



INTERNATIONAL RESEARCH JOURNAL OF AYURVEDA & YOGA

Impact Factor : 4.68
 ISSN : 2581-785X
 Website : <http://irjay.com>
 Email : editor.irjay@gmail.com

Volume- 2, Issue- 6

Review Article

Ayurvedic Management Of Sandhivata (Osteoarthritis)

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Article received on- 4 Dec.
 Article send to reviewer- 5 Dec.
 Article send back to author- 7 Dec.
 Article again received after correction- 10 Dec.

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Abstract-

Sandhivata is briefly described in Ayurvedic texts. In *Charaka Samhita*, the disease is first described as *Sandhigataanila*, but *Sandhivata* is not described in 80 types of *Nanatmajavata vyadhi*. *Sandhivata* is described under *Vatavyadhi* in all the *Samhitas* and *Sangraha Granthas*. *Ayurveda* emphasized degenerative diseases under the concepts of “*Dhatukshayam*”. *Vata* is the commanding factor in the maintenance of balance all over universe including our body. In *Vriddhavastha*, all *Dhatus* undergo *Kshaya* and *Vataprakopa* resulting individual prone to many diseases. Clinically the description of *Sandhigatavata* explained in the classical texts is similar to the condition osteoarthritis in modern science. *Sandhigata Vata* is one of them, which needs a particular therapeutic intervention to inquire the process of

“*Dhatukshaya*” and to pacify *Vata*.

In *Ayurveda*, the treatment of *sandhivata* is aimed at reducing the *Vatadosha* and to increase the *shleshakakapha* so the joint spaces are adequately lubricated for the free movement of the joints. For this treatment is divided into 3 parts- a) *Nidanaparivarjana*- Lifestyle

modifications including restrictions in diet & daily activities, b) *Shodhana* therapy such as *Snehana*, *Swedana*, *Lepa*, *Agnikarma*, *Bandhana*, *Mardana* & Leech application, c) *Shamana* therapy *DeepanaPachana*, *Srotoshodhaka* drugs clears channels regressing inflammation & enhance the effect of further treatment eg *Shunthi*, *Musta*, *Lashuna*, *Shallaki* are best for it. *Rasanasaptakamkashaya*, *Maharasanadi* decoction with *Guggulu* preparations like *Yogaraja* or *Kaishora* etc. have very well *Srotoshodhana* property. *Manjisthadi* & *Kokilaksha Kashaya* play important role in reduction of inflammation.

Keywords- *Sandhivata*, Osteoarthritis, *Vata*, *Dhatukshaya*

INTRODUCTION

In India *Ayurveda* is a traditional natural system of medicine that has been practiced for more than 5,000 years. *Ayurveda* is a Sanskrit word means "practices of longevity". People of this age have changed their life style erroneously which has altered their *daushik* constitution which causes various physical as well as mental ailments. Dramatic shifts in the humans lifestyle, causes due to advancements in a society or its scientific progress leads to altered lifestyle, which has many implications on human health and may lead to many disorders including diabetes mellitus, CHD, primary hypertension, osteoarthritis of the knee joint & obesity. Lifestyle diseases are different from other diseases because they are eventually preventable and can be treated with changes in diet, lifestyle, and environment [1]. *Sandhivata* is one among these. It is formed by two words. '*Sandhi*-joint & '*Vata*'- one of the three humors (*dosas*) of the body. Different nomenclatures are available in *Ayurvedic* literature for the clinical entity, which is similar to Osteoarthritis are *Sandhivata*, *Sandhivata* [2], *Khudavata* and *Jeernavata*. The cause of *Sandhivata* in *Ayurveda* is attributed to improper diet, life style, overuse and old age etc[3]. Aggravation of *Vata*-responsible for the movement and functions of the body, results the reduction in *Shleshaka Kapha* - a slimy substance present in the joints. The

