

## Effect of *Ksheera Vaitarana Vasti*, *Janu Vasti* along with Adjuvant Ayurveda Drugs in the management of *Sandhigatavata* (Osteoarthritis in knee joint)- A case study

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### Abstract:

*Sandhigatavata* is a disease with *Shoola* (pain), *Shotha* (swelling) and *Hanti Sandhi Gatah Sandhi* (impairment of the functions of joints). This can be correlated with osteoarthritis. Osteoarthritis is a degenerative arthritis. While any joint can be affected in osteoarthritis, knee joint is most commonly affected. Vangasena Samhitha mentions *Ksheera Vaitarana Vasti* as a treatment for *Janu Sankocha* (stiffness of joint), *Kati Prushta Shoola Shotha* (swelling and pain in waist, knee and back). *Prasarana Akunchanayoh Pravrutthishca Savedana* (pain during contraction and extension of limbs) is described as a symptom of *Sandhigatavata* and stiffness in joint is a symptom of osteoarthritis. Sri Lankan traditional physician family 'Weerasinghe' treat *Sandhigatavata* with *Belimul Thippilimul Amu Inguru Kashaya* with effective results. *Gugguladi Thaila* is described in Sri Lankan Ayurveda Pharmacopeia in treatment of *Vata Roga*. Susruta advises to conduct *Snehana* in treatment of *Vata Roga*. *Janu Vasti* is one method of administering *Bhahya Snehana* to *Janu Sandhi* (knee joint). A 65 years old female with an 8 years history of *Sandhigatavata* was given Ayurveda treatments for 21 days. *Ksheera Vaitarana Vasti* was conducted for seven days and from Day 8 to 21, with oral administration of *Belimul Thippilimul Amu Inguru Kashaya* along with *Janu Vasti* using *Gugguladi Thaila*. After completion of treatment, it was observed that swelling, tenderness and pain during contraction and extension of limbs were completely relieved. It is concluded that above treatment regimen is effective in treatment of *Sandhigatavata* (osteoarthritis).

**Key words:** *Belimul Thippilimul Amu Inguru Kashaya*, *Gugguladi Thaila*, *Ksheera Vaitarana Vasti*, Osteoarthritis, *Sandhigatavata*.

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**Introduction:**

*Sandhigatavata* is a disease described under *Vata Roga* and its clinical features are *Shoola* (pain), *Shopha* (swelling) and *Hanti Sandhi Gatah Sandhi* (impairment of their functions).<sup>[1]</sup> *Sandhigatavata* can be correlated with osteoarthritis. Pain in affected joints and occasional swelling, stiffness in the morning for short period or after resting, limitation of movement in the joint with fine or coarse crepitus and wasting of muscles at the involved joint are the clinical features of Osteoarthritis.<sup>[2]</sup> Osteoarthritis most commonly affects the hands, lower back, neck, and weight-bearing joints such as knees, hips, and feet.

Ashtanga Hrdaya describes *Vasti Karma* as the best treatment for *Vata Roga*.<sup>[3]</sup> *Ksheera Vaitarana Vasti* is described in Vangasena Samhita and is advised to administer in treatment of *Kati Prushta Shoola Shotha* (swelling and pain in waist, knee and back), *Anila Ghoram* (severe *Vata* disorders), *Chiram Urusthambha* (chronic stage / stiffness and loss of control of the leg), *Grudhrasi Roga* (sciatica), *Janu Sankocha* (stiffness in knee), *Vishama Jwara* (intermittent fever) and *Klavaiya* (erectile dysfunction).<sup>[4]</sup> *Prasarana Akunchanayoh Pravrutthishca Savedana* (pain during contraction and extension of limbs) is described as a symptom of *Sandhigatavata*<sup>[5]</sup> and stiffness in joints as a symptom of Osteoarthritis.<sup>[6]</sup> Therefore, *Ksheera Vaitarana Vasti* is effective in *Sandhigatavata*.

Traditional physician family Weerasinghe prescribes *Belimul Tippilimul Amu Inguru Kashaya* in treatment of *Sandhigatavata* (Osteoarthritis) with effective results. *Gugguladi Thaila* is a medicated oil described in Sri Lankan Ayurveda Pharmacopeia and advised to prescribe in treatment of *Emma* or *Awililla* (muscular pain), *Handi Idimum* (swelling of joints) and *Nahara Kekkuma* (neural pain).<sup>[7]</sup> Susruta advises to conduct *Snehana* in treatment of *VataRoga*.<sup>[8]</sup> *Janu Vasti* is one method of

administering external oleation to *Janu Sandhi* (knee joint). No scientific study has been conducted to evaluate the effect of these treatments. Hence it was decided to study the effect of *Ksheera Vaitharana Vasti*, oral administration of *Belimul Tippilimul Amu Inguru Kashaya* and *Janu Vasti* using *Gugguladi Thaila* in treatment of *Sandhigatavata* (Osteoarthritis).

