



## Research Article

### **HANU BASTI- AN INNOVATIVE PROCEDURE IN HANU SANDHIGATA ROGA**

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#### **ABSTRACT**

Osteoarthritis, a form of arthritis is characterized by chronic degeneration of various hard and soft tissues around the joint. It can also affect the Temperomandibular joint and called as TMJ osteoarthritis. The non dental causes of oral pain closely related to Temperomandibular disorder. It affects both sexes with higher prevalence in women. *Hanubasti* a form of *Bahya Sneha* and *Sveda*, designed on the principle of *Shirobasti*. Here the word innovative is used because the SOP (standard operating procedure) of *Hanubasti* is unique and new. We have standardized the procedure and want to conduct large trial of the same. In this article, an attempt is made to describe the methods, indications and precautions of *Hanubasti* procedure based on the clinical experience and evidence based medicine (EBM).

**KEYWORDS:** Hanu Basti, Hanu sandhi, TMJ osteoarthritis, *Sandhigata vata*.

#### **INTRODUCTION**

*Hanu sandhi* is the main *Sandhi* which comes in head region. According to Susruta, in classification of *Sandhi* based on *Kriya* it is a *Cheshtavantha sandhi* and based on *Rachana* it is a *Vayasthunda sandhi*.<sup>[1]</sup> In *Cheshtavantha sandhi* it comes under *Bahu chala sandhi*.<sup>[2]</sup> As it is a *Bahu chala sandhi* its prone for more *Vataja* diseases. *Hanu sandhi* can be correlated to Temperomandibular joint. Osteoarthritis, a form of arthritis is characterised by chronic degeneration of various hard and soft tissues around the joint. It can also affect the Temperomandibular joint and called as TMJ osteoarthritis. <sup>[3]</sup> The non dental causes of oral pain closely related to Temperomandibular disorder. It affects both sexes with higher prevalence in women. The etiologies are complex and malocclusion does not play the primary role once attributed to it. Osteoarthritis is a common cause of masticatory pain. <sup>[4]</sup> It is a degenerative rather inflammatory disease and mainly affects weight bearing joints. The disease in TMJ differs as it is non weight bearing, articular surface is covered with layer of mature fibrous tissue and not hyaline cartilage. It may present clinically with pain, crepitus, limitation of joint movement and deviation on opening mouth.<sup>[5]</sup>

In Ayurveda Sushruta has mentioned the treatment for *Sandhigata vata* as *Snehana*, *Upanaha*, *Agnikarma*, *Bandhana* and *Unmardana*. <sup>[6]</sup> Vagbhata explained *Abhyanga*, *Mardana*, *Swedana*, *Upanaha*, *Bandhana* and *Agnikarma* as treatment. <sup>[7]</sup> *Hanu Basti*

and *Hanu pichu* are the treatment modalities that can be adopted in the management of *Hanu Sandhigata Vata*. *Hanu Basti* is a very unique therapeutic procedure evolved from the procedure of *Shirobasti*<sup>[8]</sup> and *Hanu pichu* from *Shiro pichu*. Both come under *Bahir parimarjana chikitsa*.

*Pancakarma* presents a unique approach of Ayurveda with specially designed five procedures of internal purification of the body through the nearest possible route. Such purification allows the biological system to return to homeostasis & to rejuvenate rapidly & also facilitates the desired pharmacotherapeutic effects of medicines administered thereafter. *Pancakarma* has a full therapy role as promotive, preventive & curative procedure.<sup>[9]</sup>

Physician can be classified in to two categories, i.e. *Vikalpavid* and *Avikalpavid*. *Vikalpavid* is one, who able to assess the *Agni* (bio-fire), *Koshtha* (nature of bowel) and considering all variations, he fixes the dose and duration. But in contrary, *Avikalpavid* is not able to do so. Standardization is the need of hour for second category physician, to prevent *Atiyoga* (over activity), and *Ayoga* (less or no activity) and to get adequate effects in a systematic and sophisticated manner within desired time period.<sup>[10]</sup>

## Review of Literature

### Temporomandibular Disorders

TMJ disorders - a type of temporomandibular disorder or TMD - can cause pain in jaw joint and in the muscles that control jaw movement. TMD often causes severe pain and discomfort. It can be temporary or last many years. It might affect one or both sides of face. More women than men have it, and it's most common among people between the ages of 20 and 40.

