



Case Report

Ayurvedic Therapeutic intervention in the Management of Avascular Necrosis (*Asthimajjagata Vata*) of femur head: A case study

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Abstract

Introduction: Avascular necrosis (AVN) of the femoral head is a progressive disorder caused by interruption of blood supply, resulting in bone ischemia, pain, restricted joint movement and disability. Early conservative management is important to delay disease progression and the need for surgery. In *Ayurveda*, AVN is correlated with *Asthimajjagata Vata*, characterized by aggravated *Vata Dosha* affecting bone and marrow tissues. **Case Presentation:** A 45-year-old male presented with bilateral hip pain, limping gait, stiffness, and restricted hip movement for 2 years. It started after for six months corticosteroid therapy during COVID-19 treatment. MRI confirmed bilateral AVN of the femoral head (FICAT and ARLET Stage III on the left and Stage II on the right). He was under allopathic treatment. He approached Ayurvedic OPD(24/18940) after not feeling better. The patient received an Ayurvedic regimen comprising *Mustadi Marma Kashaya*, *Gandha Taila* Capsules, *Shallaki* Tablets, *Zeotone* Tablets, *Cardorium Plus* Syrup, *Yoga Basti*, *Dashamoola Ksheera Dhara*, and *Nagradi Churna Lepa* for one month. Outcomes were assessed using pain severity, gait, tenderness, and hip range of motion. **Results:** After one month, the patient showed marked reduction in pain and tenderness, improved gait, and increased hip mobility. Walking, weight-bearing, and daily activities were performed with greater ease. No adverse events were reported. **Discussion:** The observed improvement may be attributed to the combined effects of *Yoga Basti*, external therapies, and internal *Ayurvedic* medications in pacifying *Vata Dosha*, improving local circulation, reducing inflammation, and promoting bone tissue nourishment. Although the findings are promising, this single case report has limited generalizability. Larger, well-designed clinical studies are needed to confirm the efficacy and safety of this integrative *Ayurvedic* approach in AVN management.

Keywords: Avascular necrosis, *Asthimajjagata Vata*, *Yoga Basti*

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Introduction

Avascular necrosis (AVN), also known as osteonecrosis, refers to the death of bone tissue due to a lack of blood supply¹. The term *avascular* is derived from the prefix "a-" meaning "without" and "vascular" from the Latin *vasculum*, meaning "small vessel"—together indicating the absence of blood vessels. *Necrosis* originates from the Greek word *nekrosis*, meaning "a becoming dead" or "state of death" and is used to describe the death of bodily tissue². The aetiology of AVN is multifactorial, involving both traumatic and non-traumatic causes. Traumatic factors

include femoral neck fractures and hip dislocations, while non-traumatic causes encompass chronic corticosteroid use, excessive alcohol consumption, hemoglobinopathies, and idiopathic origins. AVN restricts patient mobility. It is a non-reversible progressive condition ultimately requires surgical intervention. Hence alternative traditional approached need to be tried to assess their benefit.

In *Ayurveda*, Avascular Necrosis (*Asthimajjagata Vata*) is commonly understood as a manifestation of *Asthi Dhatu Kshaya*, which refers to the degeneration or depletion of bone tissue. It is further associated with conditions such as *Asthigata Vata* and *Majjavaha Srotas Dushti*, indicating disorders affecting the bone and marrow channels, primarily due to an imbalance of the *Vata dosha*³. *Aacharya charaka* mentioned *Asthimajjagat vata chikitsa* in that he mentioned When vata has affected the *Asthi* and *majja dhatus*, it should be manage by *Sneha* administered both *Bahya* and *Abhyantara*⁴.

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In the previously reported study, *Kshara Vasti* was employed as part of the management of AVN. However, considering the early stage of the disease and the clinical condition of the present patient, *Yoga Vasti* was selected as a comparatively simpler and more appropriate *Vasti* protocol. Classical references also support the use of *Yoga Vasti* in Vata-dominant musculoskeletal conditions. Therefore, in the present case of Stage II AVN, the treatment was planned according to the *Avastha* of the patient, with *Yoga Vasti* preferred over *Kshara Vasti* to provide a suitable and relatively less intensive *Vasti* regimen.