**Case Report:**

A 56 years old woman suffering from *Sandhigatavata* (Osteoarthritis) was admitted to National Ayurveda Teaching Hospital, Borella. Her complaints were *Shotha* (Swelling), *Shoola* (Pain), *Prasarana Akunchanayoh Pravrutthishca Savedana* (pain during contraction and extension of limbs), tenderness, *Hanti Sandhi Gatah Sandhi* (impairment of functions in flexion and extension), stiffness in the morning for short periods of time and crepitus on movement. The patient was thoroughly examined, detailed history was recorded, laboratory investigations and radiological examinations (X ray in both knee joints) were carried out. The patient's written consent was obtained in order to publish the data. Severity of the symptoms were recorded using a specially prepared grading scale as given below.

**Therapeutic intervention:**

The patient was treated for 21 days. From Day 1 to Day7, patient was treated with *Ksheera Vaitarana Vasti*. From Day 8 to Day 21, patient was treated orally with 120ml of *Belimul Thippilimul Amu Inguru Kashaya* twice a day along with *Janu Vasti* using *Gugguladi Thaila*.

**Preparation of the trial drugs:****Method of preparation of *Ksheera Vaitharana Vasti*<sup>[4]</sup>**

20g of jaggery of *Saccharum officinarum* was scraped and mixed with 10ml of water so as to

make it thick as honey. 10g of rock salt was added to it and churned well. 30ml of sesame oil was added little by little while stirring. 40g of ripen fruits of *Tamarindus indica* was seeded and weighed. 15ml of water was added to it and squeezed well. The resultant cream was added to the aforesaid mixture. Then 190ml of Cow's milk was added to this while churning. The resultant mixture was used as *Ksheera Vaitarana Vasti*.

#### **Method of preparation of *Belimul Tippilimul Amu Inguru Kashaya*:**

It is a Sri Lankan traditional preparation. 20g each of roots of *Aegle marmelos* and *Piper longum* and fresh rhizome of *Zingiber officinale* was taken, cut into small pieces and mixed together. 1920ml of water was added to this mixture and boiled down to 240ml.

#### **Method of preparation of *Gugguladi Thaila***<sup>[7]</sup>

First, 480g of *Shodhitha Guggulu* (purified resin of *Commiphora wightii*) was measured. Then 3840ml of vinegar and 3840ml of lime juice was mixed together and *Shodhitha Guggulu* was dissolved well in this mixture. After that 960ml of castor oil was heated on a slow fire till the frothy appearance is disappeared. The mixture of vinegar, lime juice, and *Guggulu* was added to castor oil little by little while heating on mild fire. The mixture was stirred continuously and heated till the oil reaches *Madhya Paka*. When oil reaches *Madyama Paka*, it was removed from fire and kept for cooling. When oil becomes cool, it was filtered using a clean cloth and filled into clean glass bottles. (In *Madyama Paka* stage, the *Kalka* (residue remaining in oil) became harder and was easy to prepare a *Varti* (pellet) by rolling. When a small piece of cloth dipped in oil, lighted and burned, it burns without crackling sounds and froth (*Phena*) appears in the oil.

#### **Procedure of *Ksheera Vaitarana Vasti Karma***

***Purva Karma* (preparatory procedure):** *Snehana* (oleation) and *Swedana* (sudation) were carried out before administration of *Vasti* as *Purva Karma*. *Snehana* (oleation) was carried out by applying sesame oil on lower abdomen and lumbar sacral region. *Swedana* was carried out using steam. A piece of cloth was dipped in boiling water and wrung. Steam emitting from the cloth was used for fomentation.

***Pradhana Karma* (main procedure):** After performing *Snehana* and *Swedana*, patient was made to lie on a bed in left lateral position with extended left leg and flexed right leg. The left hand was bent at the elbow, so that the palm could be placed under the head. The anal orifice of the patient and rectal catheter was lubricated using sesame oil. Prepared medicines for *Ksheera Vaitarana Vasti* was put into the enema can which was connected to lubricated rectal catheter. Then the rectal catheter was inserted into the anal orifice. Patient was advised to breathe slowly and deeply. The rectal catheter was removed slowly while a small quantity of enemata remained in Enema can.

***Paschat Karma* (post therapeutic measures):** After administration of *Vasti*, patient's palms and soles were massaged, and the buttocks were tapped.

