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## INTEGRATIVE AYURVEDIC MANAGEMENT OF *JANU SANDHIGATA VATA*: A CASE STUDY ON KNEE OSTEOARTHRITIS

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### Abstract

**Background** *Janu Sandhigata Vata* (osteoarthritis of the knee joint) is a degenerative joint condition associated with pain, stiffness, and restricted mobility, primarily due to *Vata* aggravation as per Ayurvedic principles. **Objectives** To evaluate the effectiveness of an integrative Ayurvedic treatment protocol in managing *Janu Sandhigata Vata* and improving joint functionality. **Methods** A 55-year-old female patient with a two-year history of knee pain and stiffness was treated using a combination of internal medications, external therapies, and lifestyle modifications. The protocol included *Rasnasaptaka Kashaya*, *Yogaraja Guggulu*, *Ashwagandha Churna*, *Abhyanga* with *Mahanarayan Taila*, *Swedana*, and *Janu Basti* along with dietary and exercise recommendations. Outcomes were assessed based on pain reduction, joint mobility, and overall quality of life. **Results** The patient experienced a 70% reduction in pain as measured by the Visual Analog Scale (VAS), improved knee joint mobility, and a significant reduction in swelling and stiffness. The integrative approach addressed both symptomatic relief and the underlying *Vata* imbalance. **Discussion & Conclusions** Ayurvedic interventions proved effective in managing *Janu Sandhigata Vata*, demonstrating significant improvements in symptoms and quality of life. This case study supports the potential of Ayurveda in osteoarthritis management and highlights the need for further clinical studies.

**Keywords:** *Janu Sandhigata Vata*, osteoarthritis, Ayurveda, knee pain, *Vata* aggravation, integrative treatment, *Janu Basti*, holistic approach.

## Introduction

*Janu Sandhigata Vata* (osteoarthritis of the knee joint) is a common degenerative condition primarily affecting the elderly population. It is characterized by pain, stiffness, swelling, and reduced mobility in the knee joint.<sup>1</sup> In Ayurveda, it is described as a disorder arising due to the vitiation of *Vata dosha*, which leads to degeneration of *Sandhi* (joints) and the surrounding tissues.<sup>2</sup> The condition closely correlates with osteoarthritis in modern medicine, where the pathophysiology involves progressive cartilage degeneration, synovial inflammation, and the formation of osteophytes.<sup>3</sup>

The management of osteoarthritis in conventional medicine largely focuses on symptomatic relief through analgesics, anti-inflammatory medications, and surgical interventions in severe cases.<sup>4</sup> However, these approaches often come with limitations such as side effects, recurrence of symptoms, and a lack of focus on the root cause.<sup>5</sup> Ayurveda offers a holistic approach, targeting not only symptom alleviation but also the underlying dosha imbalance and tissue degeneration.<sup>6</sup> Therapies like *Abhyanga* (oil massage), *Swedana* (fomentation), and *Janu Basti* (medicated oil retention) are prominently recommended for their efficacy in alleviating pain and improving joint mobility.<sup>7</sup>

Ayurvedic management is further strengthened by the use of herbal formulations and lifestyle modifications tailored to the individual's constitution (*Prakriti*).<sup>8</sup> Internal medications such as *Rasnasaptaka Kashaya* and *Yogaraja Guggulu* act on the root pathology, providing nourishment to the tissues and pacifying the aggravated *Vata dosha*. Additionally, dietary and behavioral modifications enhance the overall therapeutic outcomes, ensuring sustainable management and preventing recurrence.<sup>9</sup>

This case study explores the effectiveness of an integrative Ayurvedic treatment protocol in a 55-year-old female patient diagnosed with *Janu Sandhigata Vata*.<sup>10</sup> The results demonstrated significant improvements in pain reduction, joint functionality, and quality of life, emphasizing the potential of Ayurveda as a comprehensive and effective approach for osteoarthritis management. Further studies are warranted to validate these findings and establish evidence-based guidelines for the treatment of *Sandhigata Vata*.<sup>11</sup>

## Aim and Objectives

### Aim

To evaluate the efficacy of Ayurvedic treatment in managing *Janu Sandhigata Vata* (osteoarthritis of the knee joint).

