



## MANAGEMENT OF AVASCULAR NECROSIS (AVN) OF FEMORAL HEAD THROUGH AYURVEDA AT OPD LEVEL – A CASE STUDY

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## ABSTRACT

Avascular necrosis is the death of bone tissue due to vascular compromise, which leads to eventual collapse of bone tissue along with its overlying joint surface, which is the resultant of ischemia. AVN is caused due to arterial occlusion and femoral head is the most common type of necrosis affecting the bones. The most common symptoms of AVN of Femoral Head are pain and stiffness of hip joint, radiating pain in groin, gluteal, thigh, knee regions and development of limp during walking. There is no direct correlation between AVN and *AsthiMajjaGata Vata* but in their clinical presentations it is *Vata Pradhana Tridoshaja Vyadhi* with *Vikruti* of *Asthi-Majja Dhatu*.

In contemporary science treatment of AVN revolves around the NSAIDS, core decompression to total hip replacement surgery, which have drawbacks of long-term recovery and short life span of hip joint. On the contrary *Ayurvedic* treatment provides long term relief and stops the progression of disease without any drawback. Following is documentation of improvement in patients diagnosed with AVN. A male patient of age 38 years consulted OPD, with complaints of pricking type of pain in both hip joints, both thighs and difficulty in hip joints movements in the last 8 months. The patient was treated with oral medication and *Panchakarma* that included *Matra basti* of *Majja* and *Ksheerbala Taila* at OPD level.

**Keywords:** Avascular necrosis, *AsthiMajjaGata Vata*, *Panchakarma*

## INTRODUCTION

Interruption of the blood supply causes cellular death of bone components causing destruction and collapsing of structures along with joint dysfunction known as Avascular necrosis (AVN). AVN can occur in any bone, it can occur in single or multiple bones. AVN most commonly occurs in long bones, its most common sites are femur, upper arm, knee, ankles, shoulders. Oxygen along with essential and vital nutrients are carried by blood to different body tissues. When the blood supply hampers the body (bone) tissues tend to become necrosed hence causing enfeebling and destruction of bone. This loss of blood supply can be due to steroid intake, excessive use of alcohol, blood coagulation disorder, sickle cell anaemia, hyperlipidaemia, systemic lupus erythematosus, increased intraosseous pressure, pancreatitis, radiation, fat embolism syndrome, any injury which causes pressure and hampers blood supply causing ischaemia ultimately death of bone.

Patients are usually asymptomatic at first (during grade 1<sup>st</sup>), but later pain arises along with other symptoms like change in gait usually occurs during grade 3<sup>rd</sup> and 4<sup>th</sup>. AVN is associated with painful range along with limitation of motion. This may be accompanied by limping, perhaps unilateral or bilateral. Pain may be localized or may be radiating, intensifies with motion and relieves with rest. AVN occurs most commonly in males. Incidence is found in 4th to 5th decade of life with male: female ratio being 8:1.<sup>[1]</sup>

Prognosis of the disease depends on the cause, severity (stage), amount of bone involved, age and overall health. Avascular necrosis (AVN) of the femoral head is a dreaded complication of corticosteroid therapy. It can be seen in 3 – 40% of patients receiving corticosteroid therapy. This condition is one of the most testing issues looked at by orthopaedic specialists. The destinations of the treatment incorporate the protection of structure, capacity and help from pain.<sup>[2]</sup>

Clinical features of *AsthiMajjaGata Vata* described as *Bhedoasthiparvanam* (breaking type of pain in bones), *Sandhishula* (joint pain), *Satata Ruk* (continuous in nature), *Mamsabalakshaya* (loss of strength

and muscles weakness) and *Asvapna* (disturbed sleep), are described in *Ayurveda* which are similar to AVN and can be correlated with the symptoms of AVN.<sup>[3]</sup>

Broad scale of treatment procedures is mentioned in *Ayurveda* that are effective in such manifestations. Among these, use of *Panchakarma* procedures is found to be most promising in persuading one's beliefs towards *Ayurveda*.

Here, we represent a case that was diagnosed as AVN and was managed with *Ayurvedic* treatment of *As-thimajjagata Vata* with satisfactory outcome.

## CASE REPORT

A 38-year-old male patient presented with the complaint of pricking type of pain in both hip joints, both thighs and difficulty in hip joints movements for 8 months. The nature of pain was continuous while walking or any other activity and relieved after taking the rest. Allopathic treatment provided only symptomatic relief with gradual weakness in the affected limbs. Eventually his condition worsened, and he started limping and his other daily routine work got affected. MRI reports show bilateral stage III femoral head Avascular Necrosis as per Ficat and Arlet classification. He was advised to undergo surgery, but he was not willing to have surgical interventions, so he approached Pt. Khushilal Sharma Government Ayurveda Institute, Hospital for further conventional management. Then the patient was treated at OPD level, and his lot of symptoms abated.

