

A CASE STUDY ON THE AYURVEDIC MANAGEMENT OF JANUSANDHIGATA VATA (OSTEOARTHRITIS OF KNEE JOINT)

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ABSTRACT

Sandhigata vata is an age related degenerative joint disorder. It is mainly caused by aggravation of *vata dosha*. When there is involvement of *Janu sandhi* (knee joint), it is known as *Janusandhigata vata*. It is manifested by *Shula* (pain in the joint), *Shotha* (swelling of the joint), *Vatapurnadriti sparsha* (on palpation, appears as if joint is a leather bag inflated with air), *Prasarana akunchanayoh pravrittishcha savedana* (pain while making efforts for extension and flexion of the joint) and *Atopa* (crepitus). *Janusandhigata vata* can be correlated with Osteoarthritis of knee joint due to similarity in clinical features. Osteoarthritis is the most common type of arthritis. It occurs more in old age and women are more affected than men. It affects almost all the joints but more often affects

the weight bearing joints like knees, hips and feet. It is manifested by pain, swelling, stiffness and restricted movement of joint. General lines of treatment for *Sandhigata vata* are *Nidana parivarjana*, *Snehana (bahya and abhyantara)*, *Swedana*, *Basti karma* and *Shamana chikitsa*. The present case study deals with a 65 year old male patient having complaints of pain in both knee joints for 1 year, swelling over both knee joints for 10 months, stiffness and restricted movement of both knee joints for 9 months. This case was diagnosed as *Janusandhigata vata* (Osteoarthritis of knee joint). For its management, *Matra basti*, *Janu*

basti and *Shamana chikitsa* were administered. After 15 days of treatment, there were significant reduction in signs and symptoms.

KEYWORDS: *Sandhigata vata*, Osteoarthritis, *Janu sandhi*, *Matra basti*, *Janu basti*, *Shamana chikitsa*.

INTRODUCTION

Sandhigata vata is one of the most prevalent joint disorders of present era. Basically it is a degenerative disorder usually associated with ageing.^[1] In old age, there is predominance of *vata dosha*.^[2] So, old persons are susceptible to various types of *Vatavyadhi*. One such disorder is *Sandhigata vata*. When there is involvement of *Janu sandhi* (knee joint), it is known as *Janusandhigata vata*. As per Acharya Caraka, it is manifested by *Shotha* (swelling of the joint), *Vatapurnadriti sparsha* (on palpation, appears as if joint is a leather bag inflated with air) and *Prasarana akunchanayoh pravrittishcha savedana* (pain while making efforts for extension and flexion of the joint).^[3] As per Acharya Madhavakara, when aggravated *vata* is localized in *sandhi* (joint), it destroys the joint and produces *Shula* (pain in the joint) and *Atopa* (abnormal sound due to damage of joint or crepitus).^[4]

Janusandhigata vata can be correlated with Osteoarthritis of knee joint due to similarity in clinical features. Osteoarthritis (OA) is the most common type of arthritis. It occurs with a variety of patterns in synovial joints and is characterized by cartilage loss with an accompanying periarticular bone response. It is probably not a single disease entity but a multifactorial process in which mechanical factors have a central role. The whole joint structure including cartilage, subchondrial bone, ligaments, menisci, synovium and capsule are involved. Pathologically, there are significant inflammation of articular and periarticular structures and alteration in cartilage structure.^[5]

Its prevalence in India is 22% to 39%.^[6] OA will impact at least 130 million individuals around the globe by the year 2050.^[7] The prevalence of OA increases with age; such that by 65 years 80% of people have radiographic evidence of OA, though only 25-30% are symptomatic.^[8] OA most commonly affects the hands, lower back, neck and weight bearing joints such as knees, hips and feet.^[9] The major risk factors associated with the knee joint OA are age, female sex, obesity, non-smoker, occupational knee bending, physical labour and chondrocalcinosis. Knee joint OA may involve predominantly medial femorotibial, lateral femorotibial or patellofemoral compartment.^[10] Its symptoms are joint pain, short-lived

morning joint stiffness and functional limitation. Its signs are crepitus, restricted movement, bony enlargement, joint effusion, variable levels of inflammation, bony instability and muscle wasting.^[11] The primary goals of treating OA of the knee are to relieve the pain and return mobility. The treatment plan includes weight loss, exercise, pain relievers and anti-inflammatory drugs, injections of corticosteroids or hyaluronic acid into the knee, using devices such as braces, physical or occupational therapy and surgery when other treatments don't work.^[12]