**Signs and symptoms** of TMJ disorders may include:

- Pain or tenderness of jaw
- Pain in one or both of the temporomandibular joints
- Aching pain in and around ear
- Difficulty chewing or pain while chewing
- Aching facial pain
- Locking of the joint, making it difficult to open or close mouth

TMJ disorders can also cause a clicking sound or grating sensation when mouth is opened or during chewing. But if there's no pain or limitation of movement associated with jaw clicking, it probably don't need treatment for a TMJ disorder.

### Hanu Basti

As the name implies, it is the process in which oil is retained in a circular tank over mandibular joint region. Based on the principle of *Shirobasti*, *Hanubasti* is designed and employed in arthritis of TMJ and myofacial disorders.

### S.O.P of Hanu Basti

#### Purvakarma

#### Preparation of the patient

1. Patient should be thoroughly examined. The *Prakruthi* and *Vikrithi* should be documented in detail.

#### Preparation for the treatment

2. The things required for the procedure such as Flour of black gram, Water, gas stove, vessels, thermometer, *Taila*, bowls, vessels, spoons, Sterile cloth should be collected.

#### Pradhana Karma

#### Positioning of the patient

1. Advise the patient to lie on lateral position.
2. A small sized pillow should be placed in one side of head for positioning the head.

#### Preparation and construction of Hanu Basti ring

3. Make thick dough with black gram powder by mixing with adequate quantity of warm water.
4. Using the thick dough make a rim/ring and fix it firmly on the mandibular joint area region.

5. The ear should be plugged with cotton and then the *Masha Pishti*.
6. The inner & outer junctions of dough rim should be sealed with dough.
7. Then fix the steel ring on this to increase the depth of circular tank.
8. Take the specified oil, warm it, check the temperature and pour it into the inner surface of dough rim taking care not to spill out.

#### Method of oil pouring

9. The chosen medicated oil is heated passively.
10. Required quantity of oil (sufficient enough to fill the space within the ring of wet flour) is taken in a small bowl. The bowl is kept in the vessel filled with hot water. When the oil gets warm, the bowl is removed. Oil is poured into the compartment (space within the constructed ring of wet flour).

#### Recycling the oil

11. Care should be taken to maintain the temperature of the oil in the *Hanu Basti* pool. The temperature should be kept uniform throughout the procedure (until the procedure is completed). For this to happen, the oil from the pool is removed at regular intervals (leaving some oil in it i.e. oil should not be completely removed) and replaced by warm oil (on the other side, simultaneously oil is passively heated).
12. Like this the temperature should be maintained uniformly throughout the procedure.

#### Duration

13. Time and duration of the procedure varies according to the clinical condition.
14. *Hanu Basti* is done for 30-45 minutes.

#### Paschat Karma

1. After the prescribed time remove the oil by cotton or spoon.
2. Then remove the dough ring.
3. Then remove cotton and *Masha Pishti* from the Ear
4. Then do oil massage followed by mild fomentation.
5. Care should be taken not to apply more pressure while massaging.
6. Then advise rest for 5 minutes.

#### Precautions

1. Temperature should not exceed 37 to 39° C, because it may lead to vertigo, headache etc.
2. Ear plugging if not done properly, then the hot oil may enter into ear canal and may cause vertigo.

3. Position of the patient should be maintained properly, otherwise it can lead to pain in neck and shoulder region.

**Course:** 7 days. Such 2-3 courses may be required depending on the severity.



**Preparation of Hanubasti ring**



**Borders of Hanubasti ring**



**Checking the temperature of the KB Taila**



**Filling of Hanubasti ring**



**KB Taila**



**Removing of the Hanubasti ring**





**Mild fomentation with light source**



**Mrudu Abhyanga locally with fomentation**

### **Probable mode of action of Hanu basti**

*Hanu Basti* procedure is evolved from *Hanu Basti*. It is a kind of *Bahya Snehana* and *Svedana* procedure. *Snehana* mainly acts against the *Rooksha Guna* caused by *Vata* and *Swedana* mainly acts against the *Sheeta Guna*. It also reduces the *Stambha* and *Gauravata*.

