

Comprehensive Ayurvedic Approach in Early-Stage Avascular Necrosis of Femoral Head: A Clinical Case Report

Dr. Subhendu Mohanty¹, Dr. S.D. Khichariya², Dr. Aruna ojha³, Dr. Tribhuwan Singh Pawle⁴,
Dr. Sushma Rajwade⁵, Dr. Varsha paikra⁶, Dr. Shilpi Gangwani⁷

¹Post Graduate Scholar, Dept. of Kayachikitsa, Shri NPA Govt. Ayurveda college, Raipur, Chhattisgarh, India (Email- mohantysubhendu230@gmail.com).

²Reader, Dept. of Kayachikitsa, Shri NPA Govt. Ayurveda college, Raipur, Chhattisgarh, India (Email- drkhichariya@gmail.com).

³Proff.&H.O.D, Dept. of Kayachikitsa, Shri NPA Govt. Ayurveda college, Raipur, Chhattisgarh, India (Email- arunaojha90@gmail.com)

⁴Lecture, Dept. of Panchakarma, Shri NPA Govt. Ayurveda college, Raipur, Chhattisgarh, India (Email- dr.tribhul Singh@gmail.com).

⁵Post Graduate Scholar, Dept. of Kayachikitsa, Shri NPA Govt. Ayurveda college, Raipur, Chhattisgarh, India (Email- sushmarajwade45@gmail.com).

⁶Post Graduate Scholar, Dept. of Kayachikitsa, Shri NPA Govt. Ayurveda college, Raipur, Chhattisgarh, India (Email- paikravarsha69@gmail.com)

⁷Post Graduate Scholar, Dept. of Kayachikitsa, Shri NPA Govt. Ayurveda college, Raipur, Chhattisgarh, India (Email- shilpigangwani07@gmail.com)

ABSTRACT

Avascular necrosis (AVN) of the head of the femur. reduced blood supply to the subchondral bone, resulting in ischemia, necrosis of osteocytes, structural collapse, and secondary osteoarthritis. Clinically, it presents as hip pain, groin discomfort, restricted movement, and limp gait. In Ayurveda, AVN can be correlated with Asthi-Majja Gata Vata. It is considered a Vata vyadhi and a long-lasting, deeply rooted condition. As a result, when Vata is disturbed, it typically concentrates in the Asthi (Bone) and Majja (Marrow), resulting in symptoms like Majja shosha (marrow wasting), Asthi bheda (bone-breaking pain), Sandhi Shoola (joint pain), Stambha (Stiffness), Gurugatratva (Heaviness of the body). This case report presents a 34-year-old male patient diagnosed bilateral hip joint pain (right > left) and difficulty in walking for 1 yr. MRI findings revealed grade 1 avascular necrosis of right femoral heads, managed through comprehensive Ayurvedic approach. In this case study, treatment for Asthi-majja gata Vata follows Samprapti Vighatana chikitsa, for that Pancha Tikta ksheer Basti was planned along with saravang abhyanga swedana, Matra basti, Patra pinda sweda and Shalishastika pinda sweda. The patient received Panchatikta Ksheer Basti, Matra basti Shali shasthik pinda Sweda and PPS along with oral medication as part of their treatment regimen. Better relief was found in symptoms of avascular necrosis and significant betterment in value of hip range of motion. It was found that Panchatikta ksheer basti and Shalishastika pinda along with shaman Aushada is effective.

Keywords: Avascular necrosis, Asthi majja gata vata, Vata vyadhi, Panchatikta ksheer basti, Shali shasthik pinda sweda, Patra pinda sweda, ayurvedic management

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INTRODUCTION

Avascular Necrosis (AVN), also known as aseptic or ischemic bone necrosis, is a condition caused by interruption of blood supply leading to death of bone tissue, most commonly affecting the femoral head due to its limited and delicate vascular network. Etiology includes traumatic causes such as fractures and dislocations, and non-traumatic factors like prolonged corticosteroid use, alcohol abuse, smoking, HIV, tuberculosis, autoimmune disorders, and sickle cell anemia. Early stages may be asymptomatic, but progressive bone resorption results in structural collapse. MRI is the most sensitive diagnostic tool, detecting early signs such as the subchondral crescent sign. Conventional management ranges from core decompression to total hip replacement in advanced stages. In the Ayurvedic Perspective the clinical presentation of AVN closely mirrors the syndrome of *Asthi-Majjagata Vata*. This condition is categorized under *Vatavyadi* (disorders of Vata), specifically where the vitiated *Vata Dosha* has localized within the *Asthi* (bone) and *Majja* (marrow) *Dhatus*. According to classical texts, the deterioration of these vital tissues is characterized by a specific set of clinical markers. *Bhedoasthiparvanam* describes an intense, splitting sensation within the osseous structures and joints, reflecting the internal bone death. This is often accompanied by *Sandhishoola* (articular distress) and *Sandhi Shaithilyam*, a condition of pathological joint laxity.