General lines of treatment for *Sandhigata vata* are *Nidana parivarjana*, *Snehana* (*bahya* and *abhyantara*), *Swedana*, *Basti karma* and *Shamana chikitsa*. As per Acharya Sushruta, *Sneha* (oleation), *Upanaha* (warm poultice), *Agni karma* (branding/thermal cautery), *Bandhana* (bandaging) and *Unmardana* (hard massaging, squeezing or trampling on the body parts) are beneficial in this disease.^[13] In the present case study, *Matra basti*, *Janu basti* and *Shamana chikitsa* are selected for the management of *Janusandhigata vata*. *Matra basti* is a type of *Sneha basti*. The dose of *Matra basti* is equal to that of *Hrasva sneha matra*. While taking *Matra basti*, a person can take any food and may do any work as he likes. It can be safely administered in all the seasons.^[14] *Janu basti* (*Janu* means knee joint and *Basti* means to hold) is a therapy in which medicated oil is poured and pooled for a fixed duration of time in a compartment or a cabin constructed around the knee joint/joints using wet flour of black gram. In simple words, *Janu basti* is a pain relieving oil-pooling treatment conducted for knee joint pain caused due to many causes.^[15] In this case *Shamana chikitsa* is administered in the form of oral medicines which help to pacify vitiated dosha and cause reduction in signs and symptoms of this disease.

AIMS AND OBJECTIVES

To evaluate the effects of *Matra basti*, *Janu basti* and *Shamana chikitsa* in the management of *Janusandhigata vata* (Osteoarthritis of knee joint).

MATERIALS AND METHODS

Place of study – OPD and IPD of Department of Kayachikitsa, Institute of Post Graduate Ayurvedic Education and Research at S.V.S.P., Kolkata, West Bengal, India.

Type of study – Simple random single case study.

Case report**Basic information**

Patient's name – XYZ

Registration no. – AYUR/RG2000023659

Age – 65 years

Sex – Male

Religion – Hinduism

Occupation – Mechanic

Marital status – Married

Socio-economic status – Lower middle class

Chief complaints with duration

- Pain in both knee joints for 1 year.
- Swelling over both knee joints for 10 months.
- Stiffness and restricted movement of both knee joints for 9 months.

History of present illness – 1 year ago (from the date of first visit to our OPD), he developed mild pain in both knee joints. Then the severity of pain was gradually increasing with course of time. Pain was sometimes dull in nature or sometimes piercing in nature. Pain was aggravated by prolonged standing, walking for long duration, on descending or ascending stairs, squatting for toilet, at night and during winter season. On the other hand, pain was relieved by rest and hot compression. Then after 2 months of development of pain, he developed bilateral knee joints swelling. After 3 months of development of pain, he developed stiffness and restricted movement of both knee joints. These symptoms were also gradually increasing with course of time. Stiffness occurred mainly in the morning and after prolonged rest.

History of past illness – No history of diabetes mellitus, hypertension or any other disease present.

Family history – No such

Personal history

Sleep – Usually normal but sometimes disturbed when there is excess pain in knee joints.

Appetite – Normal

Bowel – Not clear

Bladder – Frequent

Addiction – Nil

Diet – Mixed (both veg. and non veg.)

General examination

Mental state – Good

Build and state of nutrition – Moderate

Pallor – Absent

Jaundice – Absent

Cyanosis – Absent

Clubbing – Absent

Oedema – Present in both knee joints.

Pulse rate – 82 beats/min

Blood pressure – 120/70 mm of Hg

Respiratory rate – 22 times/min

Temperature – 98.6° F

Height – 5'4"

Weight – 70 kg

Systemic examination

Cardiovascular system – S1, S2 audible, no any added sound present.

Respiratory system – Normal vesicular breath sound, no any added sound present.

Central nervous system - NAD

Per abdomen – Soft, non tender, no signs of organomegaly present.

Local examination

Inspection

- There was no genu varum or valgum deformity.
- Swelling present over both knee joints.
- No muscle wasting at both lower limbs.
- No any scar, redness and rashes over both knee joints.

Palpation

- No rise of local temperature of both knee joints.
- Tenderness present along the joint margin of both knee joints.
- Effusion present in both knee joints.
- Crepitus present while moving the both knee joints.