## Objectives

1. To assess the impact of Ayurvedic internal medications on pain and inflammation in *Janu Sandhigata Vata*.
2. To evaluate the effectiveness of external therapies, such as *Abhyanga*, *Swedana*, and *Janu Basti*, in reducing stiffness and improving joint mobility.
3. To analyze the role of lifestyle and dietary modifications in preventing symptom recurrence and enhancing long-term outcomes.
4. To document and review the overall improvement in functional ability and quality of life post-treatment.

## Material and Methods

### Study Design

This case study documents the management of *Janu Sandhigata Vata* (osteoarthritis of the knee joint) in a 55-year-old female patient using a holistic Ayurvedic treatment protocol.

### Case Selection

- **Inclusion Criteria:**

- Diagnosed with *Janu Sandhigata Vata* based on classical Ayurvedic and modern parameters.
- Presence of symptoms like knee pain, stiffness, swelling, and crepitus.
- No history of systemic illness or major joint deformities.

- **Exclusion Criteria:**

- Patients with severe joint deformities requiring surgical intervention.
- Presence of autoimmune disorders or other systemic conditions affecting joint health.

### Intervention

1. **Internal Medications:**

- *Rasnasaptaka Kashaya*: 15 ml twice daily before meals for reducing pain and stiffness.
- *Yogaraja Guggulu*: 2 tablets twice daily to pacify *Vata dosha* and support joint health.

- *Ashwagandha Churna*: 3 g with warm milk at bedtime to nourish the tissues and enhance strength.

## 2. External Therapies:

- *Abhyanga*: Daily application of *Mahanarayan Taila* followed by gentle massage to improve circulation and reduce pain.
- *Swedana*: Localized steam fomentation using *Nadi Sweda* to alleviate stiffness and swelling.
- *Janu Basti*: Retention of warm medicated oil over the knee joint for 30 minutes, performed for 7 consecutive days to nourish and lubricate the joint.

## 3. Lifestyle and Dietary Modifications:

- **Diet**: A *Vata-pacifying* diet comprising warm, moist, and easily digestible foods while avoiding cold and dry items.
- **Exercise**: Gentle yoga postures like *Vrikshasana* and *Tadasana*, and walking for 20 minutes daily on a flat surface.

## Outcome Measures

- Pain assessment using the Visual Analog Scale (VAS).
- Range of motion evaluation using a goniometer.
- Reduction in swelling and tenderness through clinical examination.
- Improvement in functional ability and daily activities.

## Case History

### Patient Demographics:

- **Age**: 55 years
- **Gender**: Female
- **Occupation**: Homemaker
- **Residence**: Urban area
- **Lifestyle**: Sedentary

### Presenting Complaints:

- Chronic knee pain in both joints for 2 years, worsening over the past 6 months.

- Morning stiffness lasting for approximately 30 minutes.
- Occasional swelling in the knee joints, especially after prolonged activity.
- Difficulty in climbing stairs, squatting, and performing daily household chores.

**History of Present Illness:** The patient reported a gradual onset of pain and stiffness in both knees over two years. The pain was initially mild and occurred during physical activities but progressively increased in intensity. She observed occasional crepitus and swelling, particularly in the right knee. Pain aggravated in cold weather and after prolonged sitting or standing. Rest provided temporary relief. Over-the-counter analgesics were taken intermittently, providing short-term relief, but symptoms persisted.

**Past Medical History:**

- No history of trauma to the knee joints.
- No previous diagnosis of autoimmune or inflammatory joint disorders.
- No history of major surgeries.

**Family History:**

- Positive family history of osteoarthritis (mother diagnosed in her late 50s).

**Personal History:**

- **Diet:** Predominantly vegetarian, prefers cold and dry food.
- **Appetite:** Normal.
- **Sleep:** Disturbed due to knee pain.
- **Bowel Movements:** Tendency for constipation.
- **Addictions:** None.

**General Examination:**

- Vital signs: Stable.
- No signs of systemic illness.

**Local Examination:**

- **Inspection:** Swelling present over the knee joints; no visible deformity.
- **Palpation:** Tenderness over the medial aspect of the knees.
- **Range of Motion:** Restricted flexion and extension.

- **Crepitus:** Present during movement.
- **Gait:** Antalgic (pain-relieving gait).

