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### RESEARCH ARTICLE

## ROLE OF BASTI AS SHODHANA ALONG WITH SHAMANA IN TREATING JANUSANDHIGATAVATA (PRIMARY OSTEOARTHRITIS OF KNEE): A CASE REPORT

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#### Abstract

Sandhigataavata is a type of vata vyadhi caused due to dhatuksaya and other vata prakopaka nidana. In Sandhigataavata, shula (pain) is pradhana vedana seen with sandhishotha (joint swelling) and vata purna druti Sparsha (crepitus) as associated lakshanas. Sandhigataavata can be correlated to Osteoarthritis (OA) in Contemporary medical science. Osteoarthritis being the most common type of arthritis in clinical practice where clinical features include pain, swelling and restricted joint movements. This condition commonly involves joints of hands, knees, feet, facet joints of spine and hips, where knee being the most common location. The incidence of OA in India is as high as 12%. Women are at higher risk of developing primary OA than men. In particular, postmenopausal and obese women are more prone to the disease. In this case report, 58 years old female came with complaint of pain in bilateral knee joints (left knee pain more than right knee) associated with swelling and difficulty in doing her day-to-day activities for 4-5 months. The patient was treated with Ayurvedic treatment protocols in terms of both Samshamana and Samshodhana like sadyovirechana and yoga basthi along with bahya chikitsa and other protocols like udwaratana, janu basthi and janu upanaha, which helped in agni vardhana, vata shamana and specially dhatu poshana. Along with treatment the importance was given for pathya-apathya ahara and vihara. The treatment showed significant improvement in shula, shotha and along with considerable changes in performance of day-to-day activities without any difficulty.

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## Introduction:-

In India, the prevalence of Osteoarthritis (OA) is estimated to be as high as 12%, affecting about four out of every 100 people. OA is the most common joint disorder, remaining asymptomatic in individuals during their second and third decades but becoming increasingly common by the age of 70. By the age of 40, nearly everyone shows some form of pathological change in a weight-bearing joint. OA with symptoms affects 16% of men and 25% of women<sup>1</sup>. Bilateral OA is more prevalent in women, while unilateral OA is more common in men<sup>2</sup>. The decline in estrogen levels during the pre-menopausal period significantly contributes to the higher incidence of OA in women<sup>3</sup>.

Osteoarthritis (OA) is a degenerative disorder primarily characterized by joint stiffness, swelling, pain, reduced mobility, and the breakdown of articular cartilage along with synovial inflammation<sup>4</sup>. It is a leading cause of disability, particularly because it predominantly affects weight-bearing joints like the hip and knee<sup>5</sup>. In Ayurveda, this condition can be understood as Janu Sandhigata Vata.

Sandhigata vata is as one of the eighty types of vata vyadhi described in various Ayurveda treatises. Foremost description of sandhigata vata is given in Charaka samhita. Vatapurnadritisparsha (coarse crepitation), shotha (swelling) and Prasaranakkunchanapravritisavedana (pain during flexion and extension of the joint) are the clinical features of sandhigata vata<sup>6,7,8</sup>. Sthansamskraya(localisation) of vitiated vatadosha at janu sandhi (knee joint) results in the development of a disease termed as Janu sandhigata vata.

The line of treatment adopted in Sandhigata Vata should concentrate mainly on Vata Shamana, Shula Harana (pain relief) and Asthi Dhatu Poshana (nourishment of bones). Since both Asthi(bone tissue) and Majja(bone marrow) Dhatus are involved, Asthi Majjagata Chikitsa<sup>9</sup> can be adopted. External therapies like Udwartana(powder massage), Janu Basti, Upnaha(bandage), Patra Pinda Sweda(poultice) and Baspa Sweda help in Snehana(oleation) and Swedana(fomentation), reducing inflammation and pain in the joints. For Samshodana(purificatory measures), Tikta Ksheera Basti<sup>10</sup> is recommended for Vata Shamana and nourishing the tissues, along with Samshamana(medicines) to alleviate swelling and pain in the affected knee joints.

## Materials and Methods:-

### Case Report

In this case report, 58 years old female came with complaints of pain in bilateral knee joint, left knee pain more than right associated with swelling since 4 months. The complaint began in March 2023, with the patient gradually experiencing intermittent, intense pain in both knee joints (left more affected than the right), accompanied by swelling that fluctuated in severity. The pain was gradually progressive and becoming more intense, especially with activities such as household chores, prolonged standing, climbing stairs, walking long distances, sitting on the floor, and consuming pulses and potatoes. She found relief from the pain after resting, using hot fomentation, applying analgesic spray, and oil massages. However, three months ago, the pain became constant throughout the day, severely affecting her daily activities. She sought medical attention at other hospitals, where necessary investigations were conducted, and knee replacement surgery was recommended. Not wanting to undergo surgery, she approached to Ayurveda for further treatment.

