



## CLINICAL STUDY TO ASSESS THE EFFICACY OF “ABHYANGA AND KALA BASTI IN THE MANAGEMENT OF SANDHIGATA VATA SA-AMAVASTHA W.S.R. TO OSTEOARTHRITIS OF KNEE JOINT

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### ABSTRACT

*Acharya Charaka* has defined *Sandhigata Vata*- as 'Provoked *Vata* locates in the *Sandhi*, it causes *Shotha* which on palpation appears like bag inflated with air and the movements of extension and flexion are accompanied with pain'. According to modern science, it is a common degenerative disease of the joint, affects approximately 10% of all adults (men & women), and the prevalence increases with the age. In the present study, the *taila abhyanga* and *Kala Basti* (*Matra Basti* of *Dashmoolataila* and *Niruha Basti* of *Triphla Kwath*) therapy mentioned in *Ayurveda* for the treatment of *Sandhigata Vata Sa- Amavastha* will be reviewed. The Symptoms of *Sandhishula*, *Sandhigraha*, *Sandhiatopa*, *Sandhiaushnyata*, and *Sandhigaurava* are assessed using various tools and techniques. Thus, it can be concluded that the treatment with *Taila Abhyang* and *Kala Basti* in the management of *Sandhigata Vata Sa- Amavastha* will be effective, and researchers/ clinicians should adopt the given methodology for further exploration <sup>[1]</sup>.

**Keywords:** *Sandhigatavata*, Osteoarthritis, *Matrabasti- Dashmoolataila*, *Niruhabasti- TriphlaKwath*.

## INTRODUCTION

Acute or chronic inflammation of a joint is often accompanied by pain and structural changes and has diverse causes, such as infection, crystal deposition, or injury. The disease is characterized by local areas degeneration of articular cartilage, sclerosis of the bone, formation of osteophytes, and hypertrophy of the soft tissues. Sandhigata vata- Osteoarthritis (O.A.) is the most common form of arthritis whose more than 10 million cases per year reported in India. It shows a strong association with ageing, obesity, and females. It begins asymptotically in the 3<sup>rd</sup> & 4<sup>th</sup> decade of life prevalantly more among menopausal womens, in South asian countries i.e. Bangladesh, India, Nepal, Srilanka. 80% of people have some radiographic evidence of O.A., though only 25-30% have associated symptoms in weight bearing joints knee, hip, hand, toe, spine, interphalangeal joints, and shoulder joints. The wrist, shoulder, and ankle are less often involved.

Knee O.A. is more prevalent in all racial groups but hip, hand, and generalised O.A. are only prevalent in caucacians. According to WHO, osteoarthritis cause disability in 10% of the population > 60 years, O.A. is the 2<sup>nd</sup> commonest problem in the world population affecting nearly 30%, that is why we review the treatment for the same.

## DISCUSSION

### Review of Literature-

#### Classification of Sandhigata Vata

It can be classified in different ways by current *ayurveda* writers, but there is no classification mentioned in *Brihatrayi* texts. Vayu gets vitiated in two ways- (1) **Dhatukshayajanya**: *Kshaya* of *Dhatus* is the main cause of *Vatavyadhi*. (2) **Margavarodhajanya**: The primary cause of *margavrodha* of *Srotasa* by *Ama*, *kapha*, *meda*, or *Anya dosha* [2].

On the basis of *Sandhigatavata Hetu* it is classified as-(1) **Nija Sandhigatavata**(2) **Agantuja Sandhigatavata**

The basis of *Aam*; *Sandhigat Vata* is classified as- (1) **Sama Sandhigat Vata**(2) **Nirama Sandhigat Vata**  
Concept of *Sama (Ama)*

In the pathology of many diseases, *ama* as the main factor. Various factors like overeating, intake of mutually contra-indicatory food, irregular food timings, etc. lead to *Agnimandya* which further takes part in the production of partially digested food called *Amavisha* or *Ama*<sup>3</sup>. The treatment needed with this is- *Deepan*, *Paachana*, *Shaman* & *Shodhana* while with *Nirama Dosha* only the *Shaman* treatment is given<sup>[3]</sup>.