Sushruta explains that out of four *Tiryak Dhamani*, each *Dhamani* divides into hundred and thousand times and become innumerable. These *Dhamani* form a network and spread all over body. They have their openings in the *Loma Koopa*. The *Dravya* applied over the skin is absorbed through these openings and undergo *Pachana* by the help of *Bhrajaka Pitta* which is situated in the skin.<sup>[11]</sup> The *Dravya* can be applied in various forms such as *Abhyanga*, *Parisheka*, *Avagaha* etc. All the drugs applied in any of these forms undergo *Pachana* in the way explained above.

The *Vata Dosha*, which is the key factor in the causation of *Hanu Sandhivata*, has almost opposite quality of *Taila*. *Shoola* is one among the features of *Hanu Sandhigatavata* which is almost present in all the patients. *Taila* such as *Snigdha*, *Guru*, *Ushna* are totally opposite to the properties of *Vata*. The heat applied through the retention of *Taila* during the procedures and the *Ushna veerya* of *Taila* along with its *Snigdhata* tackle *Sheeta*, *Rooksha Gunas* and reduce the stiffness of joint. The relief in the stiffness & pain of joint increase the *Sandhi Gati Samarthyaa* and helps to increase the range of movement of Temperomandibular joint.

Crepitation is due to *Vata Vriddhi* and *Sthanika Kapha Kshaya*. This symptom is due to *Khara*, *Rooksha* and *Vishada* properties of *Vata*. *Snigdha*, *Picchila* and *Mrudu* qualities of *Sneha Dravya*

i.e., *Taila* opposite to the qualities of *Vata* and helps in reducing the crepitation.

The *Ushnata* applied by the procedure and *Ushna Veerya* of drug do the *Pachana* of the *Dushya* involved in the formation of *Shotha*. Due to this action the *Shotha* is reduced.

### **Drug absorption**

The principal fence for absorption of exogenous material through the skin is stratum corneum. Pace of absorption is directly proportional to concentration of drug in vehicle, partition coefficient, diffusion coefficient and thickness of the stratum corneum. The physiological factors that affect percutaneous absorption include hydration, occlusion, age, intact versus disrupted skin, temperature and anatomical site.

Absorption depends upon lipid solubility of the drug since the epidermis act as a lipid barrier. The dermis however is freely permeable to many solutes. Suspending the drug in an oily vehicle can enhance absorption through the skin. Because hydrated skin is more permeable than dry skin.

### **Effect of heat application**

The application of heat in different forms of *Svedana* promotes local circulation and metabolic activities and also opens the pores of the skin to permit transfer of medicaments and nutrients towards to needed sites and elimination of vitiated *Dosha* and *Mala* through skin and perspiration.<sup>[12]</sup>

The application of heat on skin induces increased metabolic activity, increased circulation and stimulation of the nerve endings on skin & tissues. It also has many indirect effects in the body mechanism.

The metabolic activity is increased in the part where more heat is applied. This increased metabolism creates demand for oxygen and nutrients. Also there is increased output of waste products and metabolites. The output of waste products and metabolites which act on the walls of the capillaries & arteries cause the dilation of the vessels. Even the heat applied has direct effect on the blood vessels which cause them to dilate and increase in the amount of blood circulation. The applied heat also stimulates the nerve endings which causes reflux dilation in the arterioles. Due to all these reason the blood circulation is increased and the active ingredients of the drug are supplied to the target cells. Also there is elimination of waste products from the localized area such as prostaglandins which play a vital role in pain pathology. [13]

### CONCLUSION

*Hanu basti* is a innovative approach which can be effectively used in *Hanu sandhi vata* (OA of TMJ). This procedure should be studied on large sample size to confirm the efficacy and safety in *Hanu sandhi vata* (OA of TMJ).

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