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# Efficacy of Ayurvedic treatment in the management of Avascular Necrosis - A Case Study

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## ABSTRACT

Avascular necrosis (AVN) of the femoral head is a rare skeletal disease that typically manifests as hip joint or lower pelvic pain. Avascular necrosis of the femoral head is a condition in which there is limited collateral circulation and the blood supply to the head of the femur is disrupted, resulting in ischemic and subsequent necrosis. In India about 16000 peoples develops AVN of femoral head every year. In modern medicine treatment of AVN includes NSAID, bone grafting and replacement of hip joints. There is no specific conservative medicine in modern medical science for AVN yet. In *Ayurveda* all musculoskeletal diseases are considered under *Vatavyadhi*. Symptoms of AVN are similar to *Lakshana of Asthimajjagata Vata* described by *Charak*. The present case report is subjected to assess the efficacy of *Ayurvedic* protocol in the management of femoral head of AVN. A 35 years old male patient presented with Pain and stiffness at the left hip joint. Limited range of motion of the effected joint for 2 years. After reviewing all investigations including MRI, this case was diagnosed as left sided grade AVN of the femoral head. The patient was administrated with *Panchatiktsheer Basti* (200ml) for 8 days then *Dashmoolasiddha Majja Basti* (100ml) for 21 days. The follow-up was done for 1 month. After therapeutic intervention significant improvements were noticed such as reduction in VAS scale and improvement in movements of hip joints. The present case study documents that *Shaman Aushadh* along with *Basti* therapy can be effective in AVN and improve the quality of life of patient.

**Key words:** *Asthimajjagat Vata, Avascular Necrosis, Dashmoolasiddha Majja Basti.*

## INTRODUCTION

Avascular necrosis (AVN) is a condition in which a circumscribed area of bone becomes necrotic as a consequence of loss of its blood supply.<sup>[1]</sup> It typically affects the epiphysis of long bones at weight-bearing joints. In severe cases the destruction of the subchondral bone or the collapse of the entire joint can occur.<sup>[2]</sup> AVN usually involves the epiphysis (end part of

a long bone), such as the femoral and humeral heads and the femoral condyles, but small bones can also be affected. In clinical practice, AVN is most commonly encountered in the hip.<sup>[3,4]</sup> In *Ayurveda*, there is no direct description of AVN in classical texts. Here in AVN, it seems that the predominant *Dosha* and *Dushya* are *Vata* (air humor) & *Asthi* (bones) respectively, in the chronic stage there is *Tridosha* involvement occurs. Clinical presentation of AVN can closely resemble with *Asthi-kshaya*, *Asthimajjagata Vata* and *Asthibhagna*, out of these *Asthimajjagatvata* is more similar to AVN by its pathogenesis and symptoms. The sign and symptoms of *Asthimajjagata Vata* are *Bhedoasthiparvanam* (breaking type of pain in bones), *Sandhishoola* (Joint pain), *Mamsakshaya* (muscular wasting), *Balakshaya Sandhishaitilyam* (flaxity (weakness), of joints), *Aswapna Satatruka* (sleeplessness due to continuous pain), *Shiryantiva Cha Asthi-Dourbalyani* (destruction of bony tissue causing generalized weakness).<sup>[5]</sup> The modern modalities of AVN are not satisfactory and also having adverse effect

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in long term use. Therefore, this case report documents the better *Ayurvedic* protocol for AVN.

### AIM AND OBJECTIVES

1. To find out an effective *Ayurvedic* protocol for AVN.
2. To assess the efficacy of *Panchtiktakshira Basti* and *Dashmoola Majja Basti* in the management of AVN

### MATERIALS AND METHODS

#### Selection and source of patient

For this study, the patient was registered from the IPD of Pt. Khushilal Sharma Govt. Ayurveda Hospital, Bhopal.

#### Plan of study

The patient was treated with *Shamana Aushadhi* along with *Panchakarma* therapy.

### CASE STUDY

For this clinical study the patient was admitted to Pt. Khushilal Govt Ayurvedic Hospital and Institute Bhopal, IPD no. 32628 of age 35yr/male with complaints of pain in left hip joint with severe stiffness, could not raise left leg and lower backache. Diagnosed as AVN (grade-2) of femoral head on the basis of sign and symptoms and investigations.

#### History of Past Illness

**Medical history** - Patient had skin infection and COVID, taking steroids for longer duration.

#### Surgical history - NAD

#### Personal History

- Diet - Mixed diet, prefers spicy.
- Appetite - Normal
- Bowel - Clear
- Bladder - Normal
- Sleep - Disturbed due to pain.
- Allergy and addiction - Nil.

