



## JANU SANDHIGATAVATA: A COMPREHENSIVE REVIEW OF THE AYURVEDIC LITERATURE

### Ayurveda

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### ABSTRACT

*Janusandhigata* is also correlated to Knee osteoarthritis due to resemblance in sign and symptoms i.e. joint pain, stiffness, muscle weakness, swelling of knee joint, deformed joint, reduced range of motion and loss of use of the joints and cracking sounds. When the vitiated *vata* lodges in *janusandhi* (knee joint) it is considered as *Janusandhigata*. In *Ayurvedic* classics *Sandhigata* is among eighty *Nanatmaja Vata Vyadhi*. The aetiopathogenesis, symptoms and treatment of *Sandhigata vata* is described under *Vatavyadhi* which is found in a very concise form.

Among joint disease, Osteoarthritis is often seen out of which the functional disability in the knee joint is incredibly common in elderly. The approaches in therapies mainly carried out are physiotherapy or pharmacological therapy, but these approaches are limited over time by their cost and/or side effects. It is characterized by pain, shiftiness with decreased range of motion in the knee joint which is very common complaint for many people. With the advancement in working pattern and age-factors has become prime cause for aggravation of *Vata dosha*, which does *dhatukshaya* (depletion of tissues) and *Balakshaya* (reduced strength). Knee joint is weight bearing, strongest and most important joint in the body. Movements at the knee joint are essential for all everyday activities, including walking, running, sitting and standing. Different modalities of treatment have been explained in the *Ayurvedic* classics to tackle the condition effectively. Here, an attempt has been made for a systematic review on this disease with an approach to *Ayurvedic* management.

### KEYWORDS

*Janu sandhigata vata*, Pain, Osteoarthritis of Knee, *Ayurvedic* management

### INTRODUCTION

The classical term '*Janu Sandhigata Vata*' in Indian Medicine can be correlated with Osteoarthritis (OA) of the knee joint. It is one such chronic, degenerative, inflammatory disease which has a great impact on the quality of the life of an individual. The present day activities are prone to cause many life deteriorating conditions. Food, lifestyle and Environment are three important determinants related to the cause of disease. *Sandhigata* is one among the *vatavyadhi*<sup>1</sup> and is the commonest form of articular disorder. *Ayurvedic* classics highlights degenerative diseases under the concepts of "Dhatu saithilya" and "Dhatu kshaya". Acharya Charaka described as '*Sandhigata Anila*' in *Vatavyadhi chikitsadhya*.<sup>2</sup>

The word '*Gata*' is used to denote an initiation of a movement or carrying something along with or to reach a particular site through any particular pathway, that leads to occupancy at the particular site. *Sama Dhatu Gati* means normal metabolic transformation of tissues<sup>3</sup>. Being the most weight bearing joint, the knees commonly gets affected. The presentation of this pathogenesis is seen as *Janu Sandhigata Vata*. OA of knee joint comes under the inflammatory group which is almost identical to *Sandhigata Vata* described in *Ayurveda* with respect to etiology, pathology, and clinical features. *Snehana* and *swedana* are prescribed as common treatments in *Vatavyadhi*<sup>4</sup>. Also, *Daha* i.e. *agnikarma*, *Swedana* and *upanaha* are the main treatment of *Sandhigata*.

### Objective:

The symptoms of *Janu Sandhigata Vata* vis-a-vis osteoarthritis of knee is where *Janu* refers to knee, *sandhi* is joint and *Vata* is the humour permeating the knee joint – in this with advancing age, the influence of *Vata Dosha* increases, resulting in the gradual degeneration of the body. A critical review of the disease with *Ayurvedic* therapeutics in the treatment and/or management of knee osteoarthritis. Specific emphasis is placed on interpreting the literature in the context of its strength and weakness with particular attention placed on study protocols used. Number of research works have been carried out to study the efficacy of treatment modalities in *Janusandhigata Vata* which is found in the AYUSH Research Portal and PubMed. The present article reviews the research work published. A unique study is made with relevant *ayurvedic* and contemporary science for future research. Here, relevant basic science is also emphasized.

