A SHORT REVIEW ON SANDHIGAT VATA W.S.R. TO OSTEOARTHRITIS

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ABSTRACT

SANDHIGAT VATA is one type of vat-vyadhi, which is most commonest form of articular disorder. Today’s modern era due to sitting jobs, air conditioner atmosphere, lack of proper healthy diet, travelling and old age etc leads to this disease which can be increasing day by day. All the osteoarthritis diseases in Ayurveda have been described under the heading of ‘vatvyadhi’. “vatpurnadrutispars: shothsandhigateanile” it's the one line unique identity of sandhigatvata. Osteoarthritis is one of the major disorder. As per modern science the osteoarthritis disease treatment is only pain killer, they only subside the pain but not cure the cause of diseases. While traditional life science Ayurveda has most effective solution over this.

The present article is an attempt to highlighting on details of sandhigatvata with co-relating with osteoarthritis.

Keywords: sandhigatvata, osteoporosis, treatment, review.

INTRODUCTION

Sandhigat-Vata is one of the most common Vatavayadhi. which can be co-related with osteoarthritis, the prevalence rate of Osteoarthritis is total 14.8% in which knee osteoarthritis prevalence rate is 10.8% which is more than other (1). In this Vat get vitiated due to various causes, as mentioned in Charak Samhita. Acharya charaka described as “sandhi gataanila”(2) means vata gets located in the Sandhi and result in Sandhigatavata. In madhav nidan sandhigata vata is describes as a hantisdandhigat: sandhinshoolatopokaroitch” which means this diseases damaged joints having symptoms like pain sensation, cripitation at joints. (3) In other books ‘Akunchana prasaranvedana shotha’(4), atopa, hantasandhi’ etc. symptom’s are given. It is commonly seen in elder age, which hampers day to day life activity like walking, sitting, bathing, gait etc. So finding its cause and get rid of them i.e. Nidanparivarjana and vatnashak treatment is important. Hence it is necessary to study this disease thoroughly.

Definition of sandhigatvata:

1) According to Acharya Charak sandhigatvata, is the vatvyadhi is which sandhi shool (joint pain), atop (cripitation) vat purnadrutispersh, shoth (swelling) etc symptomps are seen(4).
2) According to Acharya Shushrut, it is with symptoms of, hantisandhigat: (degeneration of joints), shool (pain), shopha (swelling) at the joints.\(^{(5)}\)

3) Acharya Madhav & Vagbhat have described almost same definition as Acharya Charaka and shushruta samhita.

**Nidan Panchaka of Vatvyadhi**

Nidan

There is no specific description about hetu of the disease sandhigat vata, as it is one of the vatvyadhi, the hetu of the vatvyadhi are to be accepted as the hetu of the vatvyadhi.

**General hetu of vatvyadhi**\(^{(6)}\):

1. Aaharaja Hetu

2. Vihaara Hetu

- **Aaharaja-Hetu:**
  Acharya Charaka has told that ruksha (dry), sheet (cold), alpa (in small quantity), laghu (light diet), Agnimandya, tikta, katu, kashay rasatmaka aahara (diet) is responsible for the vataprakop which leads to formation of vatvyadhi.

- **Viharaja-Hetu.**
  Viharaja-Hetu also plays an important role in the production of sandhigatvata. Laghan (starvation), plawan (swimming), Ativyayam (excessive exercise), Atimaithuna (excessive sexual activity), mal mutra rasadi dhatukshaya, diwaswap (day dreaming), Ratrijagran (Insomnia), datukshya, aaghat (accidental fall) Vegadharana are included in Vihara Hetus.

**Samprapti (Pathogenesis)**\(^{(7)}\)

Acharyas have described the following Samprapti of the disease sandhigatavata.

<table>
<thead>
<tr>
<th>HetuSevan</th>
<th>Vataprakop</th>
<th>Dhatukshaya at Strotus</th>
<th>Increases ruksha, parishata, kharata at stotas</th>
<th>Rikta strotas vayupuran</th>
<th>Vatvyadhi (dhatukshayjanya)</th>
</tr>
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</table>

**Table 1:** Showing Samprapti-Ghatakas of sandhigatvata:

| SampraptiGhatakas of sandhigatvata | Vat-Pradhana: In kshayajanya-sandhigatvata | Vat-kaphpradhan: In upstambhit-sandhigatvata According to Sushruta.
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<tr>
<td>Dushya</td>
<td>Rasa,raktamansa,sira,Asthi</td>
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<tr>
<td>Agni</td>
<td>Jatharagni &amp; Dhatwagni-Mandya</td>
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<td>Srotas</td>
<td>Asthivaha strotas</td>
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<td>SrotodustiPrakara</td>
<td>Sanga &amp; Vimargagamana</td>
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<td>Udbhavasthana</td>
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<td>Adhisthana</td>
<td>sandhi</td>
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<td>Vyadhimarga</td>
<td>Bahya marg</td>
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There is no classical description regarding the Purvarupa of sandhigatavata, ‘avyaktanam lakshana’ of vatvyadhi.

