



## SANDHIGATA VATA CONCEPTS AND MANAGEMENT – A REVIEW ARTICLE

A. S. Sindhura\*<sup>1</sup> and Abdul Khader<sup>2</sup>

<sup>1</sup>Ph.D. Scholar, Department of Ph.D. and PG Studies in Kayachikitsa, Shree Kalabyraveshwara Swamy Ayurveda Medical College, Hospital and Research Centre, Bangalore, Karnataka, India.

<sup>2</sup>Professor, Department of Ph.D. and PG Studies in Kayachikitsa, Shree Kalabyraveshwara Swamy Ayurveda Medical College, Hospital and Research Centre, Bangalore, Karnataka, India.

\*Corresponding Author: Dr. A. S. Sindhura

Ph.D. Scholar, Department of Ph.D. and PG Studies in Kayachikitsa, Shree Kalabyraveshwara Swamy Ayurveda Medical College, Hospital and Research Centre, Bangalore, Karnataka, India.

Article Received on 23/10/2019

Article Revised on 13/11/2019

Article Accepted on 03/12/2019

### ABSTRACT

In the Ayurvedic classics, the aetiopathogenesis and symptomatology of Sandhigata vata is mentioned in concise form. In vriddhavasta, dhatu undergo kshaya, thus leading to vataprakopa and making individual prone to many diseases like sandhigata vata. Having the symptoms like pain, swelling, crepitus and restricted joint movements, sandhigata vata follows the pathogenesis of dhatushaya, margavarana and kevala vataja. Classics have mentioned the treatment for Sandhigata vata in specific, i.e. snehana, upanaha, bandhana, agnikarma, unmardana. Considering Sandhigata vata as asthi-sandhigata vikara, Asthi majjagata vata and asthyashrita vyadhi chikitsa can be employed. Rasayana therapy may prove to be effective in managing the degenerative joint disorder like sandhigata vata because it slows down the process of destruction (ageing) in the body and helps in rejuvenation of dhatu.

**KEYWORDS:** Sandhigata vata, asthi-sandhi, snehana, upanaha, bandhana, unmardana, agnikarma, virechana, basti, rasavana.

### INTRODUCTION

Sandhigata vata is mentioned in the context of gatavata in the classical texts. The lakshana are swelling in the joints, and pain which increases on extension and flexion of joints.<sup>[1,2,3,4,5,6]</sup> Osteoarthritis (OA) which is mentioned in western medicine has its similarities with the signs and symptoms of sandhigata vata.

OA is an abnormality of the synovial joints characterised by softening, splitting and fragmentation of articular cartilage not attributable to direct contact with inflammatory tissue. This is usually accompanied by subchondral sclerosis and bony cysts, joint space narrowing and bony outgrowths at tissue joint margins.<sup>[7]</sup>

OA is the second most common rheumatological problem and it is the most frequent joint disease with a prevalence of 22% to 39% in India.<sup>[8]</sup> OA is estimated to be the tenth leading cause of nonfatal burden and fourth leading cause of Year Lived with Disability (YLD), accounting for 3.0% of total global YLDs.<sup>[9]</sup>

Management in western medicine includes NSAIDs, opioid analgesics and injection glucocorticoids. Full recovery can be expected only in 85% of adults and role of surgery remains controversial because of poor

outcome i.e., inability to recover complete range of motion post-surgery and instability of the joint.<sup>[10]</sup>

In above situation, to explore time hold Ayurvedic therapy is an important area of research. An early effective intervention may not only provide symptomatic relief of pain but also may reduce need for surgical intervention.

Charaka Samhita has mentioned common treatment for vata vyadhi i.e., repeated use of snehana and swedana, basti and mrudu virechana.<sup>[11]</sup> Sushruta Samhita, Yogarathnakara, Bhaishajya Rathnavali and Chakradatta have mentioned the treatment for Sandhigata vata in specific, i.e. snehana, upanaha, bandhana, agnikarma, unmardana.<sup>[12,13,14,15]</sup> and other shamanoushadhi.

In Sushruta Samhita it is mentioned that the given description of sandhi is only for asthi Sandhi.<sup>[16]</sup> Dalhana in his commentary Nibandha Sangraha on Sushruta Samhita states that sandhi means asthyashrita Sandhi.<sup>[17]</sup> So Sandhigata vata is considered as Asthi-Sandhigata vikara. Asthi and sandhi are the moolasthana of majjavaha srotas.<sup>[18]</sup> Majja kshaya makes the person afflicted by vataroga.<sup>[29]</sup>

Considering the above points, Asthi majjagata vata chikitsa is adopted in Sandhigata vata where bahya and

*abhyantara sneha* is employed.<sup>[20]</sup> *Charaka Samhita* mentions *Panchakarma chikitsa* especially *Basti with ksheera* and *sarpi* processed with *tikta dravyas* are useful in *asthyashrita vyadhi*.<sup>[21]</sup>

Here an attempt has been made to critically analyse the etio-pathogenesis of the disease and its management.

### AIMS AND OBJECTIVES

1. To Analyse the *panchalakshana nidana* of *sandhigata vata*.
2. To Analyse the management in *sandhigata vata*.

### Definition

Disease *Sandhigata Vata* is described first by *Charaka Samhita* in the name of '*Sandhigata Anila*'. The symptoms are *shotha* which on palpation feels as bag filled with air and *shula* on *prasarana* and *akunchana* of the *sandhi* (pain on flexion and extension of the joints).<sup>[22]</sup>

### Etiopathogenesis

The *Nidana* of the *Sandhigata Vata* related to the *Janu sandhi* needs to be understood from the list of etiological factors of *vata vyadhi* in general and the etiological factors which cause aggravation of *vata dosha*.<sup>[23-30]</sup> *Vatavyadhi nidanas* can be classified into two, based on the pathology viz.