### Clinical Examination

A detailed examination of the patient was performed, and all systems, except the locomotor system, were found to be normal.

General examination - Height – 153cms, Weight – 76kgs, BMI – 32.5 kg/m<sup>2</sup>(Obese class-I)

Vitals – PR-82b/min, BP-130/80mmHg, RR-20c/min

Locomotor system examination done in detail.

1. GALS (Gait, Arms, Legs, Spine) Screening done showing, Gait – normal, Arms – normal ROM, no deformity, Spine– no deformity/ swelling noted.
2. On examination of bilateral knee joints following signs and symptoms were observed as mentioned in table-1,2 & 3

**Table no.1:- Inspection.**

Findings	Left Knee	Right Knee
Scar mark	Absent	Absent
Deformity	Absent	Absent
Redness	Absent	Absent
Swelling	+	Absent

**Table no.2:- Palpation.**

Findings	Left Knee joint	Right Knee joint
Swelling	+	-
Warmth	-	-
Tenderness	++	+
Crepitus	++	+

**Table no. 3:- Range of movements.**

Range of Movements	Left knee joint	Right knee joint
Flexion	Possible with Pain ++	Possible With pain +
Extension	Possible with Pain +	Possible with pain +
Abduction	Possible without Pain	Possible without Pain
Adduction	Possible without Pain	Possible without pain

**Investigations**

Blood tests, including CBC and lipid profile, were conducted. The results showing raised ESR of 40 mm/hr, total cholesterol of 225 mg% and triglycerides at 204 mg%. Radiological investigation of X-ray of bilateral knee joints showed degenerative changes noted in the form of marginal osteophytes. All other parameters were within normal limits.

**Assessment**

After thorough examination, the patient was kapha-pittajaprakriti purusha with Madhyamabala and krura kostha. Pain was assessed using the Visual Analog Scale<sup>11</sup> and the score of 6 out of 10 was observed before treatment. Symptomatic relief was evaluated based on the symptoms using the Patient-Reported Outcome Measures (PROMs)<sup>12</sup>.

**Treatment Protocol**

After the clinical examination and reviewing the blood and radiological tests, the patient received treatment including Samshodana, Samshamana, and Bahya chikitsa. The details of the treatment provided are listed in Tables 4 and 5.

**Table no.4:- Treatment given in the Hospital.**

DATE	TREATMENT	
24/08/2023	Sarvanga udwartana + baspa sweda Janu upanaha to bilateral knee joints	Orally 1. Tab. Gokshuradi guggulu[13] 1-1-1 a/f 2. Tab. Prolage plus 1-0-1 a/f 3. Rasna erandi Kashaya[14] 15-0-15ml with 30ml warm water b/f
25/08/2023	Sadyovirechana with Gandarvahastyadi taila[15] – 60ml with Shunti jala anupana. Number of vegas - 12 vegas	
26/08/2023 to 01/09/2023	1. Sarvanaga udwartana + Baspa sweda 2. Janu basthi with maha vishagarbha taila 3. Sthanika Snighda patrapinda sweda(b/l knees) 4. Yoga basthi	<b>Discharge medications</b> 1. Tab Kaishora guggulu[16] 1-1-1 a/f 2. Tab Vishamusti vati[17,18] 1-1-1 a/f 3. Cap Ganda taila[19] 1-0-1 a/f 4. Rasna eranadi Kashaya[14] 3-0-3tsp with warm water b/f 5. Mahavishagarbha taila – e/a Review after 1 month

**Table No. 5:-** Ingredients of Tiktha-ksheera Yoga basthi[10].

ANUVASANA BASTHI	NIRUHA BASTHI
Guggulu tiktaka ghrita – 80ml	<ul style="list-style-type: none"> <li>✓ Madhu – 50ml</li> <li>✓ Saindava lavana – 5gm</li> <li>✓ Guggulu tiktaka ghrita – 70ml</li> <li>✓ Shatpushpa churna(20gm) + godanti bhasma (30gm)</li> <li>✓ Ksheera – 100ml</li> <li>✓ Eranada muladi Kashaya – 250ml</li> </ul>

**Results:-**

The effectiveness of the treatment was evaluated by assessing pain levels using the Visual Analog Scale (VAS) and tracking the patient's overall symptoms through Patient-Reported Outcome Measures (PROMs). These assessments were conducted to monitor the progress and relief experienced by the patient throughout the treatment. The detailed results of these evaluations are provided in Tables 6, 7, and 8.