## PAST HISTORY

The patient was quite well before 8 months, but he started feeling pain in his left groin and hip area which was mild at first but later turned significant. After some weeks he started feeling pain in bilateral hip joints, which led to difficulty during walking. His family history was not significant. He had no history of addictions and trauma. He was non-diabetic and non-hypertensive, having no history of hypothyroidism. The patient had a history of seizures since 2018, (he was diagnosed with right frontal granuloma) for which he was taking allopathic treatment. He had been taking a tab. Epsolin 100mg and tab. Levigress

500 mg three times a day and ATT has continued since 25<sup>th</sup> September 2020.

### ON EXAMINATION

Temperature of the patient was afebrile, with tenderness over the right hip and groin region. He had *Vishmagni* (unstable digestive functions), *Kru-raKoshta* (bowel hard to purgate) with normal defecation. The tongue was clean, the voice was clear, and the skin was shiny. He had *Pitta Kaphaja Prakriti* with *Madhya Vayah* (Medium age), *Madhyama Sara* (medium purity of body tissue), *Madhyama Satwa* (Medium mental strength), *Madhyam Satmya* (homologation), *Sama Pramana* (equal body proportions), *Avara Vyayama Shakti* (least physical endurance), *Pravara Ahara Shakti* (high food intake) and *Madhyam Jarana Shakti* (medium digestive power).

*AsthivahaSrotodusti*(pathology in bone) and *Majja Vaha Srotodusti* (pathology in bone marrow) were more prominent.

### VITALS

General Consciousness – Fair  
 Pulse 82/ min, regular  
 B.P. – 136/80 mmhg  
 Temperature – Afebrile  
 Respiratory Rate – 18/min, regular  
 SpO<sub>2</sub> – 98%

### Examination revealed.

The examination also revealed the left lower limb SLR test was negative, Faber’s test was positive in both legs, FNST was positive in both legs. Rest examination is as under:

### Observation of Range of Movement of Hip Joint in First Cycle

Range of Movement		Before Treatment	After Treatment
Abduction (30° - 50°)	Right Leg	10	20
	Left Leg	20	30
Adduction (20° - 50°)	Right Leg	10	10
	Left Leg	10	15
Flexion (110° - 120°)	Right Leg	70	80
	Left Leg	90	90
Extension (10° - 15°)	Right Leg	00	10
	Left Leg	10	10
Internal rotation (30° - 60°)	Right Leg	10	20
	Left Leg	20	30
External rotation (40° - 60°)	Right Leg	20	30
	Left Leg	30	40

### Observation of Range of Movement of Hip Joint in Second Cycle

Range of Movement		Before Treatment	After Treatment
Abduction (30° - 50°)	Right Leg	20	25
	Left Leg	30	40
Adduction (20° - 50°)	Right Leg	10	20
	Left Leg	15	30
Flexion (110° - 120°)	Right Leg	80	80
	Left Leg	90	100
Extension (10° - 15°)	Right Leg	10	15
	Left Leg	10	15
Internal rotation (30° - 60°)	Right Leg	20	30
	Left Leg	30	30
External rotation (40° - 60°)	Right Leg	30	40
	Left Leg	40	50

### Observation of Range of Movement of Hip Joint in Third Cycle

Range of Movement		Before Treatment	After Treatment
Abduction (30° - 50°)	Right Leg	20	40
	Left Leg	30	50
Adduction (20° - 50°)	Right Leg	20	30
	Left Leg	30	50
Flexion (110° - 120°)	Right Leg	80	100
	Left Leg	100	110
Extension (10° - 15°)	Right Leg	15	15
	Left Leg	15	15
Internal rotation (30° - 60°)	Right Leg	30	40
	Left Leg	30	50
External rotation (40° - 60°)	Right Leg	40	40
	Left Leg	50	50

### Subjective parameters

S.N.	Symptom	Criteria	Grade	Before Treatment	After Treatment
1.	Pain	No pain while walking.	0	2	1
		Mild Pain while walking	1		
		Moderate Pain while walking	2		
		Severe pain while walking	3		
2.	Stiffness	No stiffness	0	2	0
		Stiffness for 10 – 30 min	1		
		Stiffness for 30 – 60 min	2		
		Stiffness for more than 1 hr	3		
3.	Movement of joints	Normal	0	3	1
		Mildly restricted	1		
		Moderately restricted	2		
		Severely restricted	3		
4.	Radiating pain	Pain never radiates.	0	2	1
		Occasionally radiates.	1		
		Mostly radiates.	2		
		Radiates all the time	3		
5.	Gait	Unchanged	0	1	0
		Occasionally changed.	1		
		Walk with support.	2		
		Unable to walk	3		
6.	Sleep	Normal	0	1	0
		Occasionally disturbed	1		
		Frequently disturbed	2		