The management of *Asthi-Majjagata Vata* focuses on *Snehana*, *Brahmana* (nourishing therapies), and specialized Basti Karma (*Panchatikta*) with shamana chikitsa. This case study aims to early diagnosis and prevents effect like hip joint collapse, providing a non-surgical alternative to improve the patient's quality of life and joint mobility.

CASE REPORT

A 34-year-old Hindu male field worker and businessman from Raipur (middle socioeconomic status) presented on

Investigations	Report
Hb%	11.3
RA Factor	Negative
CRP	Positive
Xray Digital Hip Joint	Stage-1 avascular Necrosis in femoral head

10/09/2025 to the Kayachikitsa OPD of Shri Khudadad Dunga ji Government Ayurvedic Hospital with complaints of bilateral hip joint pain (right thigh more affected than left) radiating to both legs for one year, difficulty in walking and prolonged standing for six months, and morning stiffness for two months. He also reported lower back pain, heaviness in the right thigh, general weakness, constipation, gaseous abdominal distension, and reduced appetite. The patient had a history of sickle cell anemia but no past trauma, surgery, or significant family history of chronic illness. He had previously taken analgesics for pain relief with temporary benefit.

On examination, His vital signs were stable (BP 130/80 mmHg, pulse 62/min, temperature 98.6°F), with a height of 5 ft 2 in, weight 48 kg, and BMI 18.5 kg/m². He was Krishna (lean built) with no pallor. Astavidha Pariksha revealed Madhyam Kosta, Malbaddhata, sheet Sparsha, and otherwise Prakruti findings. Local examination showed visible deformity, tenderness in both hip regions, marked restriction of movements, limping gait, defective posture, and muscle wasting without swelling. Apparent limb length was 84 cm (right) and 86 cm (left), and true length was 92 cm (right) and 91 cm (left), with an intermalleolar distance of 41.5 cm. Based on Ayurvedic assessment, the condition was diagnosed as Vata-Pittaja involvement affecting Rasa, Rakta, Mamsa, and Asthi dhatus, with Srotodushti (Sanga) in Rasavaha, RaktaVaha, Mamsavaha, and Asthivaha Srotas, originating from Pakwashaya and manifesting in the Kati-Sakti region.

Investigation

X-ray pelvis with both hips AP View findings Flattening and sclerosis (hardening) of the right femoral head - consistent with advanced avascular necrosis (AVN), Articular (joint) margins are smooth with No soft tissue abnormalities detected, Impression: Stage I AVN as per Ficat and Arlet classification

HAEMOGRAM REPORT									
SL. NO.	PARAM	Result	Unit	Range	SL. NO.	PARAM	Result	Unit	Range
1	WBC	8.9	x10 ⁹ /L	3.5-10.0	11	MCV	110.2	fL	80.0-100.0
2	LYM%	44.6	%	20.0-40.0	12	MCH	36.3	pg	26.0-34.0
3	MID%	4.8	%	1.0-15.0	13	MCHC	32.2	g/dL	31.5-36.0
4	NEU%	48.0	%	50.0-70.0	14	RDW_CV	14.0	%	11.0-16.0
5	LYM#	3.2	x10 ⁹ /L	0.6-4.1	15	RDW_SD	53.0	fL	35.0-56.0
6	MID#	0.3	x10 ⁹ /L	0.1-1.8	16	PLT	361	x10 ⁹ /L	100-450
7	NEU#	9.1	x10 ⁹ /L	2.0-7.8	17	MPV	9.1	fL	6.5-12.0
8	RBC	3.20	x10 ¹² /L	3.50-6.00	18	PDW	18.9	fL	9.0-17.0
9	HGB	11.3	g/dL	11.0-17.5	19	PCT	0.290	%	0.10-0.28
10	HCT	34.2	%	35.0-54.0	20	P_LCR	80.9	%	11.0-45.0
					21	P_LCC	57	x10 ⁹ /L	11-135

E.S.R. WESTERGERAN METHOD: 90 mm. fall in 1st hr. (1-15)

Malarial Parasite:

Blood Grouping:

Rh. Typing:

Bleeding time:

Sicking test (by slide method):

Others:

RA factor -ve
CRP -ve.

Pathologist: Govt. Ayurvedic College Hospital, Raipur, C.G.

Not for Medical/Legal Purposes, Please Correlate Clinically



Criteria of Assessment

Subjective parameters:

(I) Pain in the Hip joint and groin region by used of visual analogue score

(II) Range of movement (Abduction, Adduction, Extension, flexion, internal rotation, external rotation) of the hip joint measured by Goniometer.