1. *Dhatu kshaya*.
2. *Margavarodha*.<sup>[31]</sup>

Also, the *vata prakopa nidana* leading to *vata vyadhi* can be grouped as *aharaja nidana*, *viharaja nidana*, *agantuja nidana*, *manasika nidana*, *kalaja nidana* and *anya nidana*.

**Aharaja** includes intake of *ruksha*, *shushka*, *laghu* and *sheeta guna pradhana anna*; *kashaya*, *Katu* and *Tikta pradhana Rasa*; the *Ahara vidhi* such as *Alpashana*, *Vishambhi bhojana*, *upavasa*, *abhojana*, *langhana*, *vishamashana*, *adhyashana*, *pramitashana*, *trishita ashana* and *kshudita ambu pana*; the *dravya* such as *adhaki* (*Cajanus cajan*), *bisa* (*Nilumba nucifera*), *chanaka* (*Cicer arietinum*), *chirbhita* (*Cucumis melo*), *harenu* (*Pisum sativum*), *jambava* (*Egeniajem bolana*), *kalaya* (*Lathyrus sativus*), *kalinga* (*H-antidysentrica*), *karira* (*Caparis decidona*), *koradusha* (*P- scrobiculetum*), *masura* (*Lens culineris*), *mudga* (*Phaseolus mungo*) *nishpava* (*Delichos lablab*), *neevara* (*H-anistata*), *shaluka* (*Nelumbium speciosum*), *shyamaka* (*Selariatalica*), *tinduka* (*Diaspyrostomentosa*), *tumba* (*Langenaria vulgaris*), *varaka* (*Carthamus tinctorius*), *trunadhanya* and *virudha dhanya*.

**Viharaja** includes *bhramana*, *chalana*, *vikshepana* and *utksepana* of various heavy objects such as *ashma*, *shila*, *kashta*, *loha*; *balavad vighraha*, *diwaswapna*, *dukha asana*, *dukha shayya*, *ghadha utsadana*, *bharaharana*, *vegadharana*, *ati adhwa*, *ati hasya*, *ati jrimbha*, *ati plavana*, *ati prabhashana*, *ati pradhavana*, *ati prapatana*,

*ati prapidana* *ati shrama*, *ati sthana*, *ati vyayama*, *ati vyavaya*, *ati adhyayana*, *ati asana*, *ati uccha bhashanam*, *ati dhavana*, *padaticharya*, *ratri jagarana*, *atiprajagara*; *gaja*, *ustra*, *ashva sheeghrayana* and *patana*.

- **Agantuja** include external factors such as *marmaghata*, *abhighata* and *bhagna*
- **Manasika** Include *bhaya*, *chinta*, *krodha*, *shoka*.
- **Kalaja** Include the seasons like *varsha*, *pravrut*, *shishira*, *grishma* and *abhra*.
- **Any** includes all the other *nidana* which cannot be included in any of the above groups such as *asrik kshaya*, *roga atikarshana*, *visha*, *dhatu kshaya*, *ama* and *margavarodha* may result in *vata prakopa*.

### Samprapti

According to *Charaka Samhita*, *nidana sevana* aggravates *vata* and this *prakupita vata* gets accumulated in *rikta srotas* and gives rise to various generalized and localized diseases.<sup>[32]</sup>

*Chakrapani Dutta* in his commentary *Ayurveda Dipika* on *Charaka Samhita* comments on the word *rikta srotas* as *snehadi guna kshaya*.<sup>[33]</sup>

In the manifestation of *Janu Sandhigata Vata* the *prakupita vyana vata* travels along and gets lodged in *Janu Sandhi* where there is already existing *khavaigunya*, resulting in diminution of *sleshaka kapha*. Combined effect of all these processes manifests the symptoms of *Janu Sandhigata Vata*.

### Symptomatology

Disease *Sandhigata Vata* is described first by *Charaka Samhita* in the name of "*Sandhigata Anila*" with symptoms of *shotha* which on palpation feels as bag filled with air and *shoola* on *prasarana* and *akunchana* (pain on flexion and extension of the joints).<sup>[34]</sup> *Astanga Hridaya* mentions the features of *Sandhigata vata* same as that of *Charaka Samhita*.<sup>[35]</sup>

*Sushruta Samhita* also mentioned *shula* and *shopha* in this disease leading to the loss (*hanti*) of the movement at jointinvolved.<sup>[36]</sup> *Yogarathnakara*.<sup>[37]</sup> and *Gadanigraha*.<sup>[38]</sup> quotes same features of *Sandhigata vata* as that of *Sushruta Samhita*. *Bhavaprakasha* quotes '*shotha*' instead of '*shopha*'.<sup>[39]</sup> *Bhavaprakasha* comments on the word '*sandhi hanti*' as '*sandhi vishleshayati*'.<sup>[40]</sup> *Madhava Nidhana* has not mentioned *shotha* but has included *atopa* as a symptom.<sup>[41]</sup> In *Madhukosha Commentary* on *Madhava Nidhana*, commentator *Vijayarakshita* has given two meanings of '*Hanti sandhigatah*'. They are *Sandhi vishlesha* and *sthambhadika*.<sup>[42]</sup>

### Differential Diagnosis

There are number of conditions explained in the *Ayurvedic classics* having similar features to that of *Sandhigata Vata*. These are to be considered before making the diagnosis of *Janu Sandhigata Vata*. It

includes: 1. *Amavata* 2. *Vatarakta* 3. *Kroshtuka Sheersha* 4. *Asthi – Majjagata Vata*.