#### Investigations:

- **Radiology:** X-ray of knee joints shows reduced joint space, mild osteophyte formation, and subchondral sclerosis.
- **Blood Tests:** Normal ESR and CRP levels, ruling out active inflammation.

#### Diagnosis:

Based on clinical findings and Ayurvedic principles, the patient was diagnosed with *Janu Sandhigata Vata* (osteoarthritis of the knee joint) due to aggravated *Vata dosha*.

#### Vital Examination

Parameter	Findings
<b>Vital Examination</b>	
Pulse Rate	78 beats per minute, regular
Blood Pressure	120/80 mmHg
Respiratory Rate	18 breaths per minute, normal
Temperature	98.6°F
SpO2	99% on room air

#### Systemic Examination

Systemic Examination	Findings
<b>Cardiovascular System</b>	S1 and S2 heard, no murmurs
<b>Respiratory System</b>	Normal vesicular breath sounds
<b>Gastrointestinal System</b>	Abdomen soft, non-tender, no organomegaly
<b>Central Nervous System</b>	Conscious, oriented, no focal deficits
<b>Musculoskeletal System</b>	Swelling and tenderness in knee joints, restricted range of motion, crepitus present

### Treatment Schedule Plan

Week	Intervention	Details
<b>Week 1</b>	<b>Internal Medications</b>	<ul style="list-style-type: none"> <li>- <i>Rasnasaptaka Kashaya</i>: 15 ml twice daily before meals to reduce pain and stiffness.</li> <li>- <i>Yogaraja Guggulu</i>: 2 tablets twice daily for pacifying <i>Vata dosha</i>.</li> <li>- <i>Ashwagandha Churna</i>: 3 g with warm milk at bedtime for tissue nourishment.</li> </ul>
	<b>External Therapies</b>	<ul style="list-style-type: none"> <li>- <i>Abhyanga</i> with <i>Mahanarayan Taila</i>: Daily gentle massage for 20 minutes to enhance circulation and reduce pain.</li> <li>- <i>Swedana</i> (localized steam fomentation): Performed daily to relieve stiffness and swelling.</li> <li>- <i>Janu Basti</i>: Retention of medicated oil on the knee joint for 30 minutes, daily for 7 days.</li> </ul>
	<b>Lifestyle Modifications</b>	<ul style="list-style-type: none"> <li>- Dietary modifications: <i>Vata</i>-pacifying diet (warm, moist foods, avoiding cold and dry items).</li> <li>- Gentle exercises: Walking for 15–20 minutes on a flat surface.</li> </ul>
<b>Week 2</b>	<b>Continuation of Week 1 Protocol</b>	Same internal medications and external therapies as Week 1.
	<b>Additional Focus</b>	<ul style="list-style-type: none"> <li>- Emphasis on improving knee joint range of motion using passive and active exercises.</li> <li>- Increase duration of walking to 20–25 minutes, avoiding strain.</li> </ul>
<b>Week 3</b>	<b>Internal Medications</b>	Continuation of <i>Rasnasaptaka Kashaya</i> , <i>Yogaraja Guggulu</i> , and <i>Ashwagandha Churna</i> .
	<b>External Therapies</b>	<ul style="list-style-type: none"> <li>- <i>Abhyanga</i> and <i>Swedana</i>: Performed on alternate days to maintain flexibility and reduce residual stiffness.</li> <li>- <i>Janu Basti</i>: Conducted twice this week for maintenance benefits.</li> </ul>
	<b>Diet and Lifestyle</b>	<ul style="list-style-type: none"> <li>- Introduction of light yoga postures like <i>Vrikshasana</i> and <i>Tadasana</i>.</li> <li>- Monitoring adherence to the dietary plan.</li> </ul>
<b>Week 4</b>	<b>Internal Medications</b>	Same as Week 3.
	<b>External Therapies</b>	- Maintenance therapies: <i>Abhyanga</i> and <i>Swedana</i> performed twice during the week.

