



Research Article

AROHANA KRAMA MATRA BASTI IN JANU SANDHIGATA VATA: A CASE STUDY

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ABSTRACT

Ayurveda (Science of life) has explained about the pathogenesis and the treatment of various disorders, the incidence of some of which have increased in the present scenario due to altered diet habits and lifestyle. *Janu Sandhigata Vata* is one among the *Vata Vyadhi* which causes a lot of inconvenience and disability in day-to-day activities. It is compared to Osteoarthritis of knee in modern Science. In this case study, a female aged about 57 years presented in the OPD of SSCASRH, Bengaluru was diagnosed with *Janu Sandhigata Vata* of both the knee joints. *Arohana Krama Matra Basti* with *Prasarini taila* was planned as per Sharangadhara's reference. There was significant improvement in the patient and was evaluated after treatment and also during follow up. There was marked relief with respect to her subjective complaints like pain, improved joint space, walking time, degree of flexion and extension & X ray. This type of *Arohana Krama Matra Basti* can be adopted in future for planning treatment in *Janu Sandhigata Vata* and also taken up in a larger group study to check for better relief, long term effect and reduced side effects. The case is further elaborated in the article.

Keywords - *Janu Sandhigata Vata*, *Arohana Krama Matra Basti*, Osteoarthritis, *Prasarini taila*.

INTRODUCTION

Janu Sandhigata Vata is one among the *Vata Vyadhis*¹ which causes a lot of inconvenience and disability in day-to-day activities. It hampers the quality of life to a great extent as the pain in the *Janu Sandhi* (Knee joint) aggravates during movement. *Janu Sandhigata Vata* has been compared to Osteoarthritis (OA) of knee in modern science due to the close resemblance in their symptoms. The typical clinical symptoms of OA are pain, particularly after prolonged activity and weight bearing, whereas stiffness after inactivity. OA is the second most common rheumatologic disorder and is the most frequent joint disease with a prevalence of 22% to 39% in India. OA of the knee is a major cause of mobility impairment, particularly among females and was estimated to be the 10th leading cause of nonfatal burden.² Treatment modalities in modern science are pharmacotherapies with NSAIDs, intra articular injections and surgery.³ These therapies seem to bring relief, but not to all. So, there is a need for new therapies giving better relief.

Basti (enema) is one among the *Panchakarma* therapies which is widely used in the treatment of *Vata Rogas*. *Chikitsa Sutra* of *Sandhigata Vata* includes *Snehana* etc. *Matra Basti* (a form of unctuous enema) is a type of *Snehana* therapy which can be given in *Janu Sandhigata Vata*.

Janu Sandhigata Vata

Janu Sandhigata Vata is a *Vata Vyadhi* affecting the knee joint. *Shoola* (Pain), *Vedana* on *Prasarana* and *Akunchana* (pain during flexion and extension), *Atopa* (crepitus), *Shotha* (swelling) are the *Lakshanas* (symptoms) of *Sandhigata Vata* which occurs due to vitiated *Vata* getting lodged in *Janu Sandhi*⁴ (knee joint). The procedures like *Snehana*, *Lepa*, *Upanaha* (sudation by application of medicated herbal paste) and *Agnikarma* are indicated in the *Chikitsa* of *Sandhigata Vata*⁵. Charaka mentions that in those who are afflicted by *Vata, Basti* (enema) with *Sneha*, can be given every day⁶.

Arohana Krama Matra Basti

Snehana is one among the major *Chikitsa* for *Vataroga* which can be given externally (*Bahya*) and internally (*Abhyantara*)⁷. *Matra Basti* (a form of unctuous enema) comes under *Abhyantara Snehana* where *Sneha Dravya* is administered internally. The dose of *Basti* (enema) with *Sneha* is explained in Sharangadhara Samhita. The dose of *Matra Basti* (a form of unctuous enema) is half of that of *Anuvasana Basti*⁸ (a form of unctuous enema) i.e., 1.5 *Pala* (72 ml approx.). This dose can be adopted on a regular basis. But later authors like Adhamalla, the commentator of Sharangadhara Samhita has explained about different module of *Matra Basti* (a form of unctuous enema) with respect to *Arohana Krama*⁹ as given in the table no.1 given below. In this case *Arohana Krama Basti* in *Madhyama Matra* was given with *Prasarini Taila*.