### Prognosis

Sushruta Samhita has considered vata vyadhi as mahagada.<sup>[43]</sup> Dhatukshaya is the chief cause of vata vyadhi. Dhatukshaya is difficult to treat as Astanga Hridaya has elaborated that since body is accustomed to mala, dhatu kshaya is more troublesome than dhatu vriddhi.<sup>[44]</sup> The ailments of aged persons are kastasadhya.<sup>[45]</sup> and Janu Sandhigata Vata is the affliction of elderly individuals. Janu Sandhigata Vata is the disease of Janu Sandhi which forms madhyamarogamarga.<sup>[46]</sup> Disease situated in marma and madhyamarogamarga is yapy.<sup>[47]</sup>

Further, *vatavyadhi* occurring due to vitiation of *asthi* and *majja* are difficult to cure.<sup>[48]</sup> Chakrapani Dutta in commentary *Ayurveda Dipika* on *Charaka Samhita* while commenting on word “*Khuda Vata*”, describes it as *Khuda vata* as *Gulpha vata* or *Sandhigata vata*.<sup>[49]</sup> *Khuda Vata* will not yield to treatment because of its deep seatedness. Further states that it may be cured by full effort when the disease is new, when not associated with any complications and occurring in strong person.<sup>[50]</sup> Dalhana in the commentary *Nibandha Sangraha* on *Sushruta Samhita* states that the treatment should be given continuously for longer time.<sup>[51]</sup>

### Management

As a specific line of treatment *Sushruta Samhit*,<sup>[52]</sup> and *Astanga Sangraha*.<sup>[53]</sup> have mentioned *Snehana*, *Upanaha*, *Agnikarma*, *Bandhana*, *Mardana* and *Svedana* for the management of *Sandhigata Vata*. Other Ayurvedic texts such as *Astanga Hridaya*,<sup>[54]</sup> *Yogaratanakara*,<sup>[55]</sup> *Bhavaprakasha*.<sup>[56]</sup> and *Bhaishajya Rathnavali*.<sup>[57]</sup> also have mentioned specific line of treatment.

*Sandhigata Vata* is one among the *Vata Vyadhi*, mainly occurs due to *Dhatu kshaya* or *avarana*. *Snehana*, *svedana*, *abhyanga*, *basti*, *snehavirechana*, and *vatahara aushadha*, *ahara* and *vihara* is applicable in *Sandhigata Vat*.<sup>[58]</sup>

The *Chikitsa Sutra* mentioned in different Ayurvedic texts are given below:

**Snehana:** According to the use it can be administered in two ways –*Bahya* and *Abhyantara*<sup>59</sup>. *Abhyantara sneha* can be administered in the form of *pana*, *bhojana* and *basti*,<sup>[60]</sup> in case of *Sandhigata Vata*. *Bahya snehana* includes all procedures such as *abhyanga*,<sup>[61]</sup> *mardhana* where in *sneha dravyas* are applied to the surface of the body.

**Abhyanga:** *Abhyanga* is most important variety of *bahya snehana*. For the purpose of *abhyanga*, *sukhoshna taila* should be selected for *vata vyadhi*.

**Swedana:** The utility of combined application of *snehana* and *swedana* has been narrated with the simile of a dry wood attaining the ability of bending after the application of the two.<sup>[62]</sup>

**Upanaha:** It is one of the four types of *sweda* explained by *Sushruta Samhita*.<sup>[63]</sup> *Charaka Samhita* also mentions *upanaha Sweda* in *Sutrasthana*<sup>64</sup>. It can be used as *purva karma* or *pradhana karma*.

**Agnikarma:** In this therapy *dahana* is done in the part affected. It is indicated in *Asthi-Sandhigata vata*<sup>65</sup>. *Kshoudra* (honey), *guda* (jaggery), *sneha* are used to perform *agnikarma* in joints<sup>66</sup>. Commentator Dalhana in *Nibandha Sangraha* quoting the words of Bhadrashounaka says that *dahanakarma* of *mamsa* itself is capable in producing relief in *sira snayu asthi sandhi vikara*.<sup>[67]</sup>

**Unmardana:** This is the type of massage in which pressure is exerted on diseased *sandhi*.

### DISCUSSION

*Sandhi* are made to perform movements. Hence they may be considered as site of *Vata*. *Vyana vayu* is responsible for *prasarana*, *akunchana*, *unnamana*, *vinamana*, *tiryaggamana*.<sup>[68]</sup> Hence it can be considered that the flexion and extension movement of the knee joint, as well as slight internal and external rotation is because of *vyana vayu*. Whenever there is vitiation of *vata* that may also have effect on the joints, i.e. *asthi* and *shleshaka kapha*. This may cause the diminution of *asthi* and *kapha*, which may again provoke *vata* to get vitiated and it forms a vicious circle. *Vyanavayu* may also have a close relationship with *shleshaka kapha* because of its seat being *sandhi*. Whenever the *vyana vayu* attains some pathologic condition and simultaneously some *sthana vikriti* or *khavaigunya* at *sandhi*, it may lead to the disease *Sandhigata Vata*.

Whenever there is *vata vriddhi*, it causes *sneha kshaya* in the *sandhi* which may lead to *shleshaka kapha abhava* in the *janu sandhi*. And hence it may manifest in crepitus of the knee joint.

*Mamsa kshaya* causes *sandhi vedana*.<sup>[69]</sup> The muscles responsible for the movement of the knee joint belongs to either anterior, medial or posterior compartment of the thigh. The extensors generally belong to the anterior compartment and the flexors to the posterior. Disability in those with knee O.A is more strongly associated with quadriceps muscle weakness than with either joint pain or radiographic severity of the disease. And hence it can be interpreted as whenever there is *mamsa kshaya*, there will be reduced strength of the joint holding capacity. It also leads to painful joint movements leading to *sandhi vedana*. Deposition of pyrophosphate increases with age (McCarthy et al - 1966), which in turn increases the laxity of muscles and ligaments (bird-1980) and thus Osteoarthritis.<sup>[70]</sup>

In old age sex steroids decreases which leads to increased bone resorption and also the bone mass decreases due to demineralization which are also mentioned in the etiological factors of Osteoarthritis. Thus it can be interpreted that there is relation between the asthi dhatu and sandhi and its kshaya leading to *Janu Sandhigata Vata*.