#### Modern Therapeutic Approach to Osteoarthritis

Acetaminophen, Opioids, NSAIDs, Diacerein

#### Ayurvedic Therapeutic Approach to Osteoarthritis

*Chikitsa* involves not only *Nidanaparivarjana* (avoiding causative factor) but also restoration of the *Doshika* equilibrium. The elimination of the disease can be achieved by *Shodhana* and *Shamana*. *Shodhana* comprises of *Antaha parimarjana* and *Bahira parimarjana*. *Bahira parimarjana* is achieved by *Snehana*, *Swedana*, *Mardana*, *Lepana* etc. *Shamana* types of *Chikitsa* cure disease without eliminating *Doshas*.

**Snehan**- Its used for cleaning & rejuvenation of the body externally i.e. *Abhyanga* and internally.

#### • ABHYANGA

The process in which medicated lukewarm oil is applied externally to the body with some pressure is called *Bahya snehana* or *abhyanga*.

#### Abhyanga Process

➤ Form/ type: *Abhyanga* (gentle massage) for 15 minutes daily

➤ Dose: As per requirement

➤ Kala/ time: Morning & Evening hours before taking a meal

• Lukewarm oil (temp. will depend upon *ritu* and *prakruti* & tolerance of the patient), is applied to the affected part or *sandhi Pradesh* and then gently massaged over that area in a circular clockwise manner. The patient is advised to cover that joint to save it from direct contact with cold air. Then to obtain the results 10 to 20 minutes of massage should be done in each part of the body *Nadi sweda* with *Dashmoola Kwatha*. For joint massage/ *Abhyanga*; an essential or required quantity of drug (e.g. *taila*) is taken and applied on the joint in circular/ muscle origine to

insersion, the manner in order to absorb the drug into the skin epidermis. The patient is asked to cover the body, wait for some time till the effect of abhyang, and not to move into the cool air area suddenly. Samyoga, Ayoga, Atiyoga Lakshana analysis and Pathyadi Vichaar.

#### MODE OF ACTION OF SNEHAN

➤ *Sneha* (oil) used for *Snehana* (Oleation) enters the body through *Romakupa*, *Shiramukha*, and *Dhamani* and nourishes the body. *Acharya Charaka* has described that *Vayu* dominates in the *sparshanendriya* i.e. tactile sensory organ and this sensory organ is lodged in the skin.

➤ The *Abhyanga* is excessively beneficial to the skin, so one should practice it regularly (*Ch. Su. 5/86*). *Sparshanendriya* is present all over the body and so it is present in the *adhithana* of other *Indriyas* also. Other *indriyas* are dependent on *sparsanendriya* for their *Vishayagrahana*. *Kharatva*, *Dravatva*, *Chalatva*, *Ushnata*, and *Apratighat* are the specific *lakshanas* of *Prithivi*, *Jala*, *Vayu*, *Agni*, and *Aakash Mahabhut* respectively. These all are the subject of *sparsanendriya* only. (*Ch. Sh. 1/30*). *Abhyanga* directly benefits *Sparshanendriya*. It has properties opposite to the properties of *Vata*. The Pharmacodynamics of *Abhyanga* can be understood by the properties of *Snehana* drugs<sup>[4]</sup>.

#### Modern Concept

• The primary role of the skin is to act as a barrier to drug absorption. There is ample proof that the stratum corneum is the primary barrier to drug absorption through the skin. There are 2 pathways for transport across the skin, the polar pathway, and the non-polar pathway. The polar pathway is associated with the protein component of the stratum corneum. The non-polar pathway is associated with lipid components. The more occlusive the vehicle greater the hydration and hence permeability.

#### PROBABLE MODERN CONCEPT OF TAILA ABHYANGA ACTION

➤ The oil does not doubt its safety and has its effect on local application, and massaging due to the presence of methyl salicylate, Pluchicin, zinziberine,

sisamine, menthol, etc. Often they are used in addition to oral NSAIDS medication.