Prasarini Taila

Among the *Sneha Dravyas*, *Taila* is considered as the best in the treatment of *Vata*.¹⁰ In *Yogatarangini*, *Vatavyadhi adhikara* Prasarini taila is indicated in *Sandhigata Vata*.¹¹

CASE STUDY

A 57-year-old female patient complaining of bilateral knee joint pain since 10 years visited the OPD of Sri Sri College of Ayurvedic Science and Research Hospital, Bengaluru on 25.12.2020. Patient had difficulty in walking, inability to climb stairs associated with crackling sound from the knee while walking and folding the knee. On examination, crepitus was found in both joints with restricted movements. The X-ray of the knee joints showed marginal osteophytes, degenerative changes and reduced joint space. The patient previously consulted an orthopaedical for the same problem and was diagnosed with osteoarthritis of knee. Knee replacement surgery was suggested for the same. The patient was taking pain killers and anti-inflammatory medicines whenever needed. There was no other significant history of personal and family systemic illness.

On examination, the joint crepitus in both the knees were palpable as well as audible on movement of the joints. Tenderness was found over the medial side of both the knees. But there was no inflammation or swelling. The BMI of the patient was found to be 25.2 kg/m². After clinical examination and assessment, the patient was advised to take *Matra Basti* (a form of unctuous enema) in *Madhyama Matra* with Prasarini Taila in *Arohana karma* for 9 days.

Consent was taken from the patient and the study was carried out as per international conference of Harmonisation - Good Clinical Practices Guidelines (ICH - GCP).

METHODOLOGY

The following materials in table 2, were used for each session of *Matra Basti*.

Procedure

Purva Karma (Preparatory procedures) - Before the administration of *Basti* (enema), the subject was asked to consume food (1/4 part less than the usual quantity) and walk 100 steps. Then the subject was asked to attend to the natural urges if any. Then *Sthanika Abhyanga* (local application of oil) with Prasarini Taila was done over the abdomen, thighs, low back and buttocks region followed by *Tapa Sweda* (sudation by contact of warm substance) using hotwater bag. The subject was made to lie down in left lateral position with the left leg extended and the right leg flexed at the knee and the hip joints. The left hand was folded and kept, supporting the head and the right hand resting on the right leg. The measured *Taila* was taken in a small vessel and was made warm by keeping it over hot water bath. The red rubber catheter (No.9) was made sterile by immersing in hot water for 2-3 minutes. The lukewarm *Taila* was filled in the enema syringe. The sterile rubber catheter was connected to the enema syringe and the piston was pushed forward to remove the air inside the syringe. The end of the rubber catheter was clamped with an artery forceps.

Pradhana Karma (Main therapeutic procedure)- The anal orifice of the subject was lubricated with cotton dipped in the *Taila* and the lubricated end of the rubber catheter was inserted gently into the anus up to 4 inches.

The subject was asked to take deep breaths in and out. The piston of the enema was pushed slowly and steadily with constant pressure till the *Taila* in the syringe was emptied. The catheter was gently withdrawn and removed.

Paschat Karma (Post-therapy procedure)- After the removal of the catheter, gentle tapping was done over the buttocks with the closed fists and low back was massaged for 3 times circularly in clockwise direction. After making the subject lie in supine position, the abdomen was massaged in anticlockwise direction for 3 times. Rubbing the soles and palms of the patient was done and both the legs of the patient were raised for 3 times. A rolled towel was kept below the hip of the patient and was asked to lie down for 40 minutes. The *Basti Pratyagamana Kala* and *Samyak Lakshanas* were assessed and recorded daily.

Pathya - Apathya : The patient was advised to take warm food, drink hot water and avoid day sleep.

Study Design

Matra Basti: 9 days

The patient was given *Matra Basti* (a form of unctuous enema) with Prasarini Taila in *Madhyama Matra* starting with 48ml on the 1st day, increasing by 12ml everyday upto 144ml on the 9th day.

Parihara Kala: 18 days

Follow up: after 27 days

Assessment Parameters

The subjective and objective parameters are as given in the table 3 and 4.

RESULTS AND DISCUSSION

The results are shown in the table 5-7.

