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Review Article

CONCEPTUAL STUDY ON MANAGEMENT OF SANDHIGATAVATA (OSTEOARTHRITIS)

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Abstract

Healthy living and increased longevity are the objectives of Ayurveda, the science of life. Vata Vyadhis are considered as Kashtasadhya vyadhi. The vitiated Vata in the various joints of the body or Sandhi along with the symptoms such as Shoola, Shotha, and Prasarana akunchana apravarthi results in Sandhigatavata. According to the specific symptom of Sandhigata Vata, it can be correlated to Osteoarthritis. A degenerative condition known as osteoarthritis occurs from the biochemical breakdown of articular cartilage in synovial joints. The affected person's daily activities would be impeded because of the influence it has on the locomotor system. Osteoarthritis is more common in older age groups. Degenerative diseases were recognized in Ayurveda under the concepts of "Dhatu Saithilyam" and "Dhatu Kshayam". Sandhigatavata is one such illness that requires a particular therapeutic aim in order to control or slow down the development of "Dhatu Kshaya" and to pacify Vata. The Ayurvedic classics discuss various treatment modalities like, Vatahara, Shothahara, Vedanasthapana and Rasayana drugs in Shamana Yoga can be used to treat this chronic disease Sandhivata successfully. Here, an attempt has been made to provide a systemic review of this disease using an Ayurvedic management strategy.

Keywords: Vata; Sandhi; Sandhigatavata; Vatavyadhi; Osteoarthritis.

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INTRODUCTION

Sandhigatavata is described under Vataja Nanatmajavikara (the diseases which are caused by only one dosa without being combined with other dosas),[1] but explained in a separate chapter on Vatavyadhi chikitsa. Sandhigatavata is a type of Vatavyadi which mainly occurs in Vriddhavastha (elders). Being a Vatavyadi, it is located in Marmasandhi (vital joints). Vata Dosha plays a main role in this disease Sandhigatavata. According to Charaka Acharya,[2] Sandhigatavata with symptoms of shola (pain), shotha (swelling) and prasarana akunchana apravarthi (pain and tenderness during the movements). Here Sushrutha Acharya has also added destruction (Hanti).[3] Again, Madhavakara adds Atopa as additional symptom.[4] Vagbhata Acharya also explained the same symptoms of Charaka Acharya.[5][6] This 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 joint with the symptoms of Joint Pain, Joint Swelling, Restricted and Painful Movements, and Instability.[8] Osteoarthritis is a disease of the whole joint not only the cartilage. 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%.[9] Thus due to these similarities, Sandhigatavata and Osteoarthritis can be taken as a similar disease condition.

Sandhigatavata mainly occurs due to dhatukshaya (depletion of body tissue) or avarana (covering, obstruction or blockage), so general line of treatment of Vatavyadhi which includes both the Bahya (external) & Abhyantara (internal) Chikitsa (treatment) can be adopted.[10] The Bahya Chikitsa includes Abhyangam (oil massage), Jalukavacharana (leech therapy) etc.[11][12] The Abhyantara Chikitsa includes Vati (oral pills), Ghruta (medicated ghee) etc.

To study in detail about Sandhigatavata, Classical textbooks of Ayurveda, Texts books of Modern science and published articles from periodical journals and other magazines are reviewed.

Review on Sandhigatavata

Vyutpatthi &Nirukti

Etymology

The term Sandhigatavata has a combination of three words, viz. Sandhi, Gata, Vata.

Sandhi[13]

Vyutpatti: Sam + Dha + Kimhi (Shabda Kalpa Druma, Shabda Stoma Mahanidhi).
Nirukti - Sandhir Mamsa Samyogaha (Shabda Kalpa Druma), Asthidwaya Samyogasthana (Shabda Stoma Mahanidhi).

Gata[14]

Vyutpatti- Gam Gamane (Shabda Kalpa Druma).
Nirukti- Gamane, Vahane, Margah, Sthane, Prapte, Labdhe, Patite, Sameepe, Abhyupaye. (Shabda Sthoma Mahanidhi). The word "Gata" can refer to the beginning of a movement, carrying something while moving to a certain location, or to any specific pathway that results in occupancy at a specific location.

