, dietary, and lifestyle factors in the pathogenesis of *Sandhigatavata* (Osteoarthritis). All these factors lead to *Vataprakopa* and affect the individual health a lot. *Sandhigatavata* (Osteoarthritis) is the topmost disease of the modern era and becomes a challenging disease. It is the number one cause of disability in industrialized countries. In modern sciences, it is called osteoarthritis. Osteoarthritis is the most common joint disorder that begins in around the third decade of life asymptotically and showed the symptoms mostly in old age. In recent decades, the disease occurrence starts early due to changing lifestyle and the disease affects women more than men. Osteoarthritis or degenerative arthritis is a degenerative joint disorder characterized by degeneration of joint cartilage and adjacent bone that can cause joint pain and stiffness. Since OA 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 *Sandhigatavata* or osteoarthritis.

KEYWORDS: *Sandhigatavata*, Osteoarthritis, Joint, *VataVyadhi*.



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INTRODUCTION:

All acharya of *Ayurveda* mentioned *Sandhigatavata* (Osteoarthritis) under *Vatavyadhi*¹. *Sandhigatavata* (Osteoarthritis) is not described under *VatajaNanatmaja vikara*² but *acharya charaka* described a separate chapter on *Vatavyadhichikitsa* and mentioned *sandhigatavata* (Osteoarthritis) there. Among various disorders of *vatavyadhi*, *sandhigatavata* (Osteoarthritis) is at the topmost in the current era.

When due to *vatajaahara* and *vihara* (dietary and lifestyle modifications), *Vatadosha* is increased and undergoes *Prakopa* (aggravation) leads to affect and host different *Sandhis* (joints) these symptoms are explained as *Sandhishula* (Pain in joint), *Sandhishotha* (Swelling in joints)³, and *Akunchana Prasarana* (pain during movements), *Pravritti Svedana* (pain especially during movements) and in the later stage *HantiSandhigatah* (Disability) occurred. The condition is much similar to osteoarthritis, the degenerative joint disease in modern counterpart.

Osteoarthritis is the clinical and pathological outcome of a range of disorders that result in structural and functional failure of synovial joint⁴. Osteoarthritis is a degenerative joint disorder with the symptoms of Joint Pain, Joint Swelling, Restricted and Painful Movements of the Joints, and Joint Instability. Osteoarthritis is a disease of the whole joint not only the cartilage⁵. It is a slowly progressive disorder and occurs usually after the age of 40 years. It is the most common joint disorder in India with a prevalence of around 25-40%. Thus due to these similarities, *Sandhigatavata* and Osteoarthritis can be taken as a similar disease condition.

The present review helps to understand Osteoarthritis through an *ayurvedic* perspective and helps in an integrative approach in the treatment.

AIM & OBJECTIVES:

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

MATERIALS AND METHODS :

Literary material, i.e., *Ayurvedic* classical texts and article index in PubMed, Scopus were reviewed to collect the data during work.

Etymology

The term *Sandhigatavata* (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 *sandhigatavata* (Osteoarthritis) is the provoked *Vata* located in *sandhi*.

Osteoarthritis is derived from the prefix *osteo* means “bone” combined with *arthr* means “joint” and *itis* the latter suffix having come to be associated with inflammation⁶.

Synonyms

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

As *Sandhigatavata* (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 *Agantuja*

Nija Sandhigatavata (Internal)

Agantuja Sandhigatavata (Traumatic)

Several classification systems are used for the gradation of osteoarthritis:

- WOMAC scale⁷, on the basis of pain, stiffness, and functional limitation
- Kellgren-Lawrence grading scale⁸ especially for knee joint.
- Tonnis classification⁹ for the hip joint,

Osteoarthritis can be classified into either primary or secondary¹⁰ depending on whether or not there is an identifiable underlying cause.

Different categories of Osteoarthritis on the basis of the joint affected:

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

Nidanapanchaka Or Pathogenesis:

Hetu: In classics, no specific *Nidana* has been

mentioned for *Sandhigatavata* (Osteoarthritis). As *Sandhigatavata* (Osteoarthritis) is a *Vatavyadhi*, general *Hetu* of *Vatavyadhi* can be taken as *Hetu* of *Sandhigatavata* (Osteoarthritis)¹¹.

Aharaja (Diet) : *Atiruksha* (dry), *AtiShita* (cold), *Atialpa*, *Atilaghu* (light).