The presence of snayu can be understood by the presence of the ligaments which are the extension of the muscles. They bind and support the knee joint and help in articulation.

Menisci which are fibrocartilaginous C-shaped cartilages in the knee joint, one medial (medial meniscus) and the other lateral (lateral meniscus) can be understood as shleshmadhara kala. Both are attached at each end to facets in the intercondylar region of the tibial plateau. These improve congruency between the femoral and tibial condyles during joint movements where the surfaces of the femoral condyles articulating with the tibial plateau change from small curved surfaces in flexion to large flat surfaces in extension. Synovial joints consists of a fibrous joint capsule that helps to hold the articulating bones together.

## DISCUSSION ON ETIOPATHOGENESIS

The *nidana* mentioned for *vata vyadhi* can be understood in terms of *Sandhigata Vata* in general and *Janu Sandhigata Vata* in particular under following classifications:

1. *Vyadhi Hetu, Dosha Hetu, Ubhaya hetu*
2. *Dhatu Kshayakara Hetu, Margavarodha Hetu*
3. *Utpadaka Hetu, Vyanjaka Hetu*

*Vyadhi hetu* include most of the etiological factors mentioned involving excessive or inappropriate usage of the joint like excessive walking, excessive physical exercise; some of the etiological factors represents traumatic causes like *abhighata, marmaghata* and *bhagna*.

*Abhighata* to the *janu sandhi* damages to the articular cartilage which occur at the time of injury or subsequently. With use of the affected joint, even normal cartilage will degenerate if the joint is unstable.

*Ati vyayama* as an etiological factor in O.A is seen mainly in those who are using the joints in *repetitive fashion*. Thus vocational activities such as those performed by jackhammer operators, cotton mill and shipyard workers, and coal miners, may lead to O.A in the joints exposed to repetitive occupational use. Thus while ankle O.A. is common in ballet dancers, elbow O.A in baseball pitchers, and metacarpophalangeal joint O.A in prize fighters.

*Nidana* which can be considered as *dosha hetu* involve the intake of food, which cause *vata dosha prakopa*. These food articles involve the food items which are

predominant in *kashaya, katu* and *tikta Rasa*. The *guna* such as *ruksha /shushka, laghu and sheeta guna pradhana anna*. The *ahara vidhi* also plays an important role in *vata prakopa* in the form of *alpa anna/ alpashana, vishtambhi bhojana upavasa / abhojana, langhana, vishamashana, adhyashana, jirnataha, pramitashana, trishita ashana* and *kshudita ambu pana*. The food articles which cause *vata dosha prakopa* can be considered as the *dosha hetu* for *sandhigata vata*. The psychological factors such as *bhaya, chinta, krodha, shoka* and *atiyoga* of *shodana* also causes *vata prakopa* and can be considered as *dosha hetu* for *sandhigata vata*.

Some of the etiological factors particularly pertaining to *vihara* can be considered as *ubhaya hetu* as the cause, which cause provocation of *vata dosha* and have a direct effect on pathogenesis of the disease. *Vega dharana (purisha vega dharana)* can be best example of this category.

Most of the *nidana* mentioned in the context can be considered as *dhatu kshayakara hetu* as they cause *vata dosha prakopa* leading to *anuloma dhatu kshaya*. They are *ruksha, sheetha, laghu, shushka anna sevana, alpa anna / alpashana, vishtambhi bhojana, upavasa, langhana, vishamashana, atishrama, ati vyayama, asrik kshaya*. *Ama* can be considered as the *margavarodha hetu* for *Sandhigata Vata*.

The etiological factors which involves directly in the pathogenesis of *Janu Sandhigata Vata* can be considered as *utpadaka nidana* like walking, excessive physical exercise, trauma to the knee joint and fracture.

## DISCUSSION ON SYMPTOMATOLOGY

**1. Sandhi shula and pain knee joints:** *Shula* is a main symptom in *Sandhigata Vata*. Pain usually increases by movements like *akunchana and prasarana* because of *vata prakopa*. It also said to be worst towards evening because of the tendency of *vata* which naturally aggravates at evening period, hence the pain. The pain is described as a deep ache and is usually begins after a period of inactivity.

**2. Sandhi shotha and knee joint swelling:** *Vatapurna druti sparsha* type of *shotha* has been described by all Ayurvedic classics. *Srotorodha* occurs due to *vata sanga* which is responsible for *shotha*. Being a vatic type, on palpation the swelling is felt like a bag filled with air. Degeneration of the cartilage of the knee joint can result in an overproduction of joint fluid, causing the knee to swell.

**3. Sandhi hanti:** In *Madhukosha* Commentary on *Madhava Nidhana*, commentator *Vijayarakhita* has given two meanings of '*hanti Sandhigatah*'. They are *sandhi vishlesha* and *sthambhadika*. The term *hanti sandhigatah* can be interpreted in two ways: 1. As a functional component: *Sandhi sthambhadika*, which means stiffness of the knee joint, and hence causing

restriction to the knee joint movements. 2. As a structural component: *Sandhi Vishlesha*, which means dislocation of the knee joint or demineralisation of the bones of knee joint.