➤ It is believed that the drug would penetrate to the adjacent tissues attaining high concentrations in the joints while maintaining low blood levels.

➤ Measurement of drug concentration attained in tissues underlying the site of application, as well as concurrent blood levels have been shown that the systemic absorption from the topical oil preparation is slow taking 10 times longer time to attain peak concentration compared to oral dosing.

➤ The highest blood level remains below 12% of the same dose given orally. This is consistent with their lack of systemic toxicity. Local concentrations are high upto a depth of 3-5 mm, i.e. in the dermis, but at 20 mm depth in muscles, the concentration is low and the nearly same as in blood. The report on the clinical efficacy of this and other topical oil is even more variable (24-82%).<sup>[5]</sup>

#### BASTI INTRODUCTION

*Basti* is derived from the fact that the *Basti Yantra* or the apparatus used for introducing the medicated enema materials made up of animal urinary bladders.

#### A. Pharmaceutical Classification (According to Drugs Used)

##### 1) *NiruhaBasti*:

*Kashaya* (Decoction) is the predominant content in *Niruha Basti* with *Kashaya*, *Madhu*, *Saindhava*, *Sneha*, and *Kalka* are the ingredients commonly used. The *Basti* which eliminates the vitiated *Dosha* from the body and increases the strength of the body because of its potency is called *Niruha Basti*. Because of this enema stabilized the normal function of *dosha*, and stabilizes the *Vaya* (age) and *Deha* (body) i.e. the strength of the body is called *Asthapana Basti*. (*Su. Ni. 35/18*).

#### Administration and content of *Niruha Basti*

Form: (A)- *Asthapan/Niruha basti- Triphla kwath Basti*

*Kala*: 2,4,6,8,10,12<sup>th</sup> day, Given empty stomach (*Nirahar*).

*Basti Return time*: 48 minutes (1 *Muhurta*).

*Dose*: *Triphla kwath*-100 ml

Gomutra- 50 ml, Madhu- 20 ml, Yavakshara- 20 ml, Ushakadi Avapa

Form: (B)- **AnuvasanaBasti**: In *Anuvasana Basti* only *Sneha* is used.

#### Contents of Anuvasan-

1. Dashmoola oil- (Agnimanth, Patla, Gambhari, Shyonag, Bilva, Shalparni, Prashnaparni, Brahti, Kantakari, Gokshura), Sahchara moola, Nirgundi patra/ Panchanga, Kukkuta Mans<sup>[6]</sup>.

2. Motha, Hapusha.3. *Tila taila*,4. Water,5. Soanf, Saindhav lavana.

#### Mode of action of basti

- *Veerya* (potency) of *basti aushada* reaches all over the body through the srotas in the same way as the water poured at the root of the plant reaches upto leaves.

- Even though *basti dravyas* come out very quickly with mala, their *veerya* acts all over the body by the action of *panchavata*, just as the sun draws moisture from the earth.[cha.si.7]

- *Veerya* of *basti* reaches *Apana vayu* and nourishes it then acts on *samanavayu*. After nourishing *samanavayu*, it nourishes *vyanavayu*, thereafter acting on *udanavayu* and *prana vayu* and nourishing them.

- When all *panchavata* gets nourishment, it promotes health. The *veerya* of *basti* acts on *pitta*, *kapha* to bring to normalcy. The *veerya* of *basti* is carried to *tiryak pradesha* by *vyanavayu*, to *adhah-pradesha* by *apanavayu*, and *urdwapradesha* by *prana vayu*. (A.s.5/68)

- It is explained that *basti* should be administered to the patient lying on the left lateral side as the *grahani* and *guda* are situated on the left side of the body, *vali* of the *guda* get weakened.

- *Basti dravya* reaches up to *grahani*, and the stimulation of *jatharagni* present in *grahani*. *Sneha* dravya by its *sukshmaguna* enters into *sukshmasrotas* and reaches *grahani*. Here it acts on *samanavata* which lies near the seat of the *jatharagni*, thus igniting it<sup>[7]</sup>.