Viharaja (Life style) : *Atiprajagarana* (no sleep), *Divasvapna* (sleeping in day), *Ativyavaya* (excess sexual act), *Vegasan dharana* (stopping natural urges), *Plavana* (swimming), *Atiadhva* (excess walk), *Ativyayama* (excess exercise)

Manas (Psychological factors) : *Atichinta* (excess anxiety), *Atishoka* (excess grief), *Atikrodha* (excess anger), *Atibhaya* (fear).

Others: *Langhan* (starvation), *Vishamad Upacharad*, *Dhatunam Sankshyad*, *Rogatikarshanad* (weakness due to prolonged diseases), *Marmaghat* (trauma to vital parts).

It showed that not only environmental, dietary and lifestyle factors which are the causative factors of the disease, mental factor or stress which is most common in present era also the main causative factor behind and our ancient scholar also knew the importance of *Manas* factors in disease pathogenesis.

As per modern science, the etiological factor behind OA includes joint injury, obesity, aging, and heredity¹². In recent decades, osteoarthritis became a major cause of morbidity over the age of 40 in Indians.

Purvarupa (Prodormal Signs): *Purvarupa* indicates the disease which is going to occur in the future. It occurs in the *Sthanasanshraya* (localization) stage of *Satkriyakala*. No clear *Purvarupa* (Prodormal Signs) of disease was mentioned in the *Ayurvedic* literature. Just like the *hetu*, *Purvarupa* of *Vatavyadhi* can also be taken as *Purvarupa* of *Sandhigatavata* (Osteoarthritis). *Acharyas* described *Avayakta* as the *Purvarupa* of *vata vyadhi*¹³. *Avayakta* means which is not manifested clearly. Hence mild *Sandhi Shula* (joint pain) or *Shotha* (inflammation) which occurred before the clear-cut manifestation of disease may be taken as *Purvarupa* of *sandhigatavata*

(Osteoarthritis).

A prodrome is “an early symptom which starts much before the actual disease and indicating the onset of a disease or illness”¹⁴. A previously published case-control study¹⁵ on the prodromal symptoms of OA found that pain, stiffness, and functional limitation that appears to begin, on average, at least two to three years before this disease stage is reached.

Rupa (Sign and Symptoms)¹⁶: The characteristics signs and symptoms with which the disease can be easily

diagnosed is known as *rupa*. So main symptoms of *Sandhigatavata* (Osteoarthritis) are as follows:

1. **Sandhi Shula (Joint Pain):** *Shula* (Pain) is the chief symptom of *Prakupita Vata*. When the vitiated *Vata* situated in *Sandhi* (Joint) gives rise to *Sandhi Shula* (Joint Pain).

2. **Sandhi Shotha (Inflammation):** In *Sandhigatavata* (Osteoarthritis), *Prakupita Vata* gets lodged in *Sandhi* where *Srotoriktata* already exists resulting in *Vatapurna DrutiSparsha* (Felt like a bag filled with air) type of *Shotha* (Inflammation) which was mentioned by *Acharya Charaka*.

3. **Hanti Sandhi Gatah¹⁷:** When the disease aggravates the vitiated *Vata* may produce inability of movements or pain especially during flexion and extension.

Signs And Symptoms Of Osteoarthritis¹⁸: The following signs and symptoms appear in OA:

- Pain: Affected joints give pain during or after movement.
- Stiffness: Joint stiffness is the most common feature especially in the morning.
- Tenderness: feel tender when applied pressure on the affected joint.
- Loss of flexibility: Movement of joint is restricted.
- Crackling sensation: During movement of joint, crackling sound appears.
- Bone spurs: Extra piece of bone like a lump felt sometimes.

- Swelling: prominent symptoms of affected joint due to OA.

The *ayurvedic* literature thousands of years back described the same signs and symptoms which indicate that the disease was also common during that time but recently due to our sedentary lifestyles its prevalence increased so much.

Samprapti (Pathogenesis):

No specific *Samprapti* has been explained for *Sandhigatavata* (OA). So the *Samprapti* (Pathogenesis) of *Sandhigatavata* is assumed to be the same as that of general *Samprapti* of *Vatavyadhi*. Firstly, The *Vata Dosha* is aggravated due to various dietary and lifestyle factors, and the vitiated *Vata* flows out of its *ashaya* and circulates in the entire body for the search of *Khavaigunya* (vacant place). During circulation, it gets to stay and accumulated in the roots of *Majjavaha Srotas*. i.e. *Asthi Sandhi* because *Khavaigunya* (vacant place) may already presents in there. When aggravated *Vata* gets localized in *sandhi* (joint), it leads to hampering all the qualities of *kapha* specially *sleshamakapha*. The chief function of *Kapha* is to sustain or *Dharana* is destroyed by the aggravated *Vata*. When aggravated *Vata* is localized into a single joint, the disease will be reflected in only one Joint but if *Vata* is present in many joints, the disease may be presented by multiple joint involvements.