(III) Stiffness of hip joints

(IV) Limping Gait score

Table:1(Pain in the Hip joint and groin region)

Symptoms	Grade	Score BT
No pain	0	
Slightly pain only on hard work	I	
Pain on movement without disturb routine work	II	
Pain on movement disturb routine work	III	
Severe pain compels patients to lie in bed	IV	IV

Table-2(Stiffness of hip joints)

Symptoms	Grade	Score BT
No stiffness	0	
Sometimes 5-10 min	I	
Daily for 10-30 min	II	II
Daily for 30-60 min	III	
Daily more than 1 hour	IV	

Table-3(range of Restricated movement of hip joint)

Symptoms	Grade	Score BT
No restriction (Flexion of 130 ⁰)	0	
Restriction initially (Flexion 90 ⁰ -130 ⁰)	I	
Restriction Partially (Flexion 70 ⁰ -90 ⁰)	II	
Restriction with Pain (Flexion of 45 ⁰ -70 ⁰)	III	III
No joint movement (Flexion of 0 ⁰ -45 ⁰)	IV	

Table-4 (Limping Gait score)

Symptoms	Grade	Score BT
Normal without pain	0	
Occasional pain during walking	I	
Mild pain on walking with support	II	
Severe pain on walking	III	III
Unable to walk	IV	

TREATMENT PLAN:

According to the involvement of Dosha Dushya Agni pariksha and the General Examination of the patients below treatment protocol was planned. Kayachikitsa IPD based Oral medications and Panchakarma treatment for 60 days.

Table-05 (IPD based shamana chikitsa)

SL. No	Drug	Dosage	Anupana	Time	Duration
1	Vrihat vata Chintamani Ras Ekangaveera rasa Yava ksheera Kamdugd ras Ashwagandha churn	125mg 125mg 2gm 250mg 3gm	Moringa swarasa (Luke warm)	Before meal BD(Morning/Night)	Day60
2	Asthiposhak tab	2tab	Luke warm water	After BD (After Lunch /Night)	Day 60
3	Panchamrit Louha guggul	2tab	Luke warm water	After BD(Morning/Night)	Day 30-60
4	Dashmool arista Louha asava	15ml 15ml	Equal amount of normal water	After BD(Morning/Night)	Day 60
5	Panchasakar churn	5gm	Luke warm water	At night	Day 15

Table-06(Panchakarma procedure)

1.	Saravanga abhyanga with Maha Narayan taila, Sarvang swedana with Dash moola kwatha, Matra basti with Bala taila	Day 1-7
2.	Saravanga abhyanga with Bala ashwagandha taila, Patra pinda sweda	Day7-14
3.	Saravanga abhyanga with Bala ashwagandha taila, Shali shastika pinda swdana	Day15 -30
4.	Saranga Abhyanga with Bala taila, Patra pinda sweda	Day30-45
5.	Panchatiktaksheera (Dashmoola,Guduchi,Nimba,patalo,Ghrita,Madhu,Dugdha) basti	Day 8-30

OBSERVATIONS AND RESULTS

The prescribed therapy proved effective in mitigating the core distress of the condition specifically pain and

stiffness while successfully increasing the joints range of motion. The patient general vitality improved, addressing the significant debility previously noted, this vatahar approach allowed the patient to resume for household

responsibility with less effort. When evaluating the final clinical outcome, the intervention produced a moderate level of overall recovery.

_Range of movement		Before treatment in degree	Saravang abhyanga with Bala ashwagandha taila, saravang sweda and Matra basti Bala taila AT (Day1-7) in degree	Saravanga abhyanga with Bala ashwagandha taila, Shali shasthik pinda sweda, PPS AT (Day25 -45) in degree	Saravanga abhyanga followed by Shali shasthik pinda sweda, PPS along with Panchatikta ksheera basti (Day1-45) in degree
Abduction (30 ⁰ -50 ⁰)	Right Leg	15	20	25	25
	Left Leg	30	<u>30</u>	<u>30</u>	<u>30</u>
Adduction (20 ⁰ -50 ⁰)	Right Leg	15	15	<u>25</u>	<u>25</u>
	Left Leg	<u>25</u>	<u>25</u>	<u>30</u>	<u>30</u>
Flexion(110 ⁰ -120 ⁰)	Right Leg	<u>100</u>	<u>100</u>	<u>105</u>	<u>110</u>
	Left Leg	<u>105</u>	<u>110</u>	<u>110</u>	<u>110</u>
Extension(10 ⁰ -15 ⁰)	Right Leg	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>
	Left Leg	<u>5</u>	<u>5</u>	<u>10</u>	<u>15</u>
Internal Rotation (30 ⁰ -40 ⁰)	Right Leg	<u>15</u>	<u>15</u>	<u>20</u>	<u>25</u>
	Left Leg	<u>25</u>	<u>25</u>	<u>25</u>	<u>30</u>
External Rotation (30 ⁰ -40 ⁰)	Right Leg	<u>10</u>	<u>20</u>	<u>25</u>	<u>25</u>
	Left Leg	<u>20</u>	<u>25</u>	<u>25</u>	<u>25</u>