### Examination

#### Ashtavidha Pariksha

- *Nadi* (Pulse) - *Vata-Kapha*, 80/ min.
- *Mootram* (Urine) - Normal
- *Malam* (Stool) - Normal
- *Jivha* (Tongue) - Normal
- *Shabdham* (Voice) - Normal
- *Sparsham* (Touch) - Normal.
- *Drika* (Eyes) - Normal
- *Aakriti* (Built) - Moderately, no deformities

### Investigation

- Serum Uric Acid - 5.2mg/dl
- MRI of Left Hip

Left sided grade 2 AVN and Minimal left hip joint effusion.

**CHIRAYU MEDICAL COLLEGE & HOSPITAL**  
(A Unit of Chirayu Charitable Foundation)

Chirayu Medical College & Hospital  
**DEPARTMENT OF RADIODIAGNOSIS**

Name	[REDACTED]	Age	35Y/M
Referred by	Dr. CMCH	OPD/IPD No.	22127987
Examination	MRI Hip	Date	30.06.2022

**REPORT**

**Technique:** MRI of the hip was performed using T1, T2 Axial and Coronal planes and coronal STIR and gradient sequences.

**Imaging findings:**

- There is geographical shaped areas of altered signal intensity seen in the subchondral portion of anterosuperior aspect of left femoral head. No evidence of volume loss or collapse of femoral head on left side noted. STIR hyperintense marrow edema is seen in adjacent left femoral head and neck region.
- Minimal left hip joint effusion is seen.
- Right femoral head and acetabular are of normal shape and the femoral head are well covered by the acetabular margins. The joint space is of normal width.
- The articular surfaces are smooth and congruent and show normal cortical thickness. There are no marginal osteophytes or subchondral signal change seen on right side.
- The bone marrow shows normal signal intensity in the right femoral head and neck. Each femoral shaft has normal margins and contains a normal bone marrow signal.
- Sacral ala and both SI joints appear normal.

**Conclusion:** MRI hip reveals-

- Left sided grade II AVN changes as described above.
- Minimal left hip joint effusion is seen.

**Advice: Clinical Correlation.**

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Dr. D.N. Panchbhayye Professor  
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Dr. Ravi Kumar Saman Senior Resident, MD

This is a professional opinion and should be interpreted with clinical correlation. Not valid for medico legal purpose.

**Treatment Plan**

S N	Treatment	Drug Used	Dose	Duration	Anupana
1.	Basti Basti	Panchtiktaksh eer Basti  Dashmooladi Siddha Majja Basti	200ml  100ml	8 days  21 days	-  -
2.	Shamana Aushadhi	Ekangveer Ras 200mg, Sameerpanna g Ras 250mg, Godanti 100mg	BD	30days	Luke warm water
		Maharasandi Kwath	20ml BD	30days	-
		Kukkutand Twak Bhasm 250mg	250mg BD	30days	-
		Chingati Satva 500mg	BD	30days	-
		Salai Guggul 400mg	BD	30days	Luke warm water

**Panchtik Ksheer Basti Plan**

Day	Basti	Dose	Time of Basti Adanakala	Time of Basti Pratyagamana kala
1.	K	200ml	10:15am	2:00pm
2.	K	200ml	11:15am	4:00pm
3.	K	200ml	10:40am	2:50am
4.	K	200ml	10:30am	4:10pm
5.	K	200ml	10:15am	4:15am
6.	K	200ml	11:00am	4:45pm
7.	K	200ml	10:45am	4:30am
8.	K	200ml	11:15am	3:00pm

**Dashmoolasiddha Majja Basti Plan**

Day	Basti	Dose	Time of Basti Adanakala	Time of Basti Pratyagamana Kala
1.	M	100ml	1:00pm	7:00pm
2.	M	100ml	11:30am	9:00pm
3.	M	100ml	11:20am	9:30pm
4.	M	100ml	11:30am	10:00pm
5.	M	100ml	11:30am	9:00pm
6.	M	100ml	11:30am	9:30pm
7.	M	100ml	11:45am	8:15pm
8.	M	100ml	11:00am	10:00pm
9.	M	100ml	11:30am	8:00am
10.	M	100ml	11:45am	7:45pm
11.	M	100ml	12:30pm	8:00am
12.	M	100ml	11:30am	4:15pm
13.	M	100ml	11:30am	7:00am
14.	M	100ml	12:15am	11:00pm
15.	M	100ml	12:30am	10:15pm
16.	M	100ml	11:30am	4:00am
17.	M	100ml	11:30am	7:00am
18.	M	100ml	11:45am	7:00am
19.	M	100ml	12:00pm	7:00am
20.	M	100ml	11:30am	7:00am
21.	M	100ml	11:45am	7:00am

**OBSERVATIONS AND RESULTS**

VAS score was used to assess pain in left lower limb which explained in table and it showed significant reduction in pain scale.

Improvement in flexion, extension, abduction, adduction, medial and lateral rotation of hip joint are also shown in table.

