



Management of Avascular Necrosis of Right Hip Joint Through Asthishrukhaladi Ksheer Basti-A Case Study

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ABSTRACT

Avascular necrosis (AVN), also known as osteonecrosis, aseptic necrosis, or ischemic bone necrosis, is characterized by the death of bone cells due to a disruption in the blood supply. This leads to the collapse of the bone structure, resulting in pain, loss of joint function, and long-term joint damage. In this case, a 28-year-old male patient, a mechanical engineer by profession, visited the Panchkarma department of Dr. D Y Patil Ayurved College and Research Centre, Pune, India with a diagnosis of AVN. He complained of pain in his right hip joint accompanied by stiffness. The patient underwent treatment with Asthishrukhaadi Ksheer Basti (Kala Basti) for 30 days, along with oral medications. The results of the treatment showed significant improvements in the patient's condition. The Grading Scale score for pain decreased to 1, indicating a considerable reduction in pain levels. Additionally, the tenderness grading scale score decreased to 2, suggesting a decrease in tenderness experienced by the patient. Moreover, the weakness Grading scale score improved to 1, indicating a notable enhancement in the patient's strength and ability to perform activities. In conclusion, the 30-day treatment of Asthishrukhaadi Ksheer Basti had a positive impact on the patient's condition. It effectively reduced pain and tenderness while improving the patient's overall weakness. These findings support the effectiveness of the treatment in alleviating symptoms and enhancing the patient's overall well-being

INTRODUCTION

AVN is a condition characterized by the death of bone tissue due to a lack of blood supply. It commonly affects young adults, with bilateral involvement in 60% of cases [1]. The primary cause of AVN is injury or occlusion of the blood vessels that nourish the bone tissue. In India, approximately 16,000 people develop AVN of the femoral head each year, making it the most prevalent form of bone necrosis. AVN can be classified

into two types: post-traumatic and idiopathic. The narrow arteries supplying the femoral head are particularly susceptible to injury, often resulting from dislocation or subcapital fracture of the femoral neck. This leads to insufficient nourishment of the femoral head and subsequent necrosis. Initially, AVN may be asymptomatic, but it eventually manifests as varying degrees of pain and changes in gait. It predominantly affects individuals between the ages of 20 and 40 [2].



Ayurveda has played a significant role in treating chronic and untreatable conditions such as AVN. However, Ayurvedic treatment principles must be applied to clinically manage diseases that are not explicitly described in Ayurvedic texts, known as Anukta Vyadhi (unmentioned diseases) Asthishrunkhalaadi Ksheer Basti is an Ayurvedic therapeutic procedure utilized for various bone-related disorders. In Ayurveda, "Asthishrunkhala" refers to bones, "Ksheer" means milk, and "Basti" denotes an enema or medicated infusion [5]. This procedure involves the administration of a medicated milk enema to alleviate bone-related ailments. Asthishrunkhalaadi Ksheer Basti is primarily recommended for conditions, such as osteoporosis, osteoarthritis, osteopenia, fractures, and other bone deformities [6-7].

Researchers have endeavoured to assess the efficacy of Asthishrunkhalaadi Ksheer Basti, a therapeutic procedure, in combination with conservative management, as an alternative to the painful surgical procedures recommended by modern medicine for AVN of the femoral head. AVN of the right hip joint refers to the death of bone tissue in that specific area due to compromised blood supply [3]. This condition can cause pain, restricted mobility, and deterioration of the hip joint. As a management approach for AVN of the right hip joint, Ayurvedic practitioners often employ Asthishrunkhalaadi Ksheer Basti, a therapeutic procedure [4]. The objective of this finding is to assess the effectiveness of Asthishrunkhalaadi Ksheer Basti treatment in reducing pain, tenderness, and weakness in a patient with AVN of the right hip joint.

MATERIALS AND METHOD

Study Design

A 28-year-old male patient, a mechanical engineer by profession, presented at the Out Patient Department (OPD) of the Panchkarma Department, Dr. D Y Patil Ayurved College and Research Centre, Pune, India with a diagnosis of AVN. The patient complained of pain and stiffness in the right hip joint. The patient underwent a treatment regimen that included Asthishrunkhalaadi Ksheer Basti (Kala Basti) for 30 days, along with oral medications.

Physical Examination:

During the physical examination, the patient exhibited normal body temperature, with a blood pressure reading

of 120/80 mmHg, along with a pulse rate of 76 beats per minute, and also a respiratory rate of 18 breaths per minute. Systemic examination did not reveal any abnormalities in cardiovascular, respiratory, or central nervous system activity. The patient was diagnosed with AVN, presenting with symptoms of pain, tenderness, difficulty in walking, and weakness in the right hip joint. The initial MRI conducted on 25/12/2020 showed suggestive findings of AVN in both femoral heads, with early stage II on the right side and late stage II on the left side. Subsequent MRI on 5/5/2021 indicated findings suggestive of AVN in both femoral heads, with stage 3-4 on both sides.

Administration of Ayurvedic therapeutic

The patient was admitted to the Dr. D Y Patil College of Ayurveda and Research Centre and received treatment in the inpatient department (IPD). The patient complained of pain and stiffness in the right hip joint. The patient was treated for 30 days with oral drugs and Asthishrunkhalaadi Ksheer Basti (Kala Basti). The principal therapy in *Ayurveda* is Asthishrunkhalaadi Ksheer Basti, which has a direct effect on the *Vata Dosh*a and is hence sometimes referred to as *Ardha Chikitsa* or *Sarva Chikitsa*. Additionally, *Ksheer Basti*, a kind of *Basti*, is the primary therapy for AVN.