aggravated *Vata* lead *srukshyata* (dryness), *laghutva* (lightness or porousness), *kharatva* (coarseness) in the joints causing degeneration [4]. The clinical presentation of both *Sandhigatavata* and Osteoarthritis are similar. Acc. to W.H.O Osteoarthritis is the 2nd commonest musculoskeletal problem in the world population (30%) after back pain (50%) [5]. Osteoarthritis also erroneously called Degenerative joint disease, which mostly affect cartilage. Cartilage is the slippery and flexible connective tissue that covers the ends of bones in a joint. Healthy cartilage allows bone to glide over each other. It also helps absorb shock of movement. In Osteoarthritis, the top layer of cartilage breaks down & wears away. This causes pain, swelling, & loss of motion of the joint. With time, the joint may lose its proper shape. Also, bone spurs may arise on the edges of the joint. Bits of bone or cartilage can break off & float inside the joint space, which causes more pain & damage [6]. Among females, the expansion of OA is said to increase during menopausal age. Many studies have shown that loss of oestrogen at the time of menopause increases the women's risk of getting osteoarthritis. [7] *Sandhivata* is a *Vataja* disease are manifested due to *Dhatukshaya* (degeneration of tissue) so the treatment plan including *Snehana*(oleation therapy), *swedana* (fermentation), *mridu samsodhana* (mild purification therapy), *vasti* (enema)

etc. can be adapted keeping an eye on the aetiology[8].

NEED OF STUDY

In modern medicine the complete remedy of Osteoarthritis still not available. The drugs used are mainly Analgesics, Anti-Inflammatory and Steroids, which cannot pacify the disease but provides only symptomatic relief. On other hand furious side effect like gastritis, ulceration of mucosal layer of stomach, heart burn and vomiting are added as the unwanted result [9]. Hence the modern medicines can't be used for longer period as a treatment of choice .So it is better to seek safe & effective treatments measure to prevent Osteoarthritis by maintaining healthy life styles by following the principles of *Ayurveda*.

ETIOLOGICAL FACTORS AND PATHOGENESIS

The etiology of OA is multifactorial. Various morphological as well as biochemical changes result in a softened, ulcerated and malfunctioning articular cartilage [10]. It has been postulated that age, gender, body weight, repetitive trauma and genetic factors are the risk factors which play an important role in the manifestation of OA [11]. *Sandhigatavata* causative factors like *Vata Prakopaka Ahara*, *Vihara* and *Manasabhava* are mentioned in detailed for the occurrence of *Vatavyadhi*. Though *Sandhigatavata* specially occurs in *Vriddhavastha*, which is *Pariharanikala* in which *Dhatukshaya* takes place which leads *Vataprakopa*. *Vata* and *Asthi* have *Ashraya-Ashrayi Sambandha*. That means *Vata* is situated in *Asthi*. In *Vridhdha*, *kala* increased *Vata* diminishes *Sneha* from *Asthidhatu* by its opposite qualities to *Sneha*. Due to diminution of *Sneha*, *Khavaigunya (Rikta Srotas)* occurs in *Asthi* which is responsible for the production of *Sandhigatavata*.

STANDARD TREATMENT REGIME FOR SANDHIVATA

External Therapy- *Snehana* (application of oil), *Janubasti or janudhara*, *Swedana* (*Nadisweda*, poultice) *Pindaswedan* (Diathermy) -types of hot fermentation, *Lepa*, *Agnikarma*, *Bandage*, *Mardana*, & Leech Application.

Internal Therapy- *Deepana-Pachana*, *Strotoshodhaka* drugs, *Rasayana* (Rejuvenating) Drugs, *Basti (Sneha: Panchatikta, Erandamuladi)*.

Exercise or Physiotherapy. Lifestyle modifications including restrictions in diet & daily activities. *Taila* (oil) used in *Abhyanga* has *Snigdha* (unctuous), *Guru* (heavy), and *Mridu* (soft) properties, which are opposite to the properties of *Vata*. *Abhyanga* reduces the aggravated *Vata*, which is responsible for the *kshaya* in the *Dhatu*s and for manifestation of features like pain, stiffness, and cracks. Modern studies show that, massage stimulates blood circulation and assists the lymphatic system, improving the elimination of waste throughout the body. Absorption through the skin can be enhanced by suspending the drug in an oily vehicle and rubbing it on the skin [12]. Thus, the medicaments used as massage are absorbed through the skin .Similarly *snehana* and *swedana* together bring about *vatashamaka*, *balya*, *anulomaka*, *deepana* & *pachana* effect in the body and may help to check the progress of the disease in *Sandhigatavata*. *Swedana* done after *abhyanga* or *snehana* enable free circulation in the joint removes pain, stiffness & swelling strengthens & rejuvenates the joint ease movements.