Vata[15]

Vyutpatti- Va-Gati Gandhanayoho (Shabda-Kalpa Druma).

The term 'Gati' is having meanings like Prapti, Jnana (Panini) and the meaning of 'Gandhana' is like Utsaha, Prakashana, Soocana, Gandhana (enthusiastic, brightness) etc.

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Synonyms

No direct synonym of Sandhigatavata is given in Ayurvedic classics. But the synonyms of Sandhigatavata used in the contexts or considered by the commentator equivalent to Sandhigatavata are as follows: Kudavata,[16] Sandhigata anila,[17] Sandhi vata,[18] Jeerna vata,[19] Sandhi samprapthavata.[20]

Classification

No reference is available for the classification of Sandhigatavata. It mainly occurs due to Prakopa (increase) of Vata and so it can be classified in three types as Dhatukshyajanya (Depletion of body tissues), Vataprakopaka Nidana Sevanajanya (food and activities which increases vata) and Avaranjanya (blocking of channels). Another classification of Sandhigatavata according to its Nidana[21][22] is Nija Sandhigatavata (Internal) and Agantuja Sandhigatavata (Traumatic).

Nidanapanchaka or Pathogenesis

Hetu (cause)

In classics, no specific Nidana has been mentioned for Sandhigatavata. As it is a Vatavyadhi, general Nidana of Vatavyadhi can be taken as Nidana of Sandhigatavata.

Aharaja hetu (improper food habits)

Ahara (food) is the most common contributing factor for producing the disease. Intake of Ahara having Kashaya (astringent), Katu (pungent), Tikta Rasa (bitter taste), Sheeta (cold potency), Ruksha (dry), Laghu Guna (light) and indulgence in Alpashana, Vishmashana, Adhyashana, Pramitashana (improper eating and food habits) lead to aggravation of Vata. Dravyas (drugs) like Shushka shaka (dry leafy vegatables), Vallura (dried meat), Varaha (pig), Nivara, Koradusha (*Paspakum scrobiculatum*, Kalaya (Peanuts), Tumba (*Citrullus colocynthis*), Kaluga, Chirbhota etc, causes Vata vitiation.[23] Viharaja hetu (improper activities) which causes vitiaton of vata are Atiprajagarana (no sleep), Divasvapna (sleeping in day), Ativyavaya (excess sexual act), Vega sandharana (stopping natural urges), Plavana (swimming), Atiadhva (excess walk), Ativyayama (excess exercise).[24] Kalaja causes – Shishira (Winter) and Greeshma ritu (summer season) are the major seasons where the patients get affected or have the increased incidence of the disease.[25] Manasa causes (Psychological factors) are Atichinta (excess anxiety), Atishoka (excess grief), Atikrodha (excess anger), Atibhaya (fear).[26] Others: Langhana (starvation), Vishamad Upacharad Dhatunam Shayakshyat Rogatikarshanat (weakness due to prolonged diseases), Marmaghata (trauma to vital parts).

Symptoms[27]

Aggravation of Vayu gives rise to following signs and symptom: Sandhisula (Pain in joint), Vedana during akunchan and prasarana (Pain during extension & flexion), Sandhi hanta (Stiffness of the joint), Atopa (Crepitations).

Samprapti (pathogenesis)

As there is no specific Samprapti for Sandhigatavata, the general samprapti of Vatavyadhi can be concerned. According to Acharya Charaka, Dhatu kshaya (depletion of tissues) and Marga – Avarna (obstruction of channels) aggravate Vayu. Ahara, Vihara (food and activities) which produces excessive Dhatu - kshaya and makes Srotas void over a long period of time. When these Srotas are fully filled with Vayu, the Vayu becomes exacerbated. If Srotas are filled with other doshas, the Bali Vayu's marga is blocked by these doshas and the Vayu becomes aggravated. In relation to the Sandhigatavata, Nidana Sevana causes Dhatu-kshaya and Marga-Avarna, which causes Kha-vaigunya in the Sandhi, and a lack of precautions during

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Sanchaya-Avastha (movement) cause Vata Prakopa. This Prakupita Vata, further causes Shleshmaka Kapha and Majja Dhathu kshaya gives the seat of Bali Vayu and produced the disease Sandhigatavata.[28]