	Unable to sleep due to pain	3	
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### Treatment Plan

The diagnosed case of AVN of femoral head was treated on OPD level in Pt. Khushilal Sharma Government Ayurveda Institute, Bhopal in OPD No. 20220041605 dated 25/08/2022 was given following treatment:

#### ORAL TREATMENT

1. *Chitrakadi Vati* 2 Vati Twice a Day
2. *Gandha Tail* capsules 2 Cap Twice a Day
3. Rheumat 90 – 20ml twice a day with one cup of lukewarm water empty stomach
4. *KaishorGuggulu* 250mg  
*MahavataVidhvansaka rasa* 125mg  
*Shankh Bhasma* 500mg  
*Godanti Bhasma* 500mg  
*Panchkolchurna* 2gm

This combination was given with *Mahaman-jishthadiKwath* 20ml + 20ml of lukewarm water twice a day.

5. Rheumat liniment for Local application

#### PANCHAKARMA THERAPY GIVEN

1. *Sarvang Baluka Sweda* for 1 day
2. *Udavartana* by *Triphala* and *Kottamchukaa-dichurna* for 4 days
3. *Vashpa Sweda* by *DashmoolaKwath* for 4 days
4. Bilateral *Vankshana Basti* with *Vatashamaka tail* and *ChandanbalaLakshadi Tail* for 30 days.
5. *Patrapinda Sweda* with *ChandanbalaLakshadi Taila*. for 15 days
6. *SwarangAbhyang* and *Swedana* with *ChandanbalaLakshadi Taila*. for 15 days
7. *Anuvasana Basti* with *Majja* 40 ml and *Ksheerabala Tail* 60 ml for 30 days.

This treatment was given for three cycles in the interval of One month in each cycle and was proved very effective and improved the quality of life of the patient. After completion of treatment, the pain reduced in both hip joints and thigh region, range of movement of both hip joints improved, walking distance also improved.

## DISCUSSION

In *AsthiMajjaGata Vata* blood supply is usually hampered which leads to necrosis, the cause may be *Margavarodha* (ex. *Raktavaha Srotorodha*) and *Ab-highata* (trauma). Both these reasons vitiate *Vata dosha*, which causes loss of *Asthi* and *Majja Dhatu*. *Baluka Sweda* sustenance variety of properties i.e., strengthens and rejuvenates muscles and bones, increases blood circulation, reduces pain, inflammation, muscles stiffness. *Udvardana* with *Kottamchukkadi Churna* and *Triphala churna* was planned for removing *Avarana* caused by *Kapha* and *Meda* and for reduction of morning stiffness. *KottamchukkadiChurna* contains equal quantities of *Pushkaramoola*, *Vacha*, *Viswa* (*Zingiber officinale*), *Suradruma* (*Cedrus deodara*), *Lasuna*, *Sigru*, *Kamsamara* (*Capparis aphylla*), *Rasna*, *Sarshapa* and *Chinchapatra*. It is effective in giving relief from pain and inflammation in the joints. It also helps in relieving muscular pain. It possesses *Vatakaphahara* and *Sho-phanashaka* properties.

*Triphala* withholds anti-inflammatory and antioxidants properties which may help restore antioxidant levels due to the presence of polyphenols, vitamin C, and flavonoids, which help in managing arthritis and stiffness.

*Chandanbala Lakshadi Oil* has different properties like analgesic, antipyretic, antispasmodic, antiseptic properties and it is coolant in nature. It is useful to relieve headache, tiredness, general debility and emaciation. It helps to reduce inflammation.

The main ingredients of *Ksheerabala*: *Sida cordifolia*, cow milk, and sesame oil have all been reported to possess antioxidant properties. The synergistic action of all the components might thus have potentiated its neuro protective effect.<sup>(4)</sup> Thus, *Ksheerbala* oil possesses *Balya* properties due to *Bala*, it is used in *Vatapaittika Vikar*.

## CONCLUSION

AVN in the present era is becoming a health status burden due to the non-availability of treatment plans except surgery in modern medicine. In this Case

study of *Panchakarma & Ayurvedic* medicines, the treatment was aimed at slowing down or even stopping the progression of avascular necrosis as far as possible and improving the quality of life which showed excellent results. The adopted therapy in the current case provided marked relief from pain, tenderness, general debility, the range of movement was also found improved without any side effects.

This case showed fortifying results as within three cycles at the interval of one month in each cycle of OPD treatment, it proved to be beneficial. To verify the authenticity of the treatment, it would be beneficial to conduct these studies on a larger number of samples to draw more substantial conclusions.

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