Case Report

A 45-year-old male patient visited to the OPD(24/18940) at SJSACH with complaints of progressive pain in both hip joints, more pronounced on the left side. The patient reported a dull, aching pain in the left hip joint that had been gradually worsening over the past six months. The pain was aggravated by weight-bearing activities such as walking and climbing stairs, and relieved with rest. He also noted a progressive decrease in the range of motion of the left hip joint, accompanied by joint stiffness, particularly in the mornings and after prolonged sitting. The symptoms had an insidious onset and had steadily worsened over time. He reported a limping gait, especially noticeable on rising from rest. There was no history of recent trauma, fever, redness or swelling around the hip joints. The right hip joint was also symptomatic but to a lesser extent compared to the left. Patient had no previous history of alcohol consumption, had no history of previous joint diseases. History of steroid use at covid time. Patient had no family history of hereditary hip joint disorders or vascular diseases.

On Examination: On inspection there is no visible deformity of the hip joint. On palpation, tenderness is noted over the hip joint, particularly around the greater trochanter and groin. Restricted Range of Motion observed especially decreased internal rotation and abduction of the left hip joint. Aggravation of Pain is present on these movements. Antalgic gait with a limp on the left side was observed. Showed LOG ROLL test positive, And also FABER test showed positive result⁵. For further confirmation, Patient MRI report is present with him showing reports which is mentioned below .

Table 1: Physical examination for range of motion

Movements	Normal	On examination
Flexion	120 ⁰ - 140 ⁰	90 ⁰ -100 ⁰
Adduction	60 ⁰ -80 ⁰	45 ⁰ -50 ⁰
Lateral rotation	60 ⁰ -90 ⁰	45 ⁰ -50 ⁰
Extension	120 ⁰ -140 ⁰	90 ⁰ -100 ⁰
Abduction	60 ⁰ -80 ⁰	45 ⁰ -50 ⁰
Medial rotation	60 ⁰ -90 ⁰	45 ⁰ -50 ⁰

Investigation

The X-ray showed joint space narrowing, subchondral sclerosis, and a crescent sign in the femoral head, indicative of early-stage AVN (Avascular Necrosis). The femoral head appears collapsed, with evidence of sclerosis and cystic changes seen in the bone. And MRI showed Bilateral Moderately Defined Areas of subchondral Geographical defects in the femoral heads, with presence of the double line sign, mild surroundings edematous

changes are observed as per FICAT and ARLET classification – left hip joint -stage III, right hip joint -stage II.

Differential Diagnosis

Primary Osteoarthritis of hip, Subchondral insufficiency fracture of femoral Head and Trochanteric Bursitis are excluded in Differential Diagnosis and the condition is diagnosed as Avascular Necrosis of hip based on history, on examination Log Roll test and Faber test showed positive result. and In X- RAY findings showed Crescent sign over hip joint and also MRI showed double line sign.

Therapeutic intervention

Patient was admitted in the IPD on the same day he approached. Patient was advised internal medications. [Table 2] *Dashamula kashaya dhara*, *Nagradi lepam* therapies were administered initial 3 days. From the 4th to 11th day, *Yoga basti* was administered in along with *lepa*, *dhara* and prescribed internal medications. On the 12th day, the patient was discharged with advice to continue the internal medications for one month. The patient was subsequently reviewed after month for follow up evaluation, and the clinical outcomes was assessed.

Internal Medication

Table 2: Internal medication for 1 month

Sr.No	Name of the medicament	Frequency and dosage
1	<i>Mustadi marma Kashaya</i>	10 ml – 0 –10 ml /Before food (Morning - Night)
2	<i>Cardorium plus</i> syrup	10 ml – 10 ml – 10 ml / After food (Morning – Afternoon – Night)
3	Cap. <i>Gandha tailam</i> 300 mg	1 – 0 - 1 / After food (Morning -Night)
4	Cap. Zeotone 850 mg	1–0 - 1 / After food (Morning – Night)
5	Tab. <i>Shallaki</i> 500 mg	1tb – 1 tb – 1 tb / After food (Morning – Afternoon – Night)

Panchakarma Treatment

Dashmoola Ksheera Dhara followed by *Nagradi Churna Lepam* with Egg White were applied for 11 days. Eight days *Yoga basti* was given from fourth day of admission. *Anuvasana Vasti* given with *Mahatikta Ghritam* 50 ml+ *Dhanvantaram Mezhupakkam* 50 ml+ *Saindhav Lavana* 5 gm. *Niruha Basti dravya* is prepared with *Makshikam* 40 ml + *Saindhava Lavana* 5 gm, + *Mahatiktam Ghrita* 100 ml + *Dhanavantaram Mezhupakkam* 40 ml + *Kalka* prepared with *Sushma Manjishta Churna* 20 gm and *Guduchi Dugdha Kashaya* 300 ml and given.

Day 1-3 (19/12/2024 – 21/12/2024): *Dashamoola Ksheera Dhara* + *Nagradi Churna Lepa* (with egg white)

Day 4-11 (22/12/2024- 29/12/2024): *Nagaradi churna lepa* and *Dashmoola Ksheera dhara*.

Yoga Basti including *Anuvasana Basti* and *Niruha Basti*

Day 12 (30/12/2024)

After discharge internal medication given for 1 month

Patient was ask to come after 1 month for follow up.

1st follow up (30/01/2025)

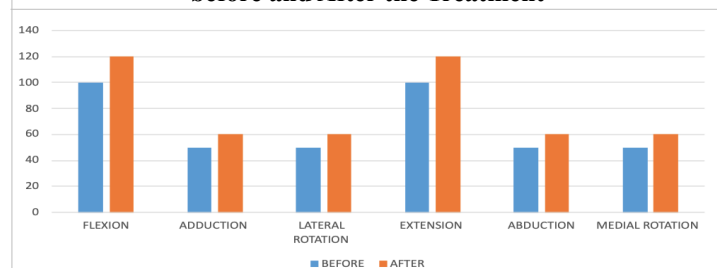
In follow up Period, Patient showed improvement in symptoms , Maintained the Range the Motion of hip joint, Hip pain was reduced, experienced less stiffness, Patient is now doing his work without any difficulty. So, continue the same internal medication for next 1 month

Results

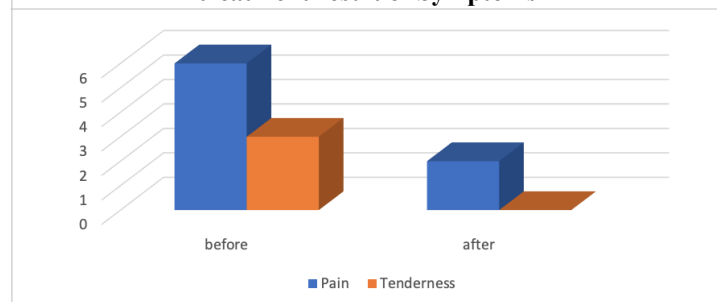
Table 3: Movements of Hip joint before and After the Treatment

Sr. No	Movements	Range of movement		
		Normal	Before Treatment	After Treatment
1	Flexion	120° - 140°	90°-100°	120°
2	Adduction	60° - 80°	45°-50°	60°
3	Lateral Rotation	60° - 90°	45°-50°	60°
4	Extension	120°-140°	90°-100°	120°
5	Abduction	60°-80°	45°-50°	60°
6	Medial Rotation	60°-90°	45°-50°	60°

Graph No.1 Graph Representation Movements of Hip joint before and After the Treatment



Graph 2: Graph representation of Before and After treatment result of Symptoms



After One month of Treatment of internal medication and *Yoga basti*, *Dashmoola ksheera dhara*, *Nagradi churna lepa* the Patient showed significant clinical improvement. Hip pain was reduced gait improved, tenderness decreased, and the range of motion of both hip joints increased. Patient experienced less stiffness and was able to perform daily activities with greater ease. Overall, the integrative Ayurvedic Management resulted in improved functional status.

Discussion

Patient diagnosed with bilateral femoral head AVN was managed using a comprehensive Ayurvedic approach followed by *Sodhana* (purification) and *Brahmana* (nourishing/rejuvenating) treatments. In such deep-seated conditions involving *Gambira Asthi Dhātu* (deep bone tissue), it is essential to first balance the *doshas* and eliminate *ama* (metabolic toxins) from the *dhatu*s through *Panchakarma* therapies. Among these, *Basti*—particularly in its *Brhmana* form (nutritive enema)—has shown significant efficacy

in chronic, degenerative disorders. Its systemic effects not only help in *Vata* pacification, but also aid in tissue rejuvenation, making it a suitable and potentially effective modality in the conservative management of AVN⁶

In the present study, *Mustadi Marma Kashaya* was selected for its *Vata-shamaka* and analgesic properties, helping to alleviate pain and stiffness. Cardorium Plus syrup was used as a supportive formulation to improve digestion and metabolism. *Gandha Tailam* was included for its traditional use in *Asthi-Majja* disorders and its *Vata-shamaka* and *Brimhana* properties, supporting bone and musculoskeletal health. Zeotone was incorporated as an adjunct to support nutritional and metabolic requirements. Shallaki was used for its analgesic and anti-inflammatory properties, contributing to reduction of pain and stiffness and improvement in joint function. Thus, the combined regimen was intended to provide a comprehensive approach targeting *Vata* imbalance, pain, inflammation, and musculoskeletal health in early-stage AVN.

Yoga Basti is a specialized therapeutic enema regimen in *Ayurveda*, employed as part of the *Panchakarma* detoxification protocol, and is particularly effective in managing *Vata*-dominant disorders.

In *Ayurveda*, Avascular Necrosis (AVN) is primarily attributed to the aggravation of *Vata dosha*, which leads to the degeneration of *Asthi Dhātu* (bone tissue)⁷. Two key therapies commonly employed in its management are *Yogabasti* and *Lepa*.⁷

Yogabasti, a specialized form of *Panchakarma* therapy, involves the administration of medicated enemas designed to balance *Vata* and nourish the body internally. This comprehensive therapeutic approach enhances blood circulation to the bones, alleviates stiffness, and promotes regeneration of the damaged bone tissue, making it a valuable treatment option in the conservative management of AVN⁸. *Nagradi Churna Lepa* is an external herbal helps to enhance local blood circulation, reduce pain and swelling, and promote tissue healing⁹

Previously work on AVN using *Ksharbasti* has already been conducted and published showing significant symptomatic relief enhanced functional mobility, and improved the patient's overall quality of life¹⁰. In this study, *Yoga Basti* was selected over *Kshara Basti* because its combined *Niruha* and *Anuvasana* components provide balanced *Shodhana* and *Snehana* therapy, making it more suitable for *Vata* predominance with *Asthi-Majja* involvement in AVN.

A carefully designed *Basti* regimen can rejuvenate the tissues and help alleviate *Dhatukṣaya* caused by aggravated *Vata doṣa*, potentially promoting neovascularization³. The therapy provided significant relief from pain, tenderness, and stiffness, along with noticeable improvement in gait. Encouragingly, the grade of AVN remained stable without progression during follow-up. This approach is also cost-effective, making conservative Ayurvedic management a valuable option that offers meaningful symptom relief and enhances quality of life in AVN patients.

When combined with *Yogabasti*, these therapies provide a holistic approach to managing Avascular Necrosis (AVN), effectively addressing both the underlying systemic imbalance and localized symptoms. This treatment is especially beneficial in the early to moderate stages of the disease, supporting improved joint function and patient quality of life. *Dhara* using *Dashmoola Ksheera* helps to strengthen the body, enhance the function of organs situated in *Vata*-prone areas, tone the muscles, and soothe the nerves, thereby promoting overall systemic balance and well-being¹¹

Patient improved symptomatically with 11-day *Panchakarma* therapy. This relief maintained with one-month internal medication. Patient was unable to go for investigations and further treatment due to some constraints. Hence progression of disease was not able to track through investigations.

Conclusion

In Ayurveda, the management of avascular necrosis (AVN) is primarily aimed at addressing the underlying *Dosha-Dushya* imbalance, improving functional circulation, reducing pain and stiffness, and supporting *Asthi Dhatu* health. Therapeutic approaches may include individualized *Shodhana* and *Shamana* therapies, specific herbal formulations, dietary modifications, and appropriate lifestyle measures. These interventions are intended to provide symptomatic relief and improve functional status. However, given the progressive nature of AVN and the limited clinical evidence supporting Ayurvedic treatment as a standalone modality, it is important to consider integrative management with appropriate conventional medical care, particularly in advanced stages or when structural collapse of the femoral head has occurred.

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Conflict of Interest – None

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