<u>Subjective parameters</u>	<u>BT</u>	<u>AT</u>	<u>Duration</u>
Pain in the Hip joint and groin region)	IV	I	60 days
range of Restricated movement of hip joint	III	II	60 days
Stiffness of hip joints	II	I	60 days

Limping Gait score	III	II	60 days

DISCUSSION

Avascular necrosis in sickle cell anemia results from obstructed blood flow causing bone death and collapse. In Ayurveda, it resembles Asthi-Majjagata Vata, involving Vata imbalance and tissue depletion. Management aims at breaking pathology through Snehana, Swedana, Basti, Vata-balancing diet, and gentle Yoga to restore circulation and musculoskeletal strength.

SHAMANA CHIKITSA

Dashmoolaristha helps in early AVN by reducing bone marrow edema, lowering intraosseous pressure, improving microcirculation, and preventing further bone collapse through its anti-inflammatory and penetrating (Tikshna) properties.

Lohasava, with Tikta-Kashaya dravyas and Loha, clears microvascular obstructions, enhances tissue metabolism (Agni), and its Ushna Virya pacifies aggravated Vata, reducing bone pain and stiffness while supporting repair.

Panchamrit Loha Guggulu reduces inflammation and pacifies Vata. Guggulu acts as a Yogavahi, enhancing deep tissue delivery, improving microcirculation, oxygenation, and slowing bone degeneration while relieving pain and stiffness.

Asthiposhak Vati supports bone recovery with anti-inflammatory, antioxidant, and immunomodulatory effects, nourishing Asthi Dhatu, maintaining bone strength, and promoting mobility during treatment.

Panchasakar Churna promotes Vatanulomana and Ama Pachana, relieves constipation, reduces metabolic toxins, improves microcirculation, and prepares the body for Rasayana and Shodhana therapies through mild detoxifying laxative action.

Shodhana therapy-

Sarvanga Abhyanga with Bala-Ashwagandha Taila pacifies aggravated Vata, nourishes muscles, improves circulation, and reduces hip stiffness through heat-induced vasodilation. Patra Pinda Sweda provides deep fomentation, liquefies Ama and stagnant Kapha, relieves vascular obstruction, and eases intraosseous pain.

Shalishastika Pinda Sweda enhances blood flow, softens adhered doshas, strengthens muscles and joints, and improves flexibility, supporting functional recovery in AVN.

Basti- Panchatikta ksheera basti was given to nourish the Asthi dhatu (bone tissue), properties of Panchatikta gana drugs, rasa domiant -Tikta, Anu rasa as katu and kashya, Vipak -Katu, expect as guduchi is Madhur Vipaka

and Guna as ruksha and Laghu, providing lubricates properties to herbs

Mechanism of Panchatikta ksheera basti-

Vata pitta shamana- Avascular necrosis involves high vata(degeneration) and pitta (inflammation). The milk (ksheera) cools the pitta, while the oils and fats nourish the vata.

Deep Tissue penetration- Bitter taste (Tikta rasa) has a unique affinity for bone, actually bitter are usually 'drying when processed with milk, they act as carrier to take medicine into deep tissue of Asthi and majja (bone marrow) layers.

Local and systematic action- Basti has a systematic effect on the pelvic vertebral femoral axis, directly influencing the hip joint (common side of AVN)

Improves circulation- Enhances microcirculation to Asthi and majja, which compromised in AVN, therefore prevention of further necrosis.

Rasayana effect-Certain Tikta dravyas like guduchi, Potala, nimba used in tikta ksheera basti possess rejuvenative and anti-inflammatory properties.

CONCLUSION

Avascular necrosis of the femoral head has no permanent treatment other than joint replacement which is having a high risk. This case shown a successful outcome of stage I AVN of the femoral head, achieved using ayurveda panchakarma procedures Shali shastika pinda sweda and Pancha Tikta ksheera Basti and oral medications. The patient experienced an improvement in range of movement, quality of life and a reduction in pain, indicating the effectiveness of ayurveda treatments in managing avascular necrosis of the femoral head. Ayurveda treatment can be cost effective compared to conventional medical treatments. Additionally, ayurveda places emphasis on lifestyle modifications, including diet and exercise, which can be relatively low cost but have a significant impact on health outcome

Patients can have an improved quality of life to perform their day-to-day routine work easily after the end of treatment. Strong hope and a choice for improved Asthi majja gata vata management have been provided by the results of the case of study.

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