Kalka application improves vascularity of affected Joints. It aids in reduction of the symptoms by restricting the excessive joint movement due to the

limitation in knee joint movement followed by partial fixation bandage. Specific therapeutic effect of medicine used in *kalkabandhan* (leaves of *Eranda*, *Shigru*, *Imli*, *Nirgundi*) alleviate *Vata* (*Vata Shamaka*). The probable mode of action of traction is that it increases joint space temporarily & increases movement and flexibility of the knee joint, muscle, ligament and tendon strengthening and pain relief because bony fragment remains separate.

Basti is important for maintaining the level of myelopoiesis in the bone marrow.

Sneha Basti or *Brimhana* type *Basti* acts over different systems of the body by virtue of its multidimensional actions. Orthopedic conditions being specifically caused by Vitiating of *Vata Dosha* are primarily treated with *Basti*. Bone remodelling depends upon the *Asthidhara Kala* which is nothing but the *Purishdhara Kala* [13] i.e. structurally the colon. Intestinal flora is one of the main functional units of colon and of *Niruha Basti* nourishes this bacterial flora and maintains the bone health. *Sandhigata Vata* is produced by vitiated *Vata Dosha* with *Anubandha* of *Kapha*. So *Agnikarma* is considered as best therapy to pacify these *doshas*. Due to *Ushana*, *Tikshana*, *Sukshma*, *Ashukariguna* it removes the *srotavrodha* and pacify the vitiated *Vata* and *Kapha Dosha* and increase the *Rasa rakta samvahan* (Blood circulation). Due to more blood circulation, it probably flush away the pain producing substance and patients get relief from symptoms [14]. Also in *Agnikarma*, we transfer therapeutic heat to *twakdhatu* (skin) and gradually to deeper structure [15] which helps in pacifying pain and other symptoms. When heat is applied to the skin, it causes more blood to flow into the area. When blood flow increases to an area, it introduces oxygen and nutrients that can help to speed healing. Heat helps to

relax muscles, which can reduce some types of pain sensations. The sensation of heat on the skin also provides something called an analgesic effect; it alters the perception of pain so patients don't hurt as much [16]. The medicinal Leech is a beautiful symbol of give & take is sustainable resource management. *Hirudomedicinalis* is one of the oldest surviving animals on earth. The saliva of leeches contains a variety of substances such as *hirudin*, *hyaluronidase*, *histamine* like *vasodilators*, *collagenase*, *destabilase* [17] 5 inhibitors of *kallikrein*, *superoxide* production and poorly characterized *anaesthetics* & *analgesics* compounds [18]. These substances might reach deeper tissue zones & possibly the joint spaces. Various bioactive substance in leech saliva may also be as pharmacologically potent as *Hirudin* & thus exert adequate effects in periarticular tissue & adjacent structures [19]. Therefore a regional analgesic & antiphlogistic effect by these substances enforced by *hyaluronidase*, as well as counter irritation might be possible reason of treatment by treatment with leeches. Leech therapy could induce pain through *antinociceptive* effects.

PROBABLE MODE OF ACTION OF DRUGS

Drugs consist of *Chitraka*, *Aswagandha*, *Guduchi*, *Guggulu*, *Punarnava*, *Yavakshara*. These drugs act by the action of *Agnisamata*, *Vatashamana*, *Rasayana*, *Analgesics*, *Anti-inflammatory*, *Anti-oxidants*, *Sthaulyahara* & *Brimhana* properties of its ingredients.

Acc. to *Ayurveda* treatment is *Vighatana* of *Samprapti*:

- 1) **Agnisamta**- *Mandaagni* is responsible for the production of all the diseases. In *Sandhivata* *riddhavastha* leads *Agnivaishamya* leads *Vatapropa*. So it is essential for *Shamana* of the diseases.
- 2) **Vatashamana**- like *Agni*, *Vayu* is responsible for production of any disease. So for *Shamana* of *Sandhivata*, treatment should also be such that it can

cause *Vatashamana*. *Guggulu* have best *Vatasamak* property.