Samprapti Ghatakas

Nidana is Vata Prakopaka Nidana. Doshas are Vata (especially Vyana vayu, Shleshaka Kapha). Dushyas are Asthi (bones), Majja (bone-marrow), Meda (fat). Srotas involved are Asthivaha, Majjavaha or Medovaha. Srotodusti is Sanga (obstruction). Agni is Mandagni (poor digestive fire). Dosha Marga is Marmasthi Sandhi. Roga Marga is Madhyama. Udbhavasthana is Pakvashaya. Vyaktasthana is Asthi and Sandhi. Prognosis:[29] Sandhigatavata is a Kastasadhya (difficult to cure) illness because it involves Marma and located in Madhyama Rogamarga cause by Vatadosha. Differential Diagnosis of Sandhigatavata, Amavata,[30] Vatarakta,[31] Krostukashirsha,[32] Ashti majja gata vata[33] are narrated in Table 1.

Chikitsa of sandhigatavata

In Yogaratnakara the line of treatment for Sandhigatavata is upanaha swedana (sudation), mardana (rubbing) and snehana (oleation). But Acharya Charaka did not specify a particular line of treatment for Sandhigatavata. As Sandhigatavata is explained under a vatavyadhi, vatavyadhi treatment may be adopted. The chikitsa of Sandhigatavata is provided in the table below according to other Acharyas. (Table 2)

Common line of treatment for Vatavyadhi are Snehana - Abyantara pana Sarpi (ghee administration), Taila (medicated oil), Vasa (animal fat), Majja (bone marrow). Snehana Klama nivaranartha Dugdha (milk), Yusha (soup), Gramya (cultivated), Aoudaka, Anupa pakshi mamsa (bird growing in watery areas). Abhyanga & Swedana (oil application and sudation therapy). Mrudusneha Virechana (mild laxative). Niruha basti (decoction nema) and Shamana oushadhi (palliative medicines).

Chikitsa of Sandhigatavata elaborated by Sushrutha Samhitha,[34] Astanga Hridaya,[35] Astanga Sangraha,[36] and Yoga Ratnakara[37] are narrated in Table 2.

DISCUSSION

Sandhigatavata is described under Vatavyadhi in all Samhitas and Sangraha granthas (classical texts). In the Samprapti of Sandhigatavata, Vata gets aggravated due to Dhatukshaya and flows out of its ashaya (place) to circulate in the whole body. It gets localized in the Sandhi (joints) where Khavaigunya (any space or part of body devoid of normalcy or normal qualities) is already present, because until and unless there is Khavaigunya in the Srotas, the Dosha will not take Ashraya (seat). The qualities of Vata like Ruksha (dry), Laghu (light), Sukshma (minute), Khara (rough) and Vishada (clearness) are exactly opposite to the qualities of Sleshaka kapha present in the Sandhi i.e. Guru (heavy), Snigdha (oleation), Sheeta (cold), Picchila (sliminess) and Mridu (softness). When Dosha Dushya Sammurchana (amalgamation of vitiated doshas with weak and susceptible tissues) takes place in Asthi Sandhi (bone joints), the aggravated Vata over powers and undoes the qualities of Kapha which leads to Sandhigatavata. The function of Kapha is to sustain or Dharana which gets destroyed by the aggravated Vata.

Osteoarthritis is the most common form of arthritis. This degenerative joint disease results as a consequence of articular cartilage failure induced by multi factorial etiology. The risk factors of osteoarthritis are old age, obesity, female sex, major joint trauma, repetitive stress, genetic factors, prior inflammatory joint diseases and metabolic or endocrine disorders.