#### Pain VAS Score<sup>[6]</sup>

Parameter	Criteria	BT		AT	
		Rt Leg	Lt Leg	Rt Leg	Lt Leg
Pain (VAS Scale)	(0) No pain	0	7	0	2
	(1-3) Mild pain				
	(4-6) Moderate Pain				
	(7-10) Severe Pain				

#### Showing pre and post treatment changes in movement of hip joints

SN	Hip Joint Movements	BT		AT		Normal Range
		Rt.	Lt.	Rt.	Lt.	
1.	Flexion of Hip Joint	115°	70°	115°	100°	110° - 120°
2.	Extension of Hip Joint	10°	5°	10°	10°	10° - 15°
3.	Abduction of Hip Joint	30°	20°	30°	30°	30° - 50°
4.	Adduction of Hip Joint	25°	10°	20°	25°	20° - 30°
5.	Medial Rotation	35°	15°	35°	35°	30° - 40°
6.	Lateral Rotation	45°	20°	45°	40°	40° - 60°

After giving Ayurvedic treatment patient get 72% relief in left hip joint pain and stiffness during walking.

No pain during resting condition.

Can raise left leg up to 30 degrees.

#### DISCUSSION

Vatavyadhi occurs due to the vitiated Vata Dosha. Asthimajjagata Vata is also occurring due to vitiated Vata. AVN is closely resembles to Asthimajjagata Vata. The clinical feature are Bhedoasthiparvanam (breaking type of pain in bones), Sandhishoola (Joint pain), Mamsakshaya (muscular wasting), Balakshaya Sandhishathilyam [flaxity (weakness), of joints], Aswapna Satatruka (sleeplessness due to continuous pain) which correlates the symptoms of AVN.

The patient of AVN of femur head was treated with Shamana and Shodhana process. In Shaman process we had given Sameer Pannag Rasa, Ekangveer Rasa, Godanti Bhasma, Salai Guggul, Chingati Satva, Kukkutandatvak Bhasma as Shaman drugs for 30 days.

In Shodhana therapy, we had given Basti Karma. Vata acts as prime Dosha among Tridosha as well as play important role in Samprapti. Basti is described as best for Vatashamana, hence Basti was planned accordingly. Panchtikta Kshira Basti was given for 8 days.

Assessment was done after Basti. The therapies yielded complete symptomatic relief from pain, tenderness, general debility and improvement in the gait.

**Maha Rasnadi Kwath** - It is helpful in managing and relieving joint muscle pain, inflammation and stiffness.

**Sameer Pannag** - Improves tissue oxidation overcomes normalizes neuromuscular metabolism.

**Ekangveer Rasa** - Promotes healing of damaged nerves & blood vessels, activate sensory and motor functions.

**Salai Guggul** - In Shaman drugs, Boswellia serrata is also known as Indian oil banum, Salai guggul and Sallaki. It has following actions;

1. Anti-inflammatory and analgesic - Boswellic acid in Salai Guggul helps to reduce joints pain and inflammation by blocking 5-lipo oxygenase enzyme that produces leukotrienes an enzyme responsible for inflammation.

2. Chondro protective - *Salai guggul* prevents TNF alpha induced expression of matrix metallo proteinases, enhances chondrocyte proliferation and increases glycosaminoglycans levels and protect joint cartilage.
3. Immunomodulator - It controls chronic inflammation and tissue damage by modulatory immune response and inhibiting pro inflammatory cytokines like interleukin-1 beta, tumor necrosis factor

**Chingati Satva** - It is the naturally occurring amino glycoside (glucosamine) in the human body.

**Kukkutandatvak Bhasma** - It is rich in calcium and help in dealing with joint and bone related issues.

In *Shodhna* therapy, *Basti Karma* was given for 30 days. *Panchtikta Kshira Basti* was given for 8 days and then *Dashmooladi Siddha Majja Basti* was given for 21 days.

Research studies on *Kshira Basti* proved to be efficacious in *Asthi Kshaya* (osteoporosis) conditions. The *Kalka Dravyas* possess *Madhura* (sweet), *Tikta* (bitter), and *Kasaya* (astringent). The *Ushna* quality allows the herb to penetrate into the cellular level of the tissues and helps in blood purification and cleansing of the lymphatic system. The *Kashaya Rasa* is *Sandhanakara* (improves the compactness) in nature. *Ksheera* has been mentioned by the *Acharyas* as *Asthi Sandhanakara*. *Asthi Dhatu* is affected in AVN. Drugs of *Basti* are having *Snigdha*, *Guru* and *Ushna Virya*, which work as *Vatashamak* drugs. *Ksheera Basti* is a sort of *Niruha Basti* containing *Ksheera* as *Dravya* (liquid). *Madhura* and *Snigdha* are the properties of *Ksheera* which help to control *Vata Dosh* and causes *Brihmana* of *Rasadi Dhatu*.

## CONCLUSION

We can conclude that in case of AVN (*Asthimajjagata Vata*) the effect of *Ayurvedic* drugs along with *Panchakarma* therapy shows drastic improvement and improves the quality of life of the individual, so we recommended *Ayurvedic* treatment for this disease.

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