- 3) **Kaphavriddhi** (**Increases Snigdha guna**) – In *Sandhivata*, *Srotasa* in *Asthi Sandhi* is *rikta* which provides place to *Vata* to get situated there. By treatment *Riktasrotasa* is filled by *Sneha*. *Guggulu* & *Ashwagandha* increases *Kapha* by its *snigdha*guna.
- 4) **Rasayana**- *Sandhivata* specially occurs in *Vriddhavastha* due to *Dhatukshaya*. *Rasayana* drugs nourish *Dhatus* & Overcome *Dhatukshaya*. *Aswagandha*, *Guduchi* & *Guggulu* have best *Rasayana* properties.
Acc. to Modern Medical science treatment is
- 5) **Analgesics**- To provide relief in pain *Guggulu* is best.
- 6) **Anti-inflammatory drugs**- *Punarnava* due to its *mutrala* (diuretic) property decreases swelling. *Guggulu* also have anti-inflammatory property. It is reported valuable in cotton pellet test (indigenous drugs of India 1958). The water fraction of the methanol extract of plant leaves was effective in rat paw inflammation & was effective inhibitory action of human polymorhonuclear in vitro.
- 7) **Anti-oxidants** – eg Vitamin A, B, C, E etc. To prevent the joint from oxidative damage. Antioxidants nourish all the tissue. *Ashwagandha* & *Guduchi* have best antioxidant properties.
- 8) **Weight reduction**-*Sandhivata* occurs mainly in weight bearing joints. Obesity is a risk factor for *Sandhivata*. Excess weight gives burden to the joints that leads to joint damage [20].So, weight reduction is very essential for the treatment of *Sandhivata*. Acc. to *Ayurveda* *Sthaulya* mainly occurs due to *Medasagni Mandya* which leads to *Amavedavriddhi* so *Asthi* & *Majja dhatukshaya* occurs. So to correct the

Sthaulya or *Medavriddhi* is essential for *Avaranajanya Sandhivata*. *Chitrak* & *Yavakshar* have *lekhan* property & *Punarnava* have *mutral* and *shotahar* property due to its *lekhan* & *mutral* property it reduces weight.

- 9) **Make surroundings tissue strong**- Muscles, ligaments and tendons are responsible for joint stability. So surrounding tissue of the joint must be strong to prevent or to cure the *sandhivata*. If they are weak, joint damage will occur soon even with the minimal load. *Aswagandha*, *Guggulu*, & *Guduchi* have *Balya* property which makes tissue strong.

DISCUSSION

Sandhigatavata causative factors like *Aharaja*, *Viharaj*, *Manasa* and other *Vata Prakopaka Nidanas* are mentioned in detailed for the occurrence of *Vatavyadhi*. Though *Sandhigatavata* specially occurs in *Vriddhavastha*, which is *Pariharanikala* in which *Dhatukshaya* takes place which leads *Vataprakopa*. *Vata* and *Asthi* have *Ashraya-Ashrayi Sambandha*. That means *Vata* is situated in *Asthi*. In *Vridhdha*, *kala* increased *Vata* diminishes *Sneha* from *Asthidhatu* by its opposite qualities to *Sneha*. Due to diminution of *Sneha*, *Khavaigunya* (*RiktaSrotas*) occurs in *Asthi* which is responsible for the production of *Sandhigatavata*. Hence to treat *Sandhigatavata* drugs acting on both *Vata* & *Asthi* should be selected.

CONCLUSION

A disease of degeneration that means harmful degeneration initiate in early age group, which hampers quality of life. Even as using the treatment of modern medicine the chronic use of analgesic affects body badly. These adverse effects are extremely hazardous. For that purpose we can adopt right way treatment which gives instant &

safe end result easily. Ayurveda gives us preventive measures. In *Ayurveda*, the treatment of *sandhigatavata* is aimed at reducing the *Vatadosha* and to increase the *shleshakakapha* 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 case practices like *upanaha*, *agnikarma*, *bandhana*, *mardhana* etc are also described.

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