Rupa
Rupa of Vatvyadhi, according to different Ayurvedic classics areas –
- bhedoparvasti sandhi shool (joint pain)
- vatpurnadrutisparsh
- shoth (swelling)
- prasarna-kunchnayo pravruttisch svedana (pain during moment)
- Atop (cripitation)
- hantisandhigat (degenerative changes at joints)
- mans-balkshyam
- astishosh (osteoporosis)

Sadhya Asadhyata:
If sandhigata vat is occurs newly, having strong immunity not making any complication than it is sadhya. Otherwise it is Krichha Sadhya. More over if there is dominance of the vat dosha & patients develop complication of Vatvyadhi then it is yapya.

Differential-diagnosis:
shandhishool which are present in sandhigatavata have been also described in other diseased condition which are as follows –
- Aamvata-along this jwaranubhuti also
- majjagatvata - Third Vega of Visha
- RaktavritaVata– SamaSannipatajaJvara

Pathya – Apathya:
PathyaAahar and vihar:
sarpi, tail, vasa, majjaseven, snigdha, guruaahar, sek, abhyang (massage), basti (enema), payas, madhur, Aamla, lawanrasatmaka Aahar seven.
Apathya: katu, tikta, laghu, atichinta, ativyayam etc.

Chikitsa of sandhigatavata:
chikitsa sutra of sandhigatavata can be mentioned by yogratnakar, in which treatment is given as, agnikarma, snehan, swedan for sandhigatavata.

As Acharya Charak mentioned that “bahiabhyantarp swayesnajagatjayet” that means treatment of this diseases can be done by bahyasnehan (external massage by oil) and abhyantarsnehapan (taking of ghee, oil by orally)

As Sandhigatavata is Madhyamamarga gat Vatika disorder in which Vata gets lodged in Sandhi. Hence to treat Sandhigatavata drugs acting on both Vata doshti and Asthi dhatu should be selected. Considering this point, Basti medicated with Tiktradryya, Ghrita and Kshira is specially recommended in treatment of Asthivaha Srotodusti.

The Gugglu is used mainly in Vatavyadhi. The reason it lies on the part of chemical constituents of Guggulu and its Rasa, Guna, Virya and Vipaka which play an important role for overcoming the ailments. Guggulu removes the factor of Dhatukshaya by its Madhura, Katu, Tikta, Kashaya Rasa and Picchila, Snigdha Gunas. It is also effective by removing the obstruction in Srotas due to Margawrohdhjanya. In fact, several preclinical and clinical studies suggest that guggulsterone (guggul), boswellic acid (salakiguggul) have potential for arthritis treatment.

Parijata being Ushna in virya is strongly Vatashamaka. It acts as analgesic and anti inflammatory, anulomana, deepana, kaphaghna and vatashamaka in nature

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 vahan (Blood circulation). Due to more blood circulation, it probably flushes away the pain producing substance and patients get relief from symptoms. Also in Agnikarma, we transfer therapeutic heat to twakdhatu (skin) and gradually to deeper structure 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 brings along oxygen and nutrients that can help to speed healing. Heat helps to relax muscles, which can decrease 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 patient don't hurt as much.\(^\text{(19)}\) Guduchi, Pippalimoola, Shunthi and guggulu acts as Vatashamaka due to their Ushnavirya. Virechaka drugs are having Ushna, Tikshna, Sukshma, Vyavayi and Vikasi property, they reaches Hridaya by virtue of its Virya and then following the Dhamani it pervades the whole body through large and small Srotas. The Panchabhautika combination of Virechaka drugs i.e. Prithvi, Jala and by the virtue of their properties helps in eliminating the morbid humor from Shakha to Kostha and then out of the body. Secondly, the action of Virechana drugs can be considered as either secretory or osmotic in action. During the time of excessive work by intestine, blood supply increases and plasma portion is pulled to intestine. Extra cellular fluid is the medium of the exchange between plasma portion of blood and interstitial fluid that fills the spaces between the cells. This extra cellular fluid on reaching the plasma portion circulates all over the body and comprises of various toxic products, which when passing through intestine may provide the path for elimination of toxic products which in turn helps in relieving the symptoms like pain, inflammation etc.