Range of motion (ROM): Patient felt restriction and pain while flexion and extension of both knee joints and movements were limited to 110° for flexion and 20° for extension.

Investigations

Blood tests: CBC, FBS, PPBS, CRP were within normal limits. RA factor was negative.

X ray of both knee joints (A.P. & Lat. view)

- Osteoarthritic changes are seen in the condyles of tibia & femur and also in the patella of both sides.
- Articular surfaces are smooth and regular.
- Joints spaces are markedly reduced.
- Soft tissue around the joints shows swelling.

Impression: The above features are suggestive of osteoarthritis of both knee joints.

Diagnosis – Janusandhigata vata (Osteoarthritis of knee joint)

Treatment plan

Duration of treatment – 15 days

Advice

- *Shamana chikitsa* (Table-1)
- Therapies – *Matra basti* and *Janu basti* (Table-2)

Table 1: List of prescribed medicines.

Sr. no.	Medicine	Dosage	Anupana	Route of administration	Duration
1.	<i>Rasnasaptaka kwatha</i>	20ml BDAC	With equal amount of water	Oral	15 days
2.	<i>Mahayogaraja guggulu</i>	500mg BDPC	Lukewarm water	Oral	15 days

Table 2: List of prescribed therapies.

Sr. no.	Therapy	Medicine used	Dose	Route of administration	Duration
1.	<i>Matra basti</i>	<i>Mahanarayana taila</i>	60 ml per day	Rectal	7 days
2.	<i>Janu basti</i>	<i>Mahanarayana taila</i>	Q.S.	Local (knee joints)	7 days

Matra basti**Materials required**

1. Enema syringe (100 c.c.) – 1
2. Disposable gloves – 1 pair
3. Simple rubber catheter (number 10 or 12) – 1
4. *Mahanarayana taila* – 60 ml for *matra basti* and some extra amount is required for *abhyanga*.

Procedure: Patient was asked to take *laghu* and *alpa ahara*. Next he was advised to walk for sometimes and eliminate faeces and urine. As *purva karma*, *abhyanga* and *swedana* were done. *Abhyanga* was done with *Mahanarayana taila* over the abdomen and lower back. After that *Nadi swedana* was done. Then patient was advised to lie in left lateral position with the left leg extended and the right leg flexed at the knee and hip. Patient was asked to keep the left hand below his head. Then 60 ml of lukewarm *Mahanarayana taila* was taken in an enema syringe. A rubber catheter oleated with oil was attached to the enema syringe. Anal orifice was lubricated with oil. Then after removing the air from the enema syringe and catheter, the catheter was introduced gently into the anus up to 4 inches. Oil was injected into the rectum by pressing the piston of the enema syringe gently with uniform force. The patient was advised to take deep breath and not to shake his body while introducing the catheter and oil. Small quantity of oil was left in the enema syringe in order to avoid entry of air into the *Pakvashaya* as it may produce discomfort or pain. After administration of *basti*, patient was advised to lie in supine position and his buttocks were gently tapped and legs were raised few times so as to raise the waist. After sometimes patient was asked to get up from the table and took rest in bed for at least half an hour and not to indulge in day sleep.

No complications were noticed after administration of *Matra basti* on any day of treatment.

Janu basti**Materials required**

1. Black gram flour – 800 gm
2. Mahanarayana taila – Q.S.
3. Vessel – 1
4. Bowl – 1
5. Spoon – 1
6. Cotton – Q.S.
7. Water – Q.S.
8. Hot water bath – 1

Procedure: At first thick dough from black gram flour was prepared by adding sufficient quantity of water. Patient was advised to lie on the table in supine position with knee extended. Then a circular boundary was made around the knee joint by using the thick dough. Proper sealing was done to avoid the leakage of oil. *Mahanarayana taila* was taken in a bowl and made warm by keeping it on a hot water bath. After ensuring the tolerable temperature, oil was poured inside the constructed circular boundary carefully. The temperature of oil was maintained throughout the procedure. For this purpose oil from the pool was removed at regular intervals by using cotton and replaced by warm oil. *Janu basti* was carried out for 30 minutes. After that oil was drained out and circular boundary was removed. *Abhyanga* was done over the knee joint after *Janu basti*. Then *Nadi swedana* was given over the knee joint. *Janu basti* was done in both knee joints. No complications were noticed during the procedure of *Janu basti* on any day of treatment.