Madhyama Matra of *Basti* (enema) was chosen in this case. As per the *Chikitsa Sutra*, *Snehana* is the first line of treatment. *Matra Basti* (a form of unctuous enema) which does *Abhyantara Snehana*, is usually administered in fixed dose of *Hrusva Matra* (72 ml). As the patient had chronic degenerative changes showing more of *Vata*, larger dose of *Taila* was chosen for *Basti* (enema) starting with 48ml in *Arohana Krama*, increasing 12 ml every day.

Presenting Complaints

Shoola: There was significant difference in pain, both after treatment (42%) and at follow up (75%). The reduced *Vata* due to the higher dose of *Taila* given as *Basti* (enema), has significantly pacified *Shoola*.

Prasarana Vedana and Akunchana Vedana: The patient had highly significant difference in *Prasarana Vedana* after treatment (62.5%) and at follow up (75%).

There was significant relief in the *Akunchana Vedana* (33.33% - AT, 66.66% - FU). This can be attributed to the *Snigdha Guna* (unctuous property) of *Taila* which pacifies the *Vata*.

Matra Basti (a form of unctuous enema) does the *Snehana* and is *Vatahara* in nature. The improved *Mriduvta* in the *Sandhi* (joint) ease the *Prasarana and Akunchana Vedana*. The *Sneha* helps to nourish the *Sleshaka Kapha* which plays an important role in the lubrication of the joint. Thus the flexion – extension movements of the joints become smooth, thereby easing the *Prasarana* and

Akunchana Vedana.

Atopa: There was significant difference after treatment (33%). In the *Samprapti* of *Sandhigata Vata*, *Prakupita Vata* gets lodged in the *Rikta Srotas*. Here, in the knee joint there is a reduction in *Sleshaka Kapha* which causes friction in the joints, producing *Atopa*. After *Basti*, due to the increase in *Mridutva* and *Kledata*, the lubrication in the joint got improved, thus reducing the *Atopa* in the knee joint.

Flexion and Extension: There was significant improvement in the degree of flexion (30 %), after treatment and follow up. There was no much appreciable difference observed in the movement of extension when measured with goniometer.

By administering the *Matra Basti* (a form of unctuous enema), the *Sneha* does *Vata Shamana* (pacification of *Vata*) and imparts *Mridutva* to the *Sandhi* by reducing the *Rukshata*. This helps to increase the lubrication in the joint, reduce the stiffness by improving the tone of the adjacent muscles in the knee joint. As *Basti* acts on the entire body, it will act on the muscles also. The *Sneha Basti* when administered for 6 days, nourishes the *Mamsa Dhatu*. The tendons of the muscles play an important role in stabilizing the knee during the movements.

The *Samyak Anuvasita Basti* imparts *Bala* to the patient. So *Matra Basti* helps in strengthening the knee joint and improves the range of movement.

Time taken to Walk 50-meter distance: There was significant difference observed after treatment. The improvement in the walking time can be due to the *Snigdha Guna* (unctuous property) of *Sneha* given as *Basti* (enema), by which *Vata* gets pacified and the subject gained *Bala* (strength) during the *Anuvasana Basti* (a form of unctuous enema). The increased lubrication and joint space, aids in the improved walking time.

WOMAC Index of Knee Osteoarthritis: The WOMAC index improved significantly after treatment and at follow up. The mean score was 62.5 before treatment and 53.1 after follow up (15%). There was reduction in intensity of pain and general stiffness, while folding the knees and while walking, etc.

Radiological Findings: The X- rays showed joint space narrowing, sub chondral sclerosis and osteophyte formation before treatment. There was improvement in the joint space and sub chondral sclerosis observed in this case after treatment on the 9th day. Markable difference was observed in the left knee joint than the right knee. (Fig. 2)

Basti Retention Time: Gradual increase in the retention time of *Basti* was noticed. As the *Snigdha* (unctuous), *Ushna* (hotness), *Guru* (heaviness) *Gunas* (properties) of *Sneha* acts on *Vata* and pacifies it, the retention time also improves gradually. But there was a slight reduction in the retention time of the *Basti Dravya* (enema material) on the 9th day. This can be due to the large quantity of *Taila* administered on the 9th day.