Pathogenesis Of OA¹⁹⁻²¹:

Osteoarthritis is due to disturbed homeostasis that occurred because of the failure of chondrocytes to maintain synthesis and degradation of these extracellular matrix components. Due to daily movements and trauma, it causes a microfracture or inflammation which slightly increased the enzymatic activity and starts the formation of “wear” particles. These wear particles become mediators of inflammation, stimulating the chondrocyte to release degradative enzymes which start the vicious cycles and start the release of proinflammatory cytokines, like $TNF\alpha$, IL-1, and IL-6. These cytokines can bind to chondrocyte

receptors leading to further increasing cartilage degradation. This final result in disequilibrium of homeostasis results in increased water and decreased proteoglycan of the extracellular matrix leads to weakening of the collagen network. Initially, all the degenerative changes that occurred in articular cartilage lead to cartilage softening, fibrillation zone of the superficial layers, fissuring and diminished cartilage thickness, but when articular cartilage thins to destruction, eventually leaving the underlying subchondral bone plate completely exposed and the disease progress to underlying all tissue of the synovial joint. O.A. is not a disease of only the cartilage but a disease of an organ, the synovial joint in which all of the tissues are affected, the subchondral bone, synovium, meniscus, ligaments, and supporting neuromuscular apparatus as well as the cartilage.

DISCUSSION

The disease *Sandhigata Vata* (Osteoarthritis) is prevalent in human wisdom. Since the primitive age from the Vedic period, all Samhita Granthas have mentioned about *SandhigataVata* (Osteoarthritis). Ayurveda gives much more emphasis to this disease. *SandhigataVata* (Osteoarthritis) is not included in 80 types of *NanatmajaVataVikara* by *Charaka*, but the Description of the disease in *Vatavyadhiadhyaya* highlighted the role of *Vata* in the pathogenesis of the disease. Osteoarthritis is multi-factorial, non-inflammatory degenerative joint disorder prevalent all over the world mainly affecting the old age group. It is estimated that approximately 4 persons out of 100 are affected. Modern medical science has identified several factors that play an important role in the pathogenesis of Osteoarthritis like age, sex, genetic factor, repetitive stress, obesity, multiple metabolic and multiple endocrine disorders, major joint trauma occupation involving prolonged standing sports, etc.

According to modern science, Osteoarthritis is very difficult to cure to date. Though a lot of medicaments are advocated still it is challenging for the practitioner. Only palliative treatment is

available which acts as a pain killer and medications that slow down the degenerative process. According to modern medical science treatment is as follows: Analgesics – to provide relief in pain, anti-inflammatory drugs for relief of swelling. Antioxidants e.g. vitamin A, C, E, etc. to prevent the joint from oxidative damage. Weight reduction is also a part of treatment in cases of osteoarthritis.

According to *Charaka*²², treatment of *Sandhigata Vata* (Osteoarthritis) is the same as the treatment of *Asthidhatu Dushti* i.e. *Panchkarma*, especially *Basti* (medicated enema) that comprises *Tikta Dravya* (bitter), *Kshira(milk)*, and *Ghrita*.

Acharya Sushruta has given the full treatment of *SandhigataVata* (Osteoarthritis). As per *Sushruta*²³, the *Chikitsa* (Treatment) of *Snayugata Vata*, *AsthigataVata*, and *SandhigataVata* is the same that is *Snehana* (oleation), *Upanaha* (bandage), *Agnikarma* (cauterization), *Bandhana*, (bandaging) and *Unmardana* (rubbing).

CONCLUSION:

A panorama of this review has enlightened various fields from historical review to the recent information about the disease of the modern era. Osteoarthritis is the common disease of the current era which needs a preventive as well as a therapeutic approach. Ayurveda Through its holistic approach may be considered as the best approach for osteoarthritis. Through the Literature review, we get a clear idea of the disease and an attempt has been made to understand osteoarthritis according to both *Ayurveda* and modern science.

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