**4. Sandhi atopa:** *Sandhigata Vata* is a localized *vata vyadhi* in which *prakupita vayu* affects the *sandhi*. This *sthanasamsraya* is result of *sroto riktata* present at *sandhi*. Because of *srotoriktata*, *akasha mahabhuta* is increased at the site of *sandhi*. Hence, in the process of extension and flexion, *shabda* is heard or palpated. The term *atopa* can be interpreted as crepitus of the knee joint which can be described as grating sounds and sensations experienced in the joints.

The Samprapti of *Janu Sandhigata Vata* can be understood under following headings based on the nidana. They are *dhatu kshayajanya Janu Sandhigata Vata Samprapti*, *marvarodha janya Janu Sandhigata Vata Samprapti*, *vata prakopaka nidana sevenajanya janu sandhigata vata samprapti*, *abhighatajanya janu sandhigata vata samprapti*.

Though *abhighata* is included under *vata prakopaka nidana* in the Ayurvedic classics, it is considered as a separate factor as it undergoes *achaya prakopa samprapti*.

*Sandhigata vata* can be interpreted as it is a progressive and serious disease which can be managed by long term treatment modalities. *Janu Sandhigata Vata* is *yapya* or *kasta sadhya vata vyadhi* depending upon the age of onset and severity.

The *upadrava* of *vata vyadhi* has to be understood in terms of *Janu Sandhigata Vata* in the following way: *Bhagna*, which is one among the *vatavyadhi upadrava* in general can be considered as meniscal tear and subluxations resulting from lost cartilage volume, subchondral bone collapse in *Sandhigata Vata* as specific. *Mamsa kshaya* and *shosha* can be considered as wasting of muscles. The wasting is partly due to disinclination to use the limb owing to pain and partly to reflex action. The later acts through impulses from the irritated articular nerves, which interfere with the tropic action of the anterior corneal cells.

## DISCUSSION ON MANAGEMENT

The treatment modalities of *Janu Sandhigata Vata* can be designed based on the following factors:

1. Those treatment methods which are directly mentioned as the *chikitsa sutra* of *Sandhigata Vata*. Those are *snehana*, *upanaha*, *agnikarma*, *bandhana*, *mardhana* and *swedana*.
2. The general *vatavyadhi chikitsa* applicable to *Janu Sandhigata Vata* based on the *lakshana* and the *sthana* of the disease like *virechana* and *basti karma*.
3. Considering *Sandhigata Vata* as *asthivaha srotho dusti*, *asthi majjagata vata chikitsa* is adopted in

*Sandhigata vata* where *bahya* and *abhyantara sneha* is employed.

4. Considering *Sandhigata Vata* as *asthi-ashraya vata vyadhi*, *Panchakarma chikitsa* especially *basti* with *ksheera* and *sarpi* processed with *tikta dravyas* are useful.
5. As *Sandhigata Vata* is a disease of old age, *Rasayana chikitsa* is employed.

*Snehana* in *Sandhigata Vata* includes both *bahya* and *abhyantara Snehana*. *Abhyantara snehana* includes *shamana* and *brimhana sneha*. *Taila* are commonly used in *abhyanga* in *Janu Sandhigata Vata* as they are *vata hara*. Commonly used *taila* are *ksheera bala taila*, *mahavishagarbha taila*, *mahanarayana taila* and *pinda taila*. *Taila* acts as *vatahara*, *dhatu poshaka* and also alleviates the symptoms.

In *Sandhigata Vata*, varieties of *snigdha swedana* like *upanaha sweda*, *nadi sweda*, *sankara sweda*, *patrapinda sweda*, *parisheka sweda* are indicated. As *swedana* is *stamba gourva- sheetagna* and *sweda karaka* it acts as *vatahara* and *vedana sthapaka* by improving local blood circulation and increases pain threshold. It also relieves the stiffness of the knee joint and eases its movement. *Upanaha* is *vatakapha shamaka* as it increases the *ushmata* in the place of application. *Upanaha* accelerates the action of *taila* already applied. *Agnikarma* is indicated in *Sandhigata Vata* as *snayu* and *asthi* are the main *dushya* involved in the disease. It is performed at the maximum point of tenderness in the knee joint. It is more effective in providing symptomatic relief of pain. The probable mode of action is reduction of pain and inflammation at the site of lesion. *Unmardhana* relieves *shotha* and enhances blood circulation.

### Virechana karma

*Virechana karma* is also indicated as prior procedure to *basti*, as it removes accumulated morbid *dosha* and *mala* before administration of *basti*. For *virechana karma* in *Janu Sandhigata Vata*, *snigdha dravya* are used. *Mridu virechana* particularly with *eranda taila* is indicated in *Janu Sandhigata Vata* before the administration of *basti*.

### Basti karma

Among the different *chikitsa upakrama*; *basti karma* is mentioned as an important treatment modality of *vata vyadhi*. It includes *sneha basti*, *niruha basti* and *ksheera basti*. As *dhatu kshaya* is the main pathology involved in *Sandhigata Vata*, and as it is a degenerative joint disease; *basti with ksheera* and *sarpi* processed with *tikta dravya* is the line of treatment in *astivaha srotho dusti prakara*. *Ksheera basti* has the *brahmana* action thus limiting the degenerative changes in the joints and arresting the pathogenesis. It is also *Rasayana*, *balakara* and indicated in all the *vata vikara*. *Basti* has also specific *vata doshahara* property.

**Rasayana chikitsa**

Along with these therapeutic choices, *rasayana* therapy may prove to be effective in managing the degenerative joint disorder like *Sandhigata vata* because it slows down the process of destruction (ageing) in the body and helps in rejuvenation of *dhatu*.