**Design:** Literature Review

### MATERIALS AND METHODS:

As the study is a review study, the available literature like the *Ayurvedic* classics – the *Samhita* granthas, *Sangrahas*, *Nighantus* and other books are searched for the disease and treatment aspect of all the relevant content is considered and analyzed to get a comprehensive

concept in the management of *Janusandhigata* (Knee osteoarthritis).

### Aetiology:

In *Kalaja factors*, *Shishira* and *Grishma* (*Summer*) *ritu* are the major seasons where the patients get affected with the disease. Other factors like weakness during diseased state (*Rogatikarshana*) and injury to the *marma sthanas* (*Marmaghata*)<sup>5</sup>, emaciation (*Dhatu Kshaya*) etc are also considered as the causative factors for osteoarthritis, whereas *Margavorodha* comes under *Visheshha* *Nidana*. Common *Hetus* (etiological factors) of *Vatavyadhi*, which are mentioned by Acharya Charaka is shown in table 1.

**Table – 1 Showing Etiological Factors Of *Vatavyadhi*<sup>5</sup>:**

AHARAJA	<i>Atiruksha</i> (Excessive dry), <i>Atisheeta</i> (cold), <i>Atialpa</i> (very less quantity), <i>Atilaghu</i> (very light), <i>Abhojana</i> (no food intake)
VIHARAJA	<i>Atiprajagarana</i> (no sleep), <i>Divasvapna</i> (sleeping in day), <i>Ativyavaya</i> (excess sexual act), <i>Vegasan dharana</i> (stopping natural urges), <i>Plavana</i> (swimming), <i>Atiadhva</i> (excess walk), <i>Ativyayama</i> (excess exercise)
MANASIKA	<i>Atichinta</i> (excess anxiety), <i>Atishoka</i> (excess grief), <i>Atikrodha</i> (excess anger), <i>Atibhaya</i> . (fear)
OTHERS	<i>Dhatunam Sankshayat</i> , <i>Rogatikarshana</i> (weakness due to prolonged diseases), <i>Marmaghata</i> (trauma to vital parts)

### Clinical Features:

The disease has no specific *poorvaroopa*. But the clinical signs and symptoms include joint pain (*Sandhi vedana*), *Sandhi Shotha* (*Swelling*), *Vatapurna druti sparsha*, pain and tenderness during the movements of the joints (*Prasarana akunchana pravrutisavedana*), cracking sounds (*Atopa*) and degeneration of the joint (*Hanti sandhi*).

**Table 2: Risk Factors For Osteoarthritis<sup>6</sup>**

Risk factor	Effect
Age	Increases with age Maximum incidence after the age of 80
Trauma	Joint fractures and injuries lead to increased risk for OA
Occupation	Incidence is more in persons doing heavy physical work like Labourers.
Exercise	OA is common in sports persons or those doing aggressive exercise
Gender	Men under the age of 50 Women after the age of menopause

Genetics	Incidence have been found to be increased in children of parents with early onset OA
Obesity	Increases the risk of OA
Diet	Increased risk in people with lower vitamin C and D blood levels

**SAMPRAPTI OF JANUSANDHIGATAVATA:**

In Ayurvedic classics, no direct references for *samprapti* of *janusandhigata* is found. We can consider general *Samprapti* of *Sandhivata – Vatavyadhi* for understanding the *Samprapti* of *Janusandhigata*. It is same as that Acharya *Charaka* has described the *Samprapti – Nidana sevana* aggravates *Vata* and the *Prakupita Vata* gets accumulated in *Riktasrotas*; i.e., where free space exists for its lodgement and gives rise to generalized and localized diseases.<sup>7</sup> In the pathogenesis course the patient may develop clinical features of *Janusandhigata vata* (Osteoarthritis) as follows. When vitiated *VataDosha* gets *Sthana Samshraya in Janusandhi Knee* (joint), it causes pain and inflammation in the knee joints and in later stages dislocation and loss of function of the joint of Knee.