#### PROBABLE MODERN CONCEPT

The mode of action of *basti* can be understood in the following way –

The drug is administered through the anal region. It gets absorbed in intestinal mucosa & works by 4 mechanisms<sup>[8]</sup>

- By absorption mechanism: Hyper osmosis takes place- From colon cell to lumen - Absorption of endotoxins- Irritation of Large intestine (due to irritant property) -Elimination

- By system biology mechanism: Drug is administered through the anal region - It gets absorbed in intestinal mucosa - Lipid soluble / Water-soluble Passive diffusion / Active diffusion. By the diffusion mechanism, the *Basti* drugs go to the epithelial cell. Then it goes to the capillaries. Then goes to the cell after that molecule.

- By neural stimulation mechanism: Drug given-ENS (Enteric Nervous System of the gut) is stimulated- Excites mesenteric plexus & sub mucosal plexus- Neurotransmitters carry information to CNS independently to produce the effect.

- By excretory mechanism: The sigmoid, rectal & anal regions of the large intestine are considerably better supplied with parasympathetic nerve fibers than other part of the intestine. They are mainly stimulating action & functions especially on defecation reflexes<sup>[9]</sup>.

#### Criteria of Assessment-

A. Subjective Parameter (Sign & Symptoms)-1. Shoola(Pain) 2. Shotha(Swelling) 3. Graha(Stiffness) 4. Sandhi Atopa(Crepitus) 5. Aushnyata(Temperature) 6. Guruta(Heaviness)

B. Objective Parameter- 1. Oxford Pain Chart, 2. Visual Analog Scale, 3. WOMAC index score, 4. WHO- QOL score

## CONCLUSION

Taila Abhyanga has snigdha (unctuous), Guru (heavy), and Mridu (soft) properties, which was opposite to the properties of Vata. Abhyanga reduced the provoked Vata, which is responsible for the decay in the Dhatus and the manifestation of Shula, shoth, graha, atopa, aushnya, gauravata e.t.c. i.e. pain and stiffness. Abhyanga stimulates blood circulation and assists the lymphatic system by

absorption of oily medicines through the skin. The colon is considered the main seat of Vata, Dashmoola taila Anuvasan Basti, and Triphala kwatha Lekhan Basti (i.e. Matra Basti) administered through the rectocolonic route have their optimum effect on the seat of Vata.

- Females are found markedly more involved in *Sandhigatavata*. Lack of exercise gradually leads to weight gain which is one of the aggravating factors for the disease. It is due to physiological changes and lack of strength in *Dhatus* which make them more prone towards vitiation of *Vata dosh* and development of *Sandhigatavata*. This is due to the lack of female hormones (Oestrogen). Menopause history or irregular menstrual history plays important role in the manifestation of *Sandhigatavata* due to such history *Apana* gets *pratiloma* direction which in turn vitiates other types of *vayu*.
- Irregular *Malpravartan* i.e. constipation is a considerable factor, as it obstructs the *prakrita gati* of *apanavayu* & creates the habit of *vegadirana*, which vitiates *vayu*, *agni* as well as *purishadhara kala*.
- *Sandhi shula* is best relieved followed by *sandhi shotha* with the *Ahyanga* of oil and Kal Basti (Dashmoola taila Basti & Triphala kashaya Basti). This is due to the *sthanika ama dosha pachana* and *vednahara* effect achieved by the oil & *Basti Karma*.
- Oil has its local effect on massaging to relieve pain, stiffness, swelling, and crepitus due to the presence of methyl salicylate, pluchicine, zingiberine, sesamin, menthol, etc. often they are used in addition to oral NSAIDs medication.
- Various drugs (i.e. Punarnava, Rasna, Triphala, and Godugdha) used have Mineral content and Rasayan effect on joint modalities. The effect of Kala Basti for Sandhigata Vata is undoubtful due to its systemic effect on dhatukshaya and vitiated Vata, whereas Taila Abhyanga has its limitations to the local effect on symptoms & Signs of disease. The overall effect of therapy in combination is found to be superior to individual therapy.

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