**CONCLUSION**

The vitiated vata when gets located at one or more than one joints produces the features like *sandhi shoola* (pain in the joints), *sandhi shotha* (swelling on palpation), *atopa* (crepitus), *sandhi stabdhata* (stiffness in the joint). When these set of clinical manifestations appear in *Janu Sandhi*, it is termed as *Janu Sandhigata Vata*.

Janu Sandhigata Vata can be caused by dhatu kshaya and margavarodha. Also, the vata prakopa nidana leading to vata vyadhi is considered. The dushya such as medo dhatu, mamsa dhatu, asthi dhatu, kandara, peshi, snayu and shleshmadhara kala constituting asthi-sandhi; asthivaha srotas is mainly effected in the disease *Janu Sandhigata Vata*.

The treatment modalities of *Janu Sandhigata Vata* can be designed based on the following factors like those treatment methods which are directly mentioned as the *chikitsa sutra* of *Janu Sandhigata Vata*. Those are *snehana*, *upanaha*, *agnikarma*, *bandhana*, *unmardhana*. The general *vata vyadhi chikitsa* is applicable to *Janu Sandhigata Vata* based on the *lakshana* and the *sthana* of the disease like *virechana* and *basti karma*. Considering *sandhigata vata* as *asthivaha srotho dusti*, *asthi majjagata vata chikitsa* is adopted in *Sandhigata Vata* where *bahya* and *abhyantara sneha* is employed. Considering *sandhigata vata* as *asthi-ashraya vata vyadhi*, *Panchakarma chikitsa* especially *basti with ksheera and sarpi* processed with *tikta dravyas* are useful. As *Sandhigata Vata* is a disease of old age, *Rasayana chikitsa* is employed.

**REFERENCES**

1. Agnivesha, Charaka Samhita chakrapanidhattha virachita, edited by vaidhya yadavji trikamji acharya, chawkamba publications, third edition, chikitsasthana, vatavyadhinidhana 28<sup>th</sup> chapter, 1941; 618.
2. Acharya Sushruta, Sushruta samhita ayurveda tatwa sandeepika, hindhivyakya, vajnanikavimarsha- tippanisahita prathamabhaga by kaviraja ambikadhattha shastri, chawkamba samskritha samsthana, reprint, nidhanasthana vatavyadhinidhana1, 2007; 230.
3. Vagbhata, Ashtanaga hridaya, vidhyothini hindhi commentary by kaviraja athrideva gupta, edited by vaidhya yadhunanda upadhyaya, chawkamba prakashana, reprint, nidhanasthana, 2007; 15: 277.
4. Anonymous, Yogaratnakara Uttarardha with Vidyotini Hindi commentary by Vaidya Lakshmiapati Shastri, Edited by Bhisagratna Bramha Shankar Shastri, Chaukhamba Prakashan, Varanasi, edition Reprint, vatavyadhi nidhana, 2010; 505.
5. Bhavamishra, Bhavapraksha, Uttarardha, Bhrama Shankara Shstry's Vidyotini teeka, Chaukhamba Samskruta Samsthana, Varanasi, 8<sup>th</sup> edition, Reprint, vatavyadhiadhikara, 2003; 227.
6. Vaidya Shodala, Gadagraha, Shri Indradeva Tripati's Vidyotini Commentry, Chaukhamba samskruta samsthana, Varanasi, Dwithiya kayachikitsa Kanda, Edition reprint vatarogadhikara, 2011; 464.
7. Aspi. F. Golwalla and Sharukh A Golwalla, Golwalla's medicine for students, a reference book for the family physician, exclusive distributor national publications, 24th edition, 802.
8. Silman AJ, Hochberg M.C 2<sup>nd</sup> ed. Oxford: Oxford University Press; Epidemiology of the Rheumatic diseases. (Google Scholar), 2001.
9. World Health Organisation. World Health Report 2002. Reducing Risk, Promoting Healthy Life. Geneva; WHO, 2002.
10. www.japi.org.com.
11. Agnivesha, Charaka Samhita, Ayurveda dipika commentary by Chakrapanidutta, edited by Vaidya yadavji trikamji acharya, chawkamba publications, third edition, Chikitsasthana, Vatavyadhinidhana 28<sup>th</sup> chapter, 1941; 618.
12. Acharya Sushruta, Sushruta Samhita, Ayurveda tatwa sandeepika, Hindhivyakya, Vajnanikavimarsha- tippanisahita prathamabhaga by Vaidhya Priyavath sharma, Chawkamba samskritha samsthana, reprint, Chikitsasthana Vatavyadhi Chikitsa, 2007; 26.
13. Anonymous, Yogaratnakara Uttarardha with Vidyotini Hindi commentary by Vaidya Lakshmiapati Shastri, Edited by Bhisagratna Bramha Shankar Shastri, Chaukhamba Prakashan, Varanasi, edition Reprint, Vatavyadhi Nidhana, 2010; 505.
14. Govind Dasa, Bhaishajya Rathnavali, Edited and Enlarged by Bhisagratna Shri Brahmanshankar Mishra and Shri Kaviraja Ambikadatta Shastri Ayurvedacharya, Editor Shri Rajeshwadatta Shastri, Chaukhamba Prakashan, Varanasi, Edition, Vatavyadhi Chikitsaprakaranam, 2011; 373.
15. Chakradatta, with Vaidhyaprabha hindhi vyakya, Shri Jagadeeshaprasada tripati, Chawkamba publications, chapter on Vatavyadhichikitsa, 182.
16. Sushruta, Sushruta Samhita with Nibandha Sagraha commentary by Dalhana, edited by Vaidya Jadavaji trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Shareera Sthana, 1997; 5: 367.
17. Dalhana, Sushruta samhita with Nibandha Sagraha commentary by Dalhana, edited by Vaidya Jadavaji trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Shareera Sthana, 1997; 5: 367.
18. Agnivesha, Charaka Samhita with Ayurveda Deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya. Varanasi:

- Chaukhamba Surabharathi Prakashan, Vimana Sthana, 2009; 5: 250.
19. Agnivesha, Charaka Samhita with Ayurveda Deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya, Varanasi: Chaukhamba Surabharathi Prakashan, Sutra Sthana, 2009; 17: 103.
  20. Agnivesha, Charaka Samhita, Ayurveda dipika commentary by Chakrapanidutta, edited by Vaidya yadavji trikamji acharya, chawkamba publications, third edition, Chikitsasthana, 2009; 28: 621.
  21. Agnivesha, Charaka Samhita, Ayurveda dipika commentary by Chakrapanidutta, edited by Vaidya yadavji trikamji acharya, chawkamba publications, third edition, Sutrasthana, 2009; 28: 180.
  22. Agnivesha. Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya. Varanasi: Chaukhamba Surabharathi Prakashan, Chikitsa Sthana, 2009; 28: 618.
  23. Agnivesha. Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya, Varanasi: Chaukhamba Surabharathi Prakashan, Chikitsa Sthana, 2008; 28: 617.
  24. Madhavakara, Madhava Nidana with Madhukosha commentary by Vijayaraksita and Srikantha datta, edited by Sri Brahmasankara Sastri Bhisagratna, 1986; 411.
  25. Sushruta, Sushruta Samhita with Nibandha Sangraha commentary by Dalhana, edited by Vaidya Jadavaji Trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Sutrasthana, 2009; 21: 103.
  26. Vagbhata, Astanga Hrudaya with Sarvanga Sundara of Arunadatta and Ayurveda Rasayana of Hemadri, edited by Pt. Hari Sadashiva Paradakara Bhisagacarya. Varanasi: Chaukhamba Surabharathi Prakashan, Nidana Sthana, 1997; 1: 444.
  27. Anonymus, Yogarathnakara, Vidhyothini Hindi tika sahita by Vaidhya Shrilakshmi pathi Shastry, Varanasi: Chaukambha Samskritha Samsthana, Purvakhanda, 1999; 2: 503.
  28. Bhavamishra, Bhavaprakasha, Madhyamakhanda edited with Vidhyotini hindi commentary by Bhisagratna Pandit Sri Brahma Sankara Misra, Varanasi: Chaukambha Sanskrit Samsthan, chapter, 2000; 24: 227.
  29. Vriddha Vagbhata, Astanga Sangraha, edited by Shri. Pandit Lalachandrasastry Vaidhya, Published by Shri Vaidhyanatha Ayurveda Bhavana, Pvt. Ltd, Nidana Sthana, 1: 309.
  30. Harita, Harita Samhita Trithiya Sthana, Varanasi: Chaukambha Sanskrit Samsthan, 2000; 20.
  31. Agnivesha. Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya, Varanasi, Chaukhamba Surabharathi Prakashan, Chikitsa Sthana, 2008; 28: 619.
  32. Agnivesha, Charaka samhita with Ayurveda Deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya, Varanasi : Chaukhamba Surabharathi prakashan, Chikitsa Sthana, 2009; 28: 617.
  33. Chakrapani, Agnivesha. Charaka samhita with Ayurveda Deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya, Varanasi: Chaukhamba Surabharathi prakashan, Chikitsa Sthana, 2009; 28: 617.
  34. Agnivesha, Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji trikamji Acharya, Varanasi: Chaukhamba Surabharathi Prakashan, Chikitsa Sthana, 2009; 28: 618.
  35. Vagbhata. Astanga hrudaya with Sarvanga Sundara of Arunadatta and Ayurveda Rasayana of Hemadri, edited by Pt. Hari Sadashiva Paradakara Bhisagacarya. Varanasi: Chaukhamba Surabharathi Prakashan, Nidana Sthana, 2009; 15: 531.
  36. Sushruta, Sushruta samhita with Nibandha Sagraha commentary by Dalhana, edited by Vaidya Jadavaji Trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Nidana Sthana, 2009; 1: 261.
  37. Anonymus, Yogarathnakara, Vidhyothini Hindi tika sahita by Vaidhya Shrilakshmi pathi Shastry, Varanasi: Chaukambha Samskritha Samsthana, 1999; 505.
  38. Sri Vaidya Sodhala, Gadanigraha with the 'Vidyothini' Hindi commentary by Sri Indradeva Tripathi, Dwithiya bhaga, Varanasi, Chaukambha Sanskrit Sansthan, 19/23.
  39. Bhavamishra, Bhavaprakasha, Vidhyothini Hindi tika, by Bhisagrathna Shri Brahmashankara Mishra Shastry, Dwithiya bhaga, Varanasi, Chaukambha Samskritha Samsthana, chapter, 2000; 24: 264.
  40. Bhavamishra, Bhavaprakasha, Vidhyothini Hindi tika, by Bhisagrathna Shri Brahmashankara Mishra Shastry, Dwithiya bhaga, Varanasi, Chaukambha Samskritha Samsthana, chapter, 2000; 24: 265.
  41. Madhavakara, Madhava Nidana with Madhukosha commentary by Vijayaraksita and Srikantha datta, edited by Sri Brahmananda Tripathi volume 1, chapter, 1986; 22: 520-82.
  42. Madhavakara, Madhava Nidana with Madhukosha commentary by Vijayaraksita and Srikantha datta, edited by Sri Brahmananda Tripathi volume 1, chapter, 1986; 22: 520.
  43. Vriddha Vagbhata, Astanga Sangraha with Sasilekha commentary by Indu, edited by Shivprasad sharma, Varanasi: Chowkhamba sanskrit series office, 2004; 186.
  44. Agnivesha, Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya, Varanasi: Chaukhamba Surabharathi prakashan, Sutra Sthana, 2005; 10: 66.
  45. Agnivesha, Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Sutra Sthana, 2005; 11: 77.