		- <i>Janu Basti</i> : Conducted once for nourishing and lubricating the joint.
	<b>Lifestyle Modifications</b>	- Gradual increase in daily walking to 30 minutes. - Yoga and stretching exercises focusing on strengthening the knee joint.
<b>Week 5 Onwards</b>	<b>Maintenance Phase</b>	- <i>Rasnasaptaka Kashaya</i> : Reduced to once daily. - <i>Yogaraja Guggulu</i> : Continued as before. - <i>Abhyanga</i> and <i>Swedana</i> : Performed weekly.
	<b>Diet and Lifestyle</b>	- Continued adherence to the <i>Vata</i> -pacifying diet. - Progression to weight-bearing exercises as tolerated.

### Follow-Up Schedule

Follow-Up Week	Assessment Parameters	Intervention Adjustments
<b>Week 5</b>	- Pain assessment using Visual Analog Scale (VAS).	- Review patient's response to the initial treatment. - Continue the prescribed medications and therapies if significant improvement is observed.
	- Joint mobility and swelling assessment.	- Provide reinforcement of dietary and lifestyle recommendations.
<b>Week 6</b>	- Check improvement in stiffness, pain, and functional ability.	- Evaluate the need for modifications in therapies (e.g., reduce frequency of <i>Janu Basti</i> if stiffness improves).
	- Monitor adherence to diet and exercise regimen.	- Suggest alternative exercises or physical activities based on improvement in mobility.
<b>Week 7</b>	- Reassess pain levels, range of motion, and swelling.	- Gradual tapering of external therapies ( <i>Abhyanga</i> , <i>Swedana</i> ) to twice a week.
	- Evaluate patient's progress in daily activities.	- Adjust the frequency or dosage of medications (e.g., reduce <i>Rasnasaptaka Kashaya</i> to once daily if symptoms improve significantly).
<b>Week 9</b>	- Comprehensive assessment of joint health and overall functionality.	- Transition into a maintenance phase: Perform <i>Abhyanga</i> and <i>Swedana</i> weekly and continue <i>Yogaraja Guggulu</i> .
	- Assess compliance with lifestyle modifications.	- Encourage sustained adherence to a <i>Vata</i> -pacifying diet and light exercises.



<b>Week 10</b>	- Long-term outcome evaluation: Pain-free daily activities and mobility.	- Evaluate need for continuing therapies like <i>Janu Basti</i> bi-weekly or monthly.
	- Address recurrence of any symptoms.	- Provide guidance on preventive measures to avoid symptom relapse, including seasonal adjustments to diet and lifestyle per <i>Ritucharya</i> .

### Results According to VAS Scale

Parameter	Baseline	Week 2	Week 4	Week 5	Improvement
<b>Pain (VAS Score)</b>	8/10	5/10	3/10	2/10	70% reduction
<b>Knee Joint Mobility</b>	Flexion: 90 <sup>0</sup> , Extension: - 10 <sup>0</sup>	Flexion: 110 <sup>0</sup> , Extension: - 5 <sup>0</sup>	Flexion: 120 <sup>0</sup> , Extension: 0 <sup>0</sup>	Flexion: 125 <sup>0</sup> , Extension: 0 <sup>0</sup>	Improved range of motion
<b>Swelling (Clinical Grade)</b>	Moderate	Mild	Mild	Absent	Complete resolution
<b>Stiffness (Patient Report)</b>	Severe	Moderate	Mild	Minimal	Significant reduction

### Discussion

The management of *Janu Sandhigata Vata* (osteoarthritis of the knee joint) through an integrative Ayurvedic approach showed significant improvements in the patient's symptoms, including pain reduction, enhanced joint mobility, and resolution of swelling and stiffness.<sup>12</sup> This case study highlights the effectiveness of a holistic treatment protocol targeting both symptomatic relief and the underlying *Vata* imbalance, as described in Ayurvedic principles.<sup>13</sup>

- 1. Pain Management**-The pain experienced by the patient, assessed using the Visual Analog Scale (VAS), reduced significantly from 8/10 at baseline to 2/10 by the end of Week 5. This can be attributed to the combined effects of *Rasnasaptaka Kashaya* and *Yogaraja Guggulu*, which pacify aggravated *Vata dosha* and address inflammation.