Samyak Lakshanas: The patient had *Sashakrit cha tailam* and *Laghuta* as *Samyak Lakshana* on all the 9 days. There was improved sleep noticed from the 4th day. This can be attributed to the reduction in the *Vata* which was a reason for disturbed sleep. The *Basti Karma* has brought relief in the pain in knee joint as the days progressed which might have added to mental relaxation and helped in getting better sleep. In this case a gradual increase of *Bala* was noticed in the patient. *Vata* causes the degeneration and *Dhatu Kshaya* in the *Sandhi* (joint). *Snehana*, not only reduces *Vata* but also does *Brumhana* and help in the *Samprapti*

Vighatana of *Janu Sandhigata Vata* by acting on the degeneration. Also, in the benefits of *Prasarini taila*, it is mentioned that when given as *Basti*, the *Taila* imparts *Bala* like that of horse, elephant etc.¹¹

Observations: The patient developed coating over the tongue with no other symptoms, on the 6th and 7th day and was given *Shunti – Dhanyaka Siddha jala*. The coating in the tongue reduced and no discomforts were noticed in the subject thereafter.

Importance of Agni assessment in Basti - The amount of *Taila* used was more than 72ml. *Sneha*, if administered in larger quantity in *Basti* (enema), may lead to *Vyapats* (complications) due to the *Ajeerna* (indigestion) caused due to the *Mandagni* in a person. So it is important to assess the *Agni* of a person before and during the course of *Basti* (enema) to avoid complications due to *Ajeerna* (indigestion).

Karmukata of Matra Basti

Our Acharyas have considered the rectum (*Guda*) as the root of the body (*Moola of Sharira*). As Acharya Charaka says, as a tree when nourished in its root attains branches with beautiful tender leaves, flowers and fruits in time, and attains a big stature, in a similar way the man treated with *Sneha Basti* (therapeutic unctuous enema) receives the nourishment for the whole body.¹² On the action of *Basti* (enema), *Vagbhata* says that the *Veerya* (potency) of *Basti Dravya* (enema material) is conveyed to *Apana Vata* and then to *Samana Vata*, which may regulate the functions of *Agni*. It then goes to *Udana*, *Vyana*, and *Prana*, thus providing its efficacy all over the body. At the same time, *Basti* (enema) by pacifying *Vata*, restores the vitiated *Kapha* and *Pitta* at their own seats and thus helps in breaking the pathogenesis. Thus, according to Ayurveda, the *Veerya* (potency) of the ingredients used in the *Basti* (enema) gets absorbed and then, through the general circulation, reaches the site of the disease and relieves the disease.¹³

Matra Basti (a form of unctuous enema) is indicated in *Vata Rogas* and can be administered on a regular basis. It is indicated in *Janu Sandhigata Vata* as it is a *Vata Vyadhi* where *Snehana* is a line of treatment.

It can be because of the proper *Snehana* (in this case) which helped in reducing the aggravated *Vata* pacifying the symptoms of *Janu Sandhigata Vata*.

Arohana Krama Matra Basti

The higher number of *Sneha Bastis* (therapeutic unctuous enemas) are ideal in *Vata Vyadhis* because it does *Shareera Upachaya* (anabolism/ growth of body) and improves the *Bala* (strength). So, it is ideal in *Janu Sandhigata Vata* because there is *Dhatu Kshaya* which is the reason for degeneration in the joints. More the number of *Bastis*, it will do *Dhatu Poshana*. *Sushruta* explains that the 8th and 9th *Anuvasana Basti* (a form of unctuous enema) does *Poshana* of *Asthi* (bone) and *Majja Dhatu* respectively.¹⁴ As *Asthi* (bone) is involved in *Janu Sandhi*, *Matra Basti* (a form of unctuous enema) pacifies the *Vata* and works on the *Dhatu Kshaya* or arrests degeneration and strengthens the joint. Thus, it helps to pacify the *Lakshanas* (symptoms) of *Janu Sandhigata Vata*.

In this case larger quantity of *Sneha* was given starting with 48ml reaching upto 144ml on 9th day. Gradual increase of *Basti Matra* (dose of enema) may be helpful because it may cause lesser burden on *Agni*. As *Vagbhata* says that the *Samyak Lakshana* of *Anuvasana Basti* (a form of unctuous enema) is like that of *Samyak Snehana Lakshana*.¹⁵ So, gradual introduction of *Sneha*

in increasing doses helps in improved Agni to withstand higher doses of *Sneha*.