#### **Procedure of *Janu Vasti* using *Gugguladi Thaila*:**

Powdered black gram (Oorid Dhal) was mixed with water and a paste was prepared. Two rings were made to a height of 10 centimeters each using this paste and placed on knee joints. Then it was sealed well by pressing down the edges of the ring around the knee joint. Then, 120 ml of lukewarm *Gugguladi Thaila* was poured in to the cavity inside the walled boundary in a constant and continuous stream. It was allowed to remain there for about 45 minutes. Height of oil was 2 inches from the highest point of knee (Fig-1).



**Fig-1: During Janu Vasti using Gugguladi Thaila**

**Table 1: Assessment of symptoms:**

| Clinical Features  | BT      | After <i>Ksheera Vaitarana Vasti</i> |                          | After completion of entire treatment |                          |
|--|---------|--------------------------------------|--------------------------|--------------------------------------|--------------------------|
|  | Grading | Grading                              | Percentage of relief (%) | Grading                              | Percentage of relief (%) |
| <i>Shoola</i> (Pain)   | 3       | 3                                    | 0%                       | 1                                    | 66 %                     |
| <i>Shotha</i> (Swelling)   | 1       | 1                                    | 0%                       | 0                                    | 100 %                    |
| <i>Prasarana Akunchanayoh Pravrutthishca Savedana</i> (pain during contraction and extension of limbs) | 2       | 2                                    | 0%                       | 1                                    | 50 %                     |
| <i>Hanti Sandhi Gatah Sandhi</i> (impairment of functions inflexion)                                   | 2       | 2                                    | 0%                       | 1                                    | 50 %                     |
| <i>Hanti Sandhi Gatah Sandhi</i> (impairment of functions in extension)                                | 1       | 1                                    | 0%                       | 0                                    | 100 %                    |
| Morning stiffness  | 2       | 2                                    | 0%                       | 1                                    | 50 %                     |
| Creptus on movement  | 3       | 3                                    | 0%                       | 3                                    | 0 %                      |
| Joint deformities  | 1       | 1                                    | 0%                       | 1                                    | 0 %                      |
| Tenderness   | 1       | 1                                    | 0%                       | 0                                    | 100 %                    |

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**Table 2: Ayurveda pharmacodynamic properties of *Ksheera Vaitarana Vasti***

| Ingredients                       | Rasa                           | Guna                               | Veerya | Vipaka                  | Actions  |
|-----------------------------------|--------------------------------|------------------------------------|--------|-------------------------|--|
| Rock salt                         | Lavana                         | Laghu,<br>Snigdha                  | Sheeta | Madhura <sup>[9]</sup>  | Shotahara,<br>Tridoshashamaka <sup>[9]</sup>   |
| <i>Tamarindus indica</i><br>Linn  | Amla<br>Madhura                | Guru,<br>Ruksha                    | Ushana | Amla <sup>[10]</sup>    | Vatahara <sup>[10]</sup>                       |
| <i>Saccharum officinarum</i> Linn | Madhura                        | Guru<br>Snigdha                    | Sheeta | Madhura <sup>[11]</sup> | Vatapittashamaka <sup>[11]</sup>               |
| Cow's milk                        | Madhura                        | Mrudu<br>Snigdha<br>Guru,<br>Manda | Sheeta | Madhura <sup>[12]</sup> | Vata Pittahara,<br>Rasayana <sup>[12]</sup>    |
| Sesame oil                        | Madhura,<br>Kashaya,<br>Tiktha | Guru<br>Snigdha                    | Ushana | Madhura <sup>[11]</sup> | Vatashamaka,<br>Vedanasthapana <sup>[11]</sup> |

**Table 3: Ayurveda pharmacodynamic properties of *Belimul Thippilimul Amu Inguru Kashaya*<sup>[11]</sup>**

| Ingredients                       | Rasa             | Guna                        | Veerya        | Vipaka                  | Actions  |
|-----------------------------------|------------------|-----------------------------|---------------|-------------------------|--|
| <i>Aegle marmelos</i><br>Correa   | Kashaya<br>Tikta | Ruksha, Laghu               | Ushna         | Katu <sup>[11]</sup>    | Vatashamaka,<br>Shotahara <sup>[11]</sup>                        |
| <i>Piper longum</i><br>Linn       | Katu             | Laghu, Snigdha,<br>Thikshna | Anushnasheeta | Madhura <sup>[11]</sup> | Vatakapha<br>Shamana, Balya <sup>[11]</sup>                      |
| <i>Zingiber officinale</i> Roscoe | Katu             | Laghu, Ruksha,<br>Thikshna  | Ushana        | Madhura <sup>[11]</sup> | Kaphavatashamaka<br>Vedanasthapana,<br>Shotahara <sup>[11]</sup> |