**Table – 3 Showing Pathogenesis (Samprapti Ghataka) of Janusandhigata**

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 :	Madhyama
Udbhavasthana :	Pakvashaya
Vyaktasthana :	Asthi – Janusandhi

**Prognosis:**

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

**Table 4 Showing Differential Diagnosis:**

Factors	Janusandhigata vata	Amavata	Kroshtuka shirsha	Vatarakta
<i>Ama</i>	Absent	Present	Absent	Absent
<i>Jwara</i>	Absent	Present	Absent	Absent
<i>Hridgourava</i>	Absent	Present	Absent	Absent
<i>Age</i>	Old age	Any age	Any age	Any age
<i>Vedana</i>	During <i>Prasarana Akunchana</i>	<i>Vrischikadams avat Sanchari</i>	<i>Teevra</i>	<i>Mushikada msavat peeda</i>
<i>Shotha</i>	<i>Vatapurna Dritisparsha</i>	<i>Sarvashareera, Sandhigata</i>	<i>Kroustuka Shirshavat</i>	<i>Mandala Yukta</i>
<i>Sandhi</i>	<i>Weight bearing - Knee joint</i>	Small joints to Big joints	<i>Janu Pradesha</i>	Small joints
<i>Upashaya</i>	<i>Snehana</i>	<i>Rooksha Sweda</i>	<i>Rakta Shodhana</i>	<i>Rakta Shodhana</i>

**Treatment:**

In *Ayurveda*, the treatment of *Janusandhigata* is aimed at reducing the *Vata dosha* and to balance the *shleshaka kapha* so that the joint spaces are adequately lubricated for the free movement of the Knee joints. For this many procedures have been mentioned like *snehana, swedana, Mridu Samshodhana, Basti* and *Vatahara Aushadha prayoga, Ahara* and *Vihara*. In some texts practices of *upanaha, agnikarma, bandhana, mardana etc* are also described. Different *Ghratas, Guggulu, Shallaki* preparations are used for Internal medicines. The procedures that were exclusively used as prime therapy in the management of the disease are –

**1. Reduction of Weight** –Obesity is suggested to be a risk factor for knee osteoarthritis (OA). Excess weight can give burden to the joint and may lead joint damage. 11 pound weight reduction cuts 50% risk for Osteoarthritis. 5% weight loss in over weight patients gives 18% gain in overall function. So weight reduction is very essential for the treatment of Osteoarthritis. Carefully, procedure *Udwartana* and *Lekhana Basti* may be carried out after knowing the *dosha* and *dushyas*.

**2. Basti** - *Matra Basti*<sup>8</sup> and *Tikta Ksheera Basti*<sup>9</sup> relieved the pain and other symptoms significantly. Many studies are conducted on this therapy.

**3. Leech Therapy** - Symptomatic treatment of osteoarthritis of the knee with leeches is presently undergoing a renaissance.<sup>10</sup> Leech therapy has wonderful management in pain. New researches have shown that Leech therapy may be an effective treatment for rapid reduction of pain associated with osteoarthritis of the knee.<sup>11</sup>

**4. Rasayana** – *Janusandhigata* specially occurs in *Vridhdhavastha* due to *Dhatukshya*. A *Rasayana* drug nourishes *Dhatu*s and overcomes *Dhatukshya*. So it should be in for the treatment of *Sandhigata*.

**5. Agni Karma** - *Agnikarma* is effective nonpharmacological, parasurgical procedure for pain management in *Sandhigata vata* (OA of knee joint)<sup>12</sup>

**6. Upanaha Sweda** - *Sandhigata* (OA of knee joint) is a type of *Vatavyadhi* in which *upanaha sweda* is good one among the treatments. The *vatavyadhihara upanaha*<sup>13</sup> is much beneficial in the patient of *sandhigata* (OA knee joint) by relieving the local pain as it contains all *Ushnaviryatmak, Tikshna, Vataghna, Vedanasthapana* and *Shothahara Dravyas*.<sup>14</sup>

**7. Physiotherapy** – OA specially occurs in Old Age. Shortwave diathermy, Ultrasound and Hot pack can be done judiciously, these therapies are add on for Knee OA<sup>15</sup>. Leech therapy relieves symptoms in patients with osteoarthritis of the knee and is as effective as TENS therapy in the management of osteoarthritis of the knee.<sup>16</sup>