Table 1: Arohana Krama of Matra Basti dosage forms

	<i>Uttama Matra</i>	<i>Madhyama Matra</i>	<i>Hina Matra</i>
Day 1	2 Pala	1 Pala	½ Pala
Day 2	2 ½ Pala	1 Pala + 1 Karsha	½ Pala + ½ Karsha
Day 3	3 Pala	1 Pala + 2 Karsha	½ Pala + 1 Karsha
Day 4	3 ½ Pala	1 1/2 Pala + 1 Karsha	½ Pala + 1 ½ Karsha
Day 5	4 Pala	1 Pala + 1 Karsha	½ Pala + 2 Karsha
Day 6	4 ½ Pala	1 Pala + 1 Karsha	1 Pala + ½ Karsha
Day 7	5 Pala	1 Pala + 1 Karsha	1 Pala + 1 Karsha
Day 8	5 ½ Pala	1 Pala + 1 Karsha	1 Pala + 1 ½ Karsha
Day 9	6 Pala	1 Pala + 1 Karsha	1 ½ Pala

Table 2: Materials required for Matra Basti

Sl No.	Materials Required	Quantity
1	Prasarini Taila	Q.S for each day
2	Disposable Syringe	1
3	Rubber catheter No.9	1
4	Latex hand Gloves	1 pair
5	Abhyanga Table	1
6	Cotton swab	2
7	Artery forceps	1
8	Measuring Jar	1
9	Vessels	2
10	Hot water bag	1
11	Therapist	1

Table 3: Subjective Parameters

Sl.No	SubjectiveParameter	
1	Pain (Visual Analogue Scale)	0 to 10
2	<i>Prasarana vedana</i>	0 Pain Absent 1 Mild pain 2 Moderate pain 3 Severe pain
3	<i>Akunchanavedana</i>	0 Absent pain 1 Mild pain 2 Moderate pain 3 Severe pain
4	<i>Atopa</i>	0 Absent 1 Palpable 2 Audible 3 Always audible

Table 4: Objective Parameters

Sl. No.	Objective Parameters
1	ROM (Was assessed using Goniometer) – Flexion Extension
2	Time taken to walk 50 meters in seconds
3	WOMAC INDEX
4	X – ray of the knee – AP and Lateral view

Table 5: Results of the Subjective parameter

Sl No.	Subjective Parameter	Before Treatment	After Treatment (% of change)	Follow Up (% of change)
1	Pain (VAS)	8	4 (50%)	2 (75%)
2	<i>Prasarana Vedana</i> (VAS)	8	3 (62.5%)	2 (25%)
3	<i>Akunchana Vedana</i> (VAS)	6	4 (33.33%)	2 (66.6%)
4	<i>Atopa</i>	3	2 (33.33%)	2 (33.3%)

Table 6: Results of the Objective parameters

Sl No.	Objective Criteria	Before Treatment	After Treatment	Percentage of change
1	Time for Walking 50 m	130 sec	121 sec	6.2 %
2	ROM – Flexion	110 °	130'	30 %
3	ROM – Extension	0	0	0
4	WOMAC INDEX	62.5	53.1	15%
5	JOINT SPACE	Reduced	Improved (Right Knee)	