**Table no.6:-** Visual analogue scale<sup>11</sup>

Before treatment	After treatment
6/10	3/10

**Table no. 7:-** PROMS scale<sup>12</sup> - on palpation.

Knee joint	Right		Left	
Symptoms	BT	AT	BT	AT
Swelling	-	-	+	-
Tenderness	-	-	+	-
Crepitus	++	+	+++	+

**Table no. 8:-** Range of movements of knee joints.

Knee joint	Right		Left	
Range of movements	BT(pain)	AT(pain)	BT(pain)	AT(pain)
Flexion	+	-	++	+
Extension	+	-	+	-
Abduction	-	-	+	-
Adduction	+	-	+	-

**Discussion:-**

Sandhigata vata is vata vyadhi involving madyhama roga marga where vitiated vata takes sthana samsraya in sandhi. After taking a complete history, conducting an examination, and reviewing the investigation findings, it was determined that the condition primarily involved vata dosha, with some involvement of kapha. Based on the location and affected dosha, the treatment plan focused on addressing the aggravated vata and asthi dhatu. Since the asthidhatu was involved, the treatment followed the guidelines for asthimajjagata dhatu, as described by Acharya Charaka, which includes the use of tiktha ghrita and ksheera, along with other external treatments.

Initially, Sarvanga Udvartana and Baspa Sweda were planned to balance kapha and reduce excess Meda. Later, to enhance digestion and cleanse the kosta, Sadyovirechana with GandarvahastadhiErandaTaila<sup>15</sup> was administered.

Tiktha Ksheera Basti, consisting mainly of Tiktha Ghrita and Ksheera, was prescribed for 8 days. Due to its Tikta Rasa, this Basti has Deepana, Pachana, Lekhana and Rochana properties, which helped strengthen the joints and assist with the patient's weight management. Furthermore, the Tikta Rasa has Jwaraghna and Daha Prashamana qualities, acting as an anti-inflammatory to reduce joint pain and swelling. On the other hand, Ksheera provided Bruhmana, Balya and Asthi Poshaka benefits, nourishing the bones and supporting the Asthi Dhatu. This Basti protocol not only helps prevent further bone degeneration but also nourishes the Asthi Dhatu by normalizing Vata imbalance. Other external treatments, such as Janu Basti, were performed as Sthanika Snighda Swedana. This helped to nourish the knee joint and provided relief from pain (shula).

Simultaneously Shamana aushadhisuch as Rasna eranadi Kashaya<sup>14</sup>, Prolage plus, Gokshuradi guggulu<sup>13</sup>, Kaishora guggulu<sup>16</sup>, Visha musthi vati<sup>17,18</sup> and Gandha taila<sup>19</sup> capsules were administered orally. Rasna eranadi Kashaya acts as shulahara and helped in relieving shotha in janu sandhi. Gokshuradi guggulu helped in normalising the prakupita vata as it is indicated in all vata vyadhis. Prolage plus tablet is one proprietary medicine including chingati satwa as main ingredient along with shallaki and haridra helped in subsiding pain and nourishing asthidhatu by further preventing the progression of disease. Later during discharge patient was advised with Kaishora guggulu and Gandha taila capsules as rasayana and vatashamana. Along with above medicine, Vishamusthi vati was advised having ingredients like shudha kupilu, maricha and indravaruni which acted as shulahara and vata kapha hara improves the movement of joints by providing the nourishment.

In addition to the treatment modalities, a proper diet (Patya Ahara) and lifestyle (Vihara) were followed, which played a key role in preventing the disease and promoting the nourishment of the tissues (dhatu). The overall improvement from the treatment was evaluated using the Visual Analog Scale for pain and Patient-Reported Outcome Measures (PROMs). These assessments documented changes in tenderness, crepitus, swelling, and the range of motion in both knee joints before and after treatment. Significant improvements were observed in knee mobility, PROMs and the Visual Analog Scale, leading to a better quality of life for the patient.

### Conclusion:-

The Ayurvedic treatments, including Shodhana with Tikta-Ksheera Basti, Shamana Chikitsa and Pathya, helped prevent the progression of the disease and nourished the affected knee joint. A variety of treatments led to significant improvements in symptoms before and after the treatment. The Visual Analog Scale score for pain decreased from 6 before treatment to 3 after treatment, and there was also a notable improvement in the PROMS scale.

It is evident through the result that multiple arms of treatment demonstrated greater relief in symptoms in this case. However, further studies with a larger sample size are needed to validate the effectiveness of this treatment protocols.

### Informed Consent

Written consent from the patient was obtained to publish details of the case.

### Conflict of Interest

None.

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