**Table 4: Ayurveda pharmacodynamic properties of *Gugguladi Thaila*:**

| Ingredients  | Rasa                       | Guna                    | Veerya    | Vipaka                  | Actions   |
|--|----------------------------|-------------------------|-----------|-------------------------|---|
| <i>Shoditha Guggul</i><br>( <i>Commiphora wightii</i> (Arnott)<br>Bhandri) | Tikta<br>Katu              | Laghu<br>Tikshana       | Ushna     | Katu <sup>[11]</sup>    | Vatashamana,<br>Vedanasthapana,<br>Shotahara <sup>[11]</sup>                              |
| <i>Dehi</i> ( <i>Citrus aurantifolia</i> Swingle)                          | Amla                       | Laghu                   | Ushana    | Madhura <sup>[13]</sup> | Kaphavatashamaka <sup>[13]</sup>  |
| <i>Vinakiri</i> (Fermented<br>sap of <i>Cocos nucifera</i> Linn)           | Not found                  | Not found               | Not found | Not found               | Not found   |
| <i>Erandu Thel</i> ( <i>Ricinus communis</i> Linn)                         | Madhura<br>Katu<br>Kashaya | Snigdha<br>:<br>Sukshma | Ushna     | Madhura <sup>[11]</sup> | Kaphavatashamaka,<br>Vedanasthapana,<br>Angamard prashamana,<br>Shotahara <sup>[11]</sup> |

**Results and Discussion:**

After conducting *Ksheera Vaitarana Vasti* none of the symptoms were relived. After completed of entire treatment it was observed that *Shotha* (Swelling), *Prasarana Akunchanayoh Pravrutthishca Savedana* (pain during contraction and extension of limbs), and tenderness were completely relived (Table.1)

In *Sandhigatavata*, *Vata* and *Kapha Dosha* are vitiated. *Vasti* is one of therapeutic measure used in treatment of *Vata Roga*.<sup>[3]</sup> The ingredients of *Ksheera Vaitarana Vasti* contain *Madhura Rasa*, *Ushna Veerya* and *Madhura Vipaka* (Table 2). Due to these properties, it pacifies vitiated *Vata Dosha*. These ingredients have the properties of *Kashaya* and *Tikta Rasa*, *Laghu* and *Ruksha Guna* and *Ushna Veerya* Due to these properties it pacifies vitiated *Kapha Dosha*. Hence *Ksheera Vaitarana Vasti* is beneficial in treatment of *Vata Roga* including *Sandhigatavata*.

Ayurveda pharmacodynamic properties of ingredients of *Belimul Thippilimul Amu Inguru Kashaya* are given in. Ingredients of *Belimul Thippilimul Amu Inguru Kashaya* possess *Ushna Veerya* (Table-3). Due to this it pacifies vitiated *Vata Dosha*. These ingredients have the properties of *Katu Rasa*, *Laghu*, *Ruksha*, *Ushna* and *Tikshana Guna* and *Ushna Veerya*. Due to these properties, it pacifies vitiated *Kapha Dosha*. Hence *Belimul Thippilimul Amu Inguru Kashaya* is beneficial in treatment of *Vata Roga* including *Sandhigatavata*.

*Janu Vasti* is a method of *Bahira Snehana* (external oleation). As *Snehana* is one of the best treatments for *Vata Vyadhi*.<sup>[8]</sup> Therefore, *Janu Vasti* is beneficial for *Sandhigatavata*. *Janu Vasti* gives strength to the supporting muscles of the knee joint. Ingredients of *Gugguladi Thaila* possess *Ushna Veerya* and it pacifies vitiated *Vata Dosha* (Table 4). These ingredients have the properties of *Katu Rasa*, *Laghu*, *Ruksha* and *Tikshana Guna* and *Ushnan Veerya*. Due to these properties, it pacifies

vitiated *Kapha Dosha*. Hence *Gugguladi Thaila* is beneficial in treatment of *Vata Roga* including *Sandhigatavata*.

**Conclusion:**

It is concluded that *Ksheera Vaitarana Vasti* followed by oral administration of *Belimul Thippilimul Amu Inguru Kashaya* and *Janu Vasti* using *Gugguladi Thaila* is effective in treatment of *Sandhigatavata* (Osteoarthritis).

**Limitation of study:**

This is a single case study and this research should be carried out with larger sample which will make results more acceptable.

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