Assessment criteria**Table 3: Showing arbitrary scoring pattern.**

Sr. no.	Signs & symptoms	Score-0	Score-1	Score-2	Score-3
1.	<i>Sandhi shula</i>	Absent	Mild	Moderate	Severe
2.	<i>Sandhi shotha</i>	Absent	Mild	Moderate	Severe
3.	<i>Sandhi stambha</i>	Absent	Mild	Moderate	Severe
4.	<i>Prasarana akunchanayoh pravrittishcha savedana</i>	No pain during flexion and extension	Mild pain during flexion and extension	Moderate pain during flexion and extension	Severe pain during flexion and extension
5.	<i>Sandhi atopa</i>	Absent	Palpable crepitus	Audible crepitus	

RESULTS

Effects of above mentioned treatment are shown in Table-4.

Table 4: Showing arbitrary score before and after treatment.

Sr. no.	Signs & symptoms	Before treatment	After treatment
1.	<i>Sandhi shula</i>	3	1
2.	<i>Sandhi shotha</i>	2	0
3.	<i>Sandhi stambha</i>	2	0
4.	<i>Prasarana akunchanayoh pravrittishcha savedana</i>	3	1
5.	<i>Sandhi atopa</i>	2	1

After 15 days of treatment, there were significant reduction in above mentioned signs and symptoms.

DISCUSSION

In the present study *Matra basti*, *Janu basti* and *Shamana chikitsa* were administered for the management of *Janusandhigata vata*.

Janusandhigata vata is caused by aggravated *vata* and *Basti* is described as the best therapy to pacify the aggravated *vata*. So, *Basti* is suitable for its management. For this case *Matra basti* was selected.

Matra basti – It has different benefits which are as follows.^[16]

1. *Balya* (promotes strength)
2. *Sukhopacharya* (easy to administer)
3. *Sukha srishtapurishakrita* (helps in easy evacuation of stool)
4. *Brimhana* (nourishes the body)
5. *Vata roganuta* (cures diseases caused by aggravated *vata*)

Janu basti – It is a type of local therapy and highly beneficial in a case of *Janusandhigata vata*. It acts as *bahya snehana* and *swedana karma*. It has different benefits which are as follows.^[17]

1. Pacifies aggravated *vata* in the knee.
2. Restores the lubricating fluid in the joint and maintain integrity of the structures involved in the joint.
3. Removes pain, swelling and stiffness in knee joint.
4. Protects knee joint from age related changes.

5. Increases blood circulation; thus strengthens and nourishes the knee joint.
6. Improves the mobility of knee joint (knee flexion and extension).

In this case *Mahanarayana taila* was used for both *Matra basti* and *Janu basti*.

Mahanarayana taila – It is mentioned in *Bhaishajya Ratnavali*, *Vatavyadhi chikitsa prakarana*. It is a medicated oil prepared by using *tila taila* (sesame oil) as a base and processed in several medicinal herbs. It is indicated in *Sakhashrita vata* and *Vata vriddhi*.^[18] It has anti-inflammatory and analgesic activities. It relieves pain and stiffness of joints. It provides nourishment to the joints and restores normal joint function.

In this case *Shamana chikitsa* was administered in the form of oral medicines which are as follows

Rasnasaptaka kwatha – This decoction is prepared with *Rasna*, *Guduchi*, *Aragvadha*, *Devadaru*, *Gokshura*, *Eranda* and *Punarnava*.^[19] It has anti-inflammatory, analgesic, anti-arthritic and antioxidant activities. It reduces pain, swelling and stiffness of joints.

Mahayogaraja guggulu – It is a herbo-mineral preparation. It is indicated in *Vata roga*. It acts as a *rasayana* (rejuvenative).^[20] It has anti-inflammatory, analgesic, anti-arthritic and muscle relaxant activities. It helps to reduce pain, swelling and stiffness of joints.

CONCLUSION

Janusandhigata vata is one of the common types of *Sandhigata vata*. This disease produces degenerative changes in knee joint. It affects the everyday life badly and deteriorate the quality of life. It can be managed by proper Ayurvedic treatment. In this case, patient got relief by administration of *Matra basti*, *Janu basti* and *Shamana chikitsa*. There were no adverse effects noticed during treatment. Hence, it can be concluded that *Matra basti*, *Janu basti* and *Shamana chikitsa* are very effective in the management of *Janusandhigata vata* (Osteoarthritis of knee joint).

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