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Table 1: Sapeksha Nidana

Factors	Sandhigatavata	Amavata	Vatarakta	Krostukashirsha	Ashti majja gata vata
Ama	Absent	Present	Absent	Absent	Absent
Jvara	Absent	Present	Absent	Absent	Absent
Hridgaurava	Absent	Present	Absent	Absent	Absent
Age	Old age	Any age	Any age	Any age	Any age
Vedana	Prasarana Akunchana pravrutti	Vrischika Damshavata Sanchari	Mushika Damshavata Vedana	Tivra	Toda
Sotha	Vatapurnadruti sparsha	Sarvanga	Mandal yukta	Kroshtuka shirshirshvat	
Sandhi	Big and weight bearing joint	Big joint	Small joint		Big and small joint

Table 2: Chikitsa of Sandhigatavata

Sl. No.	Sushrutha Samhitha	Astanga Hridaya	Astanga Sangraha	Yoga Ratnakara
1.	Snehana	Vestanayuktha upanaha	Abhyanga	Swedana
2.	Upanaha	Snehana	Swedana	Mardana
3.	Agnikarma	-	Raktavasechana	Snehana
4.	Bandhana	-	Bandhana	
5.	Mardana	-	Mardana	

Snehana and Swedana, Basti are all frequent treatments for Vatavyadhi, according to Acharya Charaka. Snehana, Upanaha (fomentation), Agnikarma (cauterization), Bandhana (bandaging) and Unmardana (rubbing) are the treatments for Sandhigata vata described by Acharya Sushruta.

Snehana (oleation)

Snehana would be very effective in Sandhigatavata because it is a variety of Vata Vyadhi. Both Abhyantara Sneha and Bahya Sneha (both internal and external oleation) can be administered in Sandhigatavata.

1) Abhyantara Sneha (internal oleation) in the form of Pana (drinking ghee or medicated oil internally)), Bhojana (along with food), Basti (enema) and Nasya (medicine administered through nostrils) can be administered.

2) Bahya Sneha (external oleation) are many like Abhyanga (medicated oil application on body), Lepa (applying the medicnes as paste), Udvartana (applying and rubbing with medicated powder all over the body), Pichu (sponging or padding with medicated oil), Samvahana (Ayurvedic method of oil application), Mardana (rubbing), Murdhni Taila (applying the medicated oil on head) and Parisheka (pouring the medicated oil or decoction over the body).

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Swedana (sudation)

Snigdha Swedana (mild sudation) like Upanaha (induce perspiration by bandaging), Sankara (a type of sudation), Patrapinda (sudation by mixture of leaves as bolus), Parisheka (pouring warm medicated oil) are indicated in Sandhigatavata.

Upanaha (bandaging)

Saindhava Lavana and Sneha should be combined with Vatahara drug roots and pasted together with Kanji. This needs to be made lukewarm, then applied to the affected area before being wrapped with a piece of thin linen cloth and tied.

Pathya in Sandigatavata (wholesome diet)

According to Yogaratnagara Patola (*Trichosanthes dioica*), Kushmanda (*Benincasa hispida*), Shigru (*Moringa oleifera*), Masha (*Vigna mungo*), Kulatha (*Dolichos biflorus*), Godhuma (*Triticum aestivum*), Raktashali (red rice), purana dhanya (old grains), Kukkuta (chicken), titthira (red-wattled lapwing), nakra (alligator), Phala (fruits) – Dadima (pomegranate), draksha (grapes), dugdha (milk), dahi (curd), Grutha (ghee), Saindhava (rock salt).

Apathya in Sandigatavata (unwholesome diets)

Mudga (*Vigna radiate*), sarshapa (Brassica juncea), nishpava (*Lablab purpureus*), Sheeta pravara (cold), Guru (heavy), abhishyandi (Oozing).

Sadhyasadhyata

Sandhigatavata is a Kastasadhya (difficult to cure) illness because it involves Marma, and located in Madhyama Rogamarga, caused by Vatadosha.

CONCLUSION

As it is a degenerative disorder, it will hamper the quality of life in affected individuals. In conventional system of medicine, analgesics including NSAIDs, anti-inflammatory drugs, and corticosteroid and intra auricular injection are the options for the treatment of Osteoarthritis which gives temporary relief and lastly knee replacement has been done which is quite expensive and may have severe adverse effect.

In Ayurvedic classics our Acharya has given thousands of medications for Sandhigatavata, for both internal and external therapy which could reduce all the sign and symptom and the patient could perform their daily life style with less effort. If we are applying both internal therapy and external therapy will get excellent pain relief and also get successful remedy for Sandhigatavata.

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