Additionally, therapies such as *Abhyanga* with *Mahanarayan Taila* and *Janu Basti* improved local circulation, reduced stiffness, and enhanced lubrication of the joints.<sup>13</sup>

2. **Improved Joint Mobility**-Restricted knee flexion and extension were progressively improved with the integration of external therapies like *Swedana* and *Janu Basti*. These therapies helped relax the soft tissues, reduce swelling, and restore mobility. By Week 5, the patient achieved near-normal joint movement, enabling her to perform daily activities with minimal discomfort.<sup>14</sup>
3. **Reduction in Swelling and Stiffness**-Localized swelling and stiffness were markedly reduced through a combination of *Nadi Sweda* (localized fomentation) and dietary modifications aimed at pacifying *Vata*. The patient's subjective reports of morning stiffness also showed significant improvement, enhancing her quality of life.<sup>15</sup>
4. **Role of Lifestyle and Dietary Modifications**-The inclusion of a *Vata*-pacifying diet and gentle exercises like yoga and walking played a crucial role in preventing symptom recurrence and supporting long-term outcomes. Warm, moist, and easily digestible foods helped balance *Vata dosha*, while physical activity maintained joint flexibility and strength.<sup>16</sup>
5. **Comparison with Conventional Management**-Unlike conventional treatments, which primarily focus on symptomatic relief using analgesics and anti-inflammatory drugs, the Ayurvedic approach addressed the root cause—*Vata* imbalance and joint degeneration. Furthermore, the absence of adverse effects and the promotion of systemic health highlight the superiority of this holistic approach.<sup>17</sup>

## Results and Findings

The integrative Ayurvedic treatment for *Janu Sandhigata Vata* (osteoarthritis of the knee joint) demonstrated significant improvements in the patient's condition over five weeks.

1. **Pain Reduction:** The patient reported a marked reduction in knee pain, with the Visual Analog Scale (VAS) score decreasing from 8/10 at baseline to 2/10 by Week 5. This 70% improvement highlights the effectiveness of the protocol in alleviating pain and pacifying aggravated *Vata dosha*.<sup>18</sup>
2. **Improved Joint Mobility:** The range of motion in the knee joint showed notable progress, with knee flexion improving from 90° to 125° and extension normalizing

from  $-10^{\circ}$  to  $0^{\circ}$ . The patient regained the ability to perform routine tasks, including climbing stairs and walking without discomfort.<sup>19</sup>

3. **Reduction in Swelling and Stiffness:** Swelling, initially graded as moderate, resolved completely by the end of the treatment. Stiffness, reported as severe at baseline, was reduced to minimal levels, allowing smoother joint movements and improved morning functionality.<sup>20</sup>
4. **Quality of Life:** The integrative approach significantly enhanced the patient's overall quality of life. Activities of daily living, such as household chores and walking, were restored without significant discomfort or limitation.<sup>21</sup>
5. **Holistic Impact:** The combination of internal medications (*Rasnasaptaka Kashaya*, *Yogaraja Guggulu*, and *Ashwagandha Churna*), external therapies (*Abhyanga*, *Swedana*, and *Janu Basti*), and lifestyle modifications contributed to systemic health and sustainable outcomes. This non-invasive protocol addressed both symptomatic relief and the root cause of the condition.<sup>22</sup>

The findings indicate that an Ayurvedic treatment protocol is effective in managing *Janu Sandhigata Vata*, offering a comprehensive solution for pain relief, joint health restoration, and enhanced functional ability without adverse effects. Further studies are encouraged to validate these outcomes and establish standardized Ayurvedic guidelines for osteoarthritis management.

## Conclusion

The integrative Ayurvedic treatment for *Janu Sandhigata Vata* (osteoarthritis of the knee joint) demonstrated remarkable efficacy in alleviating pain, improving joint mobility, and enhancing the overall quality of life. By addressing the underlying *Vata dosha* imbalance through internal medications, external therapies, and lifestyle modifications, this holistic approach provided both symptomatic relief and long-term benefits. The patient experienced a significant reduction in pain (70% improvement in VAS score), complete resolution of swelling, and improved knee joint flexibility, enabling her to resume daily activities with ease. The non-invasive and sustainable nature of the treatment highlights its potential as an effective alternative to conventional management of osteoarthritis. This case study underscores the therapeutic value of Ayurvedic interventions in managing degenerative joint

disorders and emphasizes the need for further research to validate these findings and establish evidence-based guidelines for *Janu Sandhigata Vata* treatment.

**Conflict of interest –nil**

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