**Basti** is important treatment given in the diseases of vatavyadhi\(^\text{(20)}\). SnehaBasti or Brimhana type Basti acts over different systems of the body by virtue of its multidimensional actions. Orthopedic conditions being specifically caused by Vitiation of Vata-Dosha are primarily treated with Basti. Intestinal flora is one of the main functional units of colon and of NiruhaBasti nourishes this bacterial flora and maintains the bone health. Gut is the chief organ that is associated with absorption and excretion functions of the body. Removal of inflammatory mediators and toxic matters depends upon healthy gut. Basti causes colon cleansing that removes accumulated wastes and unhealthy microbial flora and initiates better absorption and effective excretion which prevent accumulation of toxins which can be stated in Ayurvedic terms as Ama formation. Basti is helpful to reduce the excess of morbid matter, purifies every channel normalizes the function of Vata. Sushruta clearly mentioned the effect of sweda in sandhirogas (Sandhien Stabdamchestayedashuyukta)\(^\text{(21)}\) and typically mentioned Upanahasweda in Vatarogas\(^\text{(22)}\). Upnaha Sweda is Vatashamaka by virtue of its Ushana, snigdha guna. It combats with the properties of Vata doshas like Sheeta, Ruksha, laghu. The associated symptoms due to prakopa of kaphadosha are also reduced due to properties like Ushana, Ruksha and tikshan properties of Swedadravaya. Thus at the same time the symptoms caused by both Vata and Kaphadoshas are reduced by Upnaha Sweda and Sheetata, Shoola, Stambha etc. caused by these doshas are reduced.\(^\text{(23)}\)

Also In the symptoms of SandhishothaBasti, Virechana, Agnikarma and Upanaha have given best results. In symptoms like joint crepitation and pain, Basti and Agnikarma have given more percentage relief as compared to other therapeutic modalities. This can be explained on basis of fact that in initial phase of acute pain and inflammatory edema drugs having anti-inflammatory properties reduces inflammation and hence reduces pain. Also Upanaha is a type of Sweda which acts like a deep heating modality and gives anti inflammatory effect by clearing the inflammatory mediators from affected joint. Agnikarma itself is a modality that gives deep heating and simultaneously alters pain signal intensity. Basti, Matrabasti and Kshirapaka are modalities that gives nourishment to the joint and removes viti- ated Vata there by impede the degenerative process. Even Virechana therapy cleans the obstruction in Srotasa ensuring best nutrition and drainage of Viti- ated Doshas from joint.
MODERN REVIEW OF OSTEORTHRITIS:
Osteoarthritis (OA)
Osteoarthritis is an abnormality of synovial joints characterized by softening splitting and fragmentation (Fibrillation) of articular cartilage not attributable to direct contact with inflammatory tissue (24). This is usually accompanied by subchondral sclerosis and bone cysts, joints space narrowing and bony overgrowth at tissue joints margins. (osteotheses)

ETIOLOGY
a) Age is a major risk factor.
b) Race hip OA is less common in Chinese and Asians than in those of western origin, where as knee osteoarthritis is more common in afro- carribians.
c) Genetic predisposition clinical evidence of inheritance of OA
   • Heberden’ nodes are more common in sisters of affected women
   • 20% of individuals with osteoarthritis have a positive family history
   • First degree relative are at a twofold risk of generalized radiological osteoarthritis
   • There is greeter concordance in identical twins at several joint sites
   • Heritability of radiological knee and hand osteoarthitis is 40-65%
d) Gender and hormonal factors- below 45 years, the disease in whom it usually involves one or two joints, above 55 years, it is more common in women, usually involving several joints
e) Obesity- the relationship is stronger in women than men and is strongest at knee
f) Other systemic factors- in women a significant association between hand disease and elevated serum cholesterol levels. Hypertension has been associated with generalized osteoarthritis in non-obese women. Trauma is associated with development of osteoarthritis.

PATHOGENESIS(25):
The earliest changes of OA may begin in cartilage. The two major components of cartilages are type 2 collagen, which provides tensile strength, and aggrecan, a proteoglycan. OA cartilage is characterized by gradual depletion of aggrecan, unfurling of the collagen matrix, and loss of type 2 collagen, which leads to increased vulnerability.

CLINICAL-MANIFESTATIONS:
OA can affect almost any joint but usually occurs in weight-bearing and frequently used joints such as the knee, hip, spine, and hands. The hand joints that are typically affected are the distal interphalangeal (DIP), proximal interphalangeal (PIP), or first carpometacarpal (thumb base); metacarpophalangeal joint involvement is rare.

Symptom
• Use-related pain acting one or a few joints (rest and nocturnal pain less common)
• Stiffness after rest or in morning may occur but is usually brief (<30 min)
• Loss of joint movement or functional limitation
• Joint instability
• Joint deformity
• Joint crepitation (“crackling”)

1. Physical-Examination
• Chronic monarthritis or asymmetric oligo/polyarthritis
• Firm or “bony” swellings of the joint margins, e.g., Heberden’s nodes (hand DIP) or Bouchard’s nodes (hand PIP)
• Mild synovitis with a cool effusion can occur but is uncommon
• Crepitance—audible creaking or crackling of joint on passive or active movement
• Deformity, e.g., OA of knee may involve medial, lateral, or patella-femoral compartments resulting in varus or valgus deformities
• Restriction of movement, e.g., limitation of internal rotation of hip
• Objective neurologic abnormalities may be seen with spine involvement (may affect intervertebral disks, apophyseal joints, and paraspinal ligaments)
CONCLUSION

Sandhigatvata is well explained in Ayurvedic samhita. That ancient knowledge of Ayurveda will help in diagnosis and management sandhigat vata in present era very well. So, it is an attempt to highlighting on details of sandhigat vata and osteoarthritis.

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