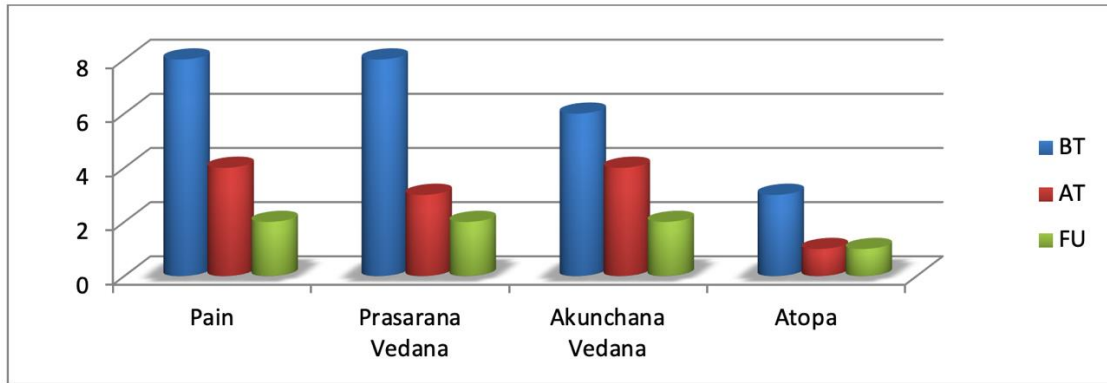


Figure 1: Assessment before and after treatment

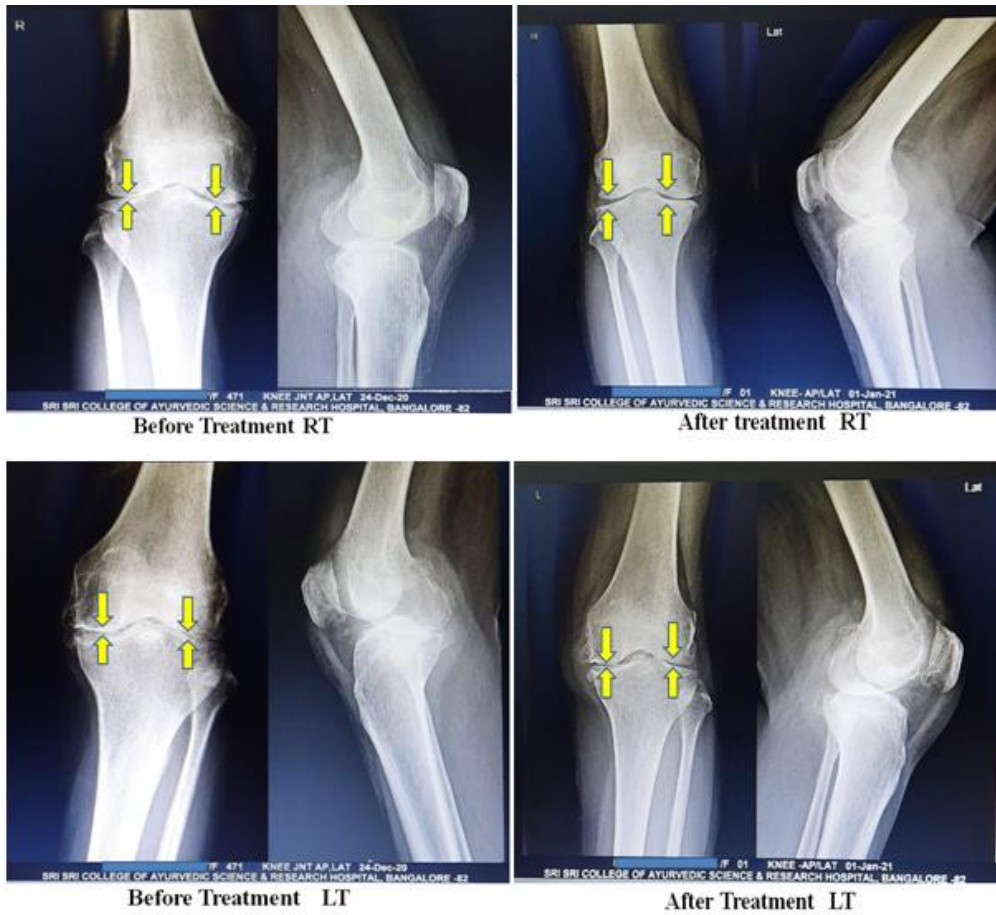


Figure 2: X-rays taken before and after treatment

CONCLUSION

Matra Basti (a form of unctuous enema) comes under *Snehana* and can be considered as effective line of treatment for *Janu Sandhigata Vata* which can be adopted in both IPD and OPD practice. *Prasarini taila* also helps in improving the range of movements in *Janu Sandhigata Vata*. *Arohana Krama Matra Basti* given in this case, helped in relieving the subjective parameters and the X-ray changes suggests its impact on the OA

changes. So, this method of administration of *Basti* (enema) can be adopted by all clinicians in their practice.

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