46. Agnivesha, Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya, Varanasi: Chaukhamba Surabharathi Prakashan, Sutra Sthana, 2005; 10: 67.
47. Agnivesha, Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Chikitsa Sthana, 2005; 28: 620.
48. Agnivesha, Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji Trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Chikitsa Sthana, 2005; 28: 620.
49. Agnivesha, Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Chikitsa Sthana, 2005; 28: 620.
50. Agnivesha, Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Chikitsa Sthana, 2005; 28: 620.
51. Dalhana, Susrutha Samhitha with Nibandha Sangraha Commentary by Dalhanacharya, (Ed)Vaidya Jadavji Trikamji Acharya, Chaukamba Orientalia, Varanasi, Seventh edition, Chikitsa Sthana, 2002; 4: 420.
52. Sushrutha, Susrutha Samhitha with Nibandha Sangraha Commentary by Dalhanacharya, (Ed) Vaidya Jadavji Trikamji Acharya, Chaukamba Orientalia, Varanasi, Seventh edition, Chikitsa Sthana, 2009; 4: 420.
53. Vrddha Vagbhata, Astanga Sangraha with Sasilekha commentary by Indu, edited by Shivprasadsharma. Varanasi: Chowkhamba sanskrit series office Chikitsa Sthana, 2004; 23: 723-130.
54. Vagbhata. Hridaya with Sarvanga Sundari commentary by Arunadatta, edited by Shri lalachandra Vaidhya. Varanasi: Motilala Banarasidasa, Chikitsa Sthana, 2005; 21: 722.
55. Anonymus, Yogarathnakara, Vidhyothini Hindi tika sahita by Vaidhya Shrilakshmipathi Shastry, Varanasi: Chaukambha Samskritha Samsthan, 1999; 515-516.
56. Bhavamishra, Bhavaprakasha, Madhyamakhanda edited with Vidhyotini hindi commentary by Bhisagratna Pandit Sri Brahma Sankara Misra, Varanasi: Chaukambha Sanskrit Samsthan, Chikitsa Sthana, 2000; 24: 265.
57. Shri Govind Das, Bhaishajya Rathnavali, edited by Bhisagratna Shri Brahmashankar Mishra, Varanasi, Chaukhambha prakashan, chapter, 2008; 26: 529.
58. Sushrutha, Susrutha Samhitha with Nibandha Sangraha Commentary by Dalhanacharya, (Ed)Vaidya Jadavji Trikamji Acharya, Chaukamba Orientalia, Varanasi, Seventh edition, 2009; 120-4.
59. Dalhana, Susrutha Samhitha with Nibandha Sangraha Commentary by Dalhanacharya, (Ed)Vaidya Jadavji Trikamji Acharya, Chaukamba Orientalia, Varanasi, Seventh edition, Chikitsa Sthana, 2009; 4: 420.
60. Dalhana, Susrutha Samhitha with Nibandha Sangraha Commentary by Dalhanacharya, (Ed) Vaidya Jadavji Trikamji Acharya, Chaukamba Orientalia, Varanasi, Seventh edition, Chikitsa Sthana, 2009; 31: 507.
61. Dalhana, Susrutha Samhitha with Nibandha Sangraha Commentary by Dalhanacharya, (Ed)Vaidya Jadavji Trikamji Acharya, Chaukamba Orientalia, Varanasi, Seventh edition, Chikitsa Sthana, 2009; 31: 507.
62. Agnivesha, Charaka Samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Sutra Sthana, 2009; 14: 87.
63. Susrutha, Samhitha with Nibandha Sangraha Commentary by Dalhanacharya, (Ed) Vaidya Jadavji Trikamji Acharya, Chaukamba Orientalia, Varanasi, Seventh edition, Chikitsa Sthana, 2009; 32: 513.
64. Agnivesha. Charaka samhita with Ayurveda deepika commentary by Chakrapani dutta, edited by Vaidya Jadavaji trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Sutra Sthana, 2009; 14: 89.
65. Susrutha, Sushrutha Samhitha with Nibandha Sangraha Commentary by Dalhanacharya, (Ed)Vaidya Jadavji Trikamji Acharya, Chaukamba Orientalia, Varanasi, Seventh edition, Sutra Sthana, 2009; 12: 52.
66. Susrutha Samhitha with Nibandha Sangraha Commentary by Dalhanacharya, (Ed)Vaidya Jadavji Trikamji Acharya, Chaukamba Orientalia, Varanasi, Seventh edition, Sutra Sthana, 2009; 12: 51.
67. Sushrutha, Susrutha Samhitha with Nibandha Sangraha Commentary by Dalhanacharya, (Ed) Vaidya Jadavji Trikamji Acharya, Chaukamba Orientalia, Varanasi, Seventh edition, Sutra Sthana, 2009; 12: 51.
68. Dalhana, Sushruta Samhita with Nibandha Sangraha commentary by Dalhana, edited by Vaidya Jadavaji Trikamji Acharya. Varanasi: Chaukhamba Surabharathi prakashan, Nidanasthana, 1992; 1: 255.
69. Vagbhata. Astanga Hrudaya with Sarvanga Sundari commentary by Arunadatta and Ayurveda Rasayana by Hemadri, edited by Hari Sadasiva Sastri Paradakara. Varanasi: Chaukhamba Surabharathi prakashan, Sutrasthana, 2007; 11: 185.
70. Reproduced From: Silman AJ., HochbelyMc In: Epidemilogy Of The Rheumatic Disease. Oxford, U.K, Oxford University Press, 1933.