**Pathyapathya** : *Sleshaka kapha kshaya* and *Vata prakopa* due to *Vata prakopaka ahara vihara, Dhatu kshaya, Sthoulya* and *Vardhakya* have got a major role to play in the manifestation of *Janusandhigata* Vata. It is a *Vatavyadhi* which is one among *Ashta Maharoga* by *Vagbhata*.<sup>17</sup> The recommended diets are *Godhuma* (Wheat), *Masha* (Blackgram), *Raktashali* (Redrice), *Draksha* (Grapes), *Badara*, (Dry Jujube) *Madhuka* (Sweet), *Ushnajala* (Hot water), *Shritashita jala* (Hot and cold water). The *Pathya viharas* are *Atapa Sevana* (Sitting in sunlight). *Apathya* recommending *Sandhigata vata* are *Yava* (Barley), *Chanaka* (Black Chana *Gadarbha Dugdha, Sheetajala* (Cold Water), *Naveena Madya* (New fermentation), *Shushka Mamsa* (Dry Meat), *Jambu. Apathya Vihara* mentioned in *Sandhigata vata* are *Chinta* (Tension), *Ratrijagarana* (Waking late night), *Vega Sandharana* (Holding of natural urges), *Chankramana* (Walking).<sup>18</sup>

**DISCUSSION**

Knee osteoarthritis (OA), which is a degenerative disease, is the most common form of arthritis in the knee.<sup>19</sup> This systematic review found moderate to strong evidence for the reduction of pain, functional impairment, and joint stiffness through Ayurveda. Whereas the contemporary medical science is more materialistic and having high dependence on the pharmacological interventions. On the otherhand, *Ayurveda* being a holistic system giving equal importance to physical, mental and spiritual well being. There is vast development in the contemporary field of diagnostic techniques and updated surgical interventions with molecular biology and genetic engineering. But more side effects beyond their benefits. The incidence of chronic and degenerative diseases is much fastly increasing and their effective management is still very far from the reach. In such roadway, the only option remains is the primordial and initial prevention of chronic and non communicable diseases with proper implementation of dietary patterns, good lifestyle and traditional healthy practices.

**PREVENTION OF JANU SANDHIGATA VATA (KNEE OSTEOATHRITIS)**

The classical symptoms of *Sandhigata Vata* (OA) are *Vata Purna Druti Sparsha* (swelling), *Prasarana Akunchanayoh Apravriddhi* (difficulty in joint flexion and extension), and *Vedana* (pain). This disease is more common in both sex and is seen after 4<sup>th</sup> decade of the life. *Ayurveda* is for preservation of health and management of the diseased people.<sup>20</sup> while dealing with the patients it also gives special attention to individuals such as *Prakriti, Satmya, Sara, Samhanana* and etc.<sup>21</sup> As per Ayurvedic classics, there are three important factors for maintenance of health called as *Trayopastamba*<sup>22</sup> (Three sub pillars of life) a.) *Ahara*, i.e. right food habits  
 b.) *Swapna*, i.e. proper sleep  
 c.) *Brahmacharya* i.e. Celibacy

**CONCLUSION**

*Jamusandhigatavata* means abnormal *Vata* residing in the knee resulting in the manifestation of symptoms. The *vatavyadhi hara* chikitsas like *Snehana*, *upanaha*, *Basti and Agni karma* are much beneficial. Here, pain is one of the chief complaints. So, by using the *dravyas* with *Ushna viryas*, *Teekshna gunas*, *Vataghna*, *Vedanasthapana* and *Shothahara* yield good effects. Leech therapy may be a useful approach in treating this condition as there are no adverse effects. A good-quality RCTs is required for a conclusive judgment of its safety and efficacy. Larger studies and evaluation on patients can prove better management. Thus, this literary review gives a conclusion that *Snehana* along with *swedana* would be an ideal treatment for *Jamusandhigatavata*. The quality of life of the patient can be improved by the use of *Rasayana and Balya* drugs.

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