



ISSN 2456-3110

Vol 8 · Issue 5

May 2023

Journal of  
**Ayurveda and Integrated  
Medical Sciences**

*www.jaims.in*

**JAIMS**

An International Journal for Researches in Ayurveda and Allied Sciences



**Maharshi Charaka**  
Ayurveda

Indexed

# An Ayurvedic approach for the management of Avascular Necrosis (AVN) - A Case Study

Sakshi Gupta<sup>1</sup>, Sanjay Srivastava<sup>2</sup>

<sup>1</sup>Post Graduate Scholar, Department of Rog Nidan Evum Vikriti Vigyan, Pt. Khushilal Sharma Government (Auto.) Ayurveda College & Institute, Bhopal, Madhya Pradesh, India.

<sup>2</sup>Professor & HOD of Rog Nidan Evum Vikriti Vigyan, Pt. Khushilal Sharma Government (Auto.) Ayurveda College & Institute, Bhopal, Madhya Pradesh, India.

## ABSTRACT

**Background** - Avascular Necrosis (AVN) is a disease affecting bone due to temporary or permanent cessation of the blood supply which finally leads to the destruction of the joints. AVN is asymptomatic in the early stage but as the disease progress there is constant pain with decrease in the function of joints. AVN of femoral head is the most common type of among all AVN. On the basis of *Dosha* and *Dushya* Avascular Necrosis resembles with the *Asthimajjagata Vata*. *Raktavaha Srotas*, *Asthivaha Srotas* and *Majjavaha Srotas* are hampered in *Asthimajjagata Vata*. **Case Report** - This is the case of 56 year old female came to our hospital having complaints pain in B/L hip joints which radiates to both thigh region (Rt. > Lt.), morning stiffness more than 30 minutes, pain in groin region, difficulty in walking, sleep disturbed due to pain and indigestion. **Aim and Objective** - To evaluate the efficacy of various *Panchakarma* procedure especially *Manjisthadi Majja Basti*. **Result** - The therapy provided marked relief in pain and stiffness along with improvement in gait and difficulty in walking was reduced. **Conclusion** - AVN is a chronic degenerative disease which occurs when a blood flow to the bone is interrupted or reduced. On the basis of this case study, it can be concluded that *Manjisthadi Majja Basti* along with various *Panchakarma* procedure is effective in the management of AVN of femoral head.

**Key words:** Avascular Necrosis, *Asthimajjagata Vata*, *Manjisthadi Majja Basti*

## INTRODUCTION

Avascular necrosis (AVN) is a condition that occurs due to disruption and loss of blood supply to the bone which leads to cellular death of bone tissue, also known as osteo, aseptic, or ischemic bone necrosis. Several factors like trauma, genetic factors, metabolic factors, use of glucocorticoids, diseases that promotes

hypercoagulable states are the etiological factors of AVN.<sup>[1]</sup> Avascular Necrosis (AVN) is a chronic and degenerative disease affecting bone due to temporary or permanent cessation of the blood supply causing the bone structure collapse, resulting in bone destruction, pain, and loss of joint function. Initially, patients are asymptomatic, but with the passage of time, AVN leads to joint destruction, requiring surgical intervention and in latter stages, total hip replacement (THR) is required.<sup>[2]</sup> It typically affects the epiphysis of long bones at weight-bearing joints. The upper arm, knee, and ankle joints are also affected in the case of AVN. Usually, men are more prone than women. Patient of AVN of femoral head is often having pain in hip or groin region radiating to buttocks, thigh or knees, exacerbated by heavy weight and sometimes often by coughing.<sup>[3]</sup> Factors like pain in lower limbs, alcohol history, hidden diseases, disease of lower limbs etc. may lead to the misdiagnosis of the AVN.<sup>[4]</sup> In early stages AVN is difficult to diagnose from clinical findings

### Address for correspondence:

Dr. Sakshi Gupta

Post Graduate Scholar, Department of Rog Nidan Evum Vikriti Vigyan, Pt. Khushilal Sharma Government (Auto.) Ayurveda College & Institute, Bhopal, Madhya Pradesh, India.

E-mail: guptasakshi21dec18@gmail.com

Submission Date: 08/03/2023 Accepted Date: 15/04/2023

### Access this article online

Quick Response Code



Website: [www.jaims.in](http://www.jaims.in)

DOI: 10.21760/jaims.8.5.46

and plain radiograph so early MRI should be done to verify clinical suspicion.<sup>[5]</sup> On the basis of clinical presentation, AVN can be correlated with *Asthi-kshaya*, *Asthimajjagata Vata*, and