During the follow-up sessions, the assessment of the patients' progress includes the measurement of the following Grading Scale for Pain, Tenderness & Weakness:

- **Pain:** The level of pain experienced by the patients will be graded on a scale from 0 to 4; 0 - no pain, 1 - mild pain, 2 - discomforting pain, 3 - distressing pain, and 4 - horrible pain.
- **Tenderness:** The degree of tenderness in the affected areas will be graded on a scale from 0 to 4; 0 - no tenderness, 1 - mild tenderness, 2 - wincing of face on pressure, 3 - wincing of face and affected part's withdrawal on pressure activity, and 4 - resisting touch due to tenderness.
- **Weakness:** The level of weakness experienced by the patients will be graded on a scale from 0 to 4; 0 - no weakness, 1 - the inability to perform strenuous activities, 2 - the inability to perform moderate activities, 3 - the inability to perform moderate activities but can perform mild activities without difficulty, and 4 - the inability to even perform mild activities.



RESULT & DISCUSSION

This case report wants to assess the efficacy of an Ayurvedic therapeutic intervention, especially Asthishrunkhalaadi Ksheer Basti, in treating AVN of the right hip joint of 28 year old male patient. The patient underwent for treatment and was advised to follow regimen Asthishrunkhalaadi Ksheer Basti for 30 days.

The table 1 presents the assessment of pain, tenderness, and weakness scores in the patient before and after

treatment. Before treatment, the patient had a pain score of 3, tenderness score of 3, and weakness score of 3. After undergoing the treatment, the pain score significantly reduced to 1, the tenderness score decreased to 2, and the weakness score improved to 1. These results suggest that the treatment had a positive impact on the patient's condition, leading to an alleviation of pain and tenderness, as well as an improvement in weakness.

Table 1: Comparative Study of Treatment in Patient for Pain, Tenderness, and Weakness

NO	Before Treatment (BT)	After treatment (AT)
Pain score	3	1
Tenderness score	3	2
Weakness score	3	1

BT: Before Treatment, AT: After Treatment

The disorder AVN is characterized by a decrease of blood flow to the bone, which results in bone tissue death and consequent joint deterioration. AVN patients often endure joint pain, discomfort, and weakness, restricting their daily activities and quality of life. The patient's clinical presentation and MRI results confirmed AVN. The first MRI showed early stage II AVN in the right femoral head and late stage II in the left, followed by stage 3-4 in both. The patient was then transferred to the inpatient department (IPD) for Ayurvedic therapeutic intervention. Asthishrunkhalaadi Ksheer Basti, a specialized herbal enema, and oral drugs were part of the therapy strategy. The Ayurvedic medication was administered for a period of 30 days.

During the follow-up assessments, the patient's pain, tenderness, and weakness levels were measured using a grading scale. The results showed a significant improvement in all three parameters after the 30-day treatment regimen (Table 1). The pain score decreased from grade 3 to grade 1, indicating a notable reduction in pain levels. Similarly, the tenderness score decreased from grade 3 to grade 2, suggesting a reduction in tenderness in the affected hip joint. Moreover, the weakness score improved from grade 3 to grade, indicating enhanced strength and functional ability. These findings suggest that the treatment protocol, including Asthishrunkhalaadi Ksheer Basti had a positive impact on the patient's condition. The

alleviation of pain, tenderness, and weakness, along with improvements in bone density and walking gait, demonstrate the potential benefits of Ayurvedic therapy in the management of AVN.

Similarly, a study conducted by Vagbhata et al. (2017) [8], suggests how Ayurveda show beneficial effect in reducing AVN. Thus in his study Ayurveda recommends Basti, specifically Asthikshayaja Ksheera Basti, for diseases caused by a decrease in Asthi Dhatu. Asthikshayaja Ksheera Basti involves the administration of a milk decoction with pleasant and unctuous characteristics. This helps in managing Vata Dosh, and the minute characteristics of Saindhava (rock salt) allow it to penetrate the body's microchannels, potentially aiding in the opening of fresh blood flow to bone tissue. Thus, from an Ayurvedic perspective, the use of Asthikshayaja Ksheera Basti is believed to assist in balancing Vata Dosh, enhancing Dhatvagni function, and improving nourishment and blood flow to the affected bone tissue in AVN of the hip joint. Hence another study conducted by Acharya (2011) [9] suggesting that Vata and Kapha are the root causes of Asthimajjagata Vata (Osteoporosis) which enhances pain, stiffness, and swelling in femoral bone of patients. Thus ayurveda regimen panchtikta ksheera basti show beneficial effect in reducing pain, stiffness and swelling in patients suffering from Osteoporosis



In summary, the present case report highlights the potential effectiveness of Asthishrunkhalaadi Ksheer Basti and oral medications in alleviating symptoms and improving functional outcomes in a patient with AVN of the right hip joint. Ayurvedic therapeutic interventions offer promising alternatives for managing AVN and warrant further research to establish their efficacy and safety in a broader patient population.

CONCLUSION

The study findings show that the Asthishrunkhaadi Ksheer Basti treatment had positive outcomes for the patient. It significantly reduced pain, tenderness, and weakness. The patient's initial pain score of 3 improved to 1, indicating a notable decrease in pain levels. Similarly, the tenderness score decreased from 3 to 2, showing a reduction in tenderness. Although some discomfort remained, the treatment had a positive effect. Additionally, the patient's weakness score improved from 3 to 1, indicating regained strength and the ability to perform moderate activities. Overall, the treatment contributed to the patient's improvement. In conclusion, the Asthishrunkhaadi Ksheer Basti treatment for duration of 30 days had a positive impact on the patient's condition. It effectively reduced pain and tenderness, while also improving the patient's weakness. These findings support the effectiveness of the treatment in addressing the patient's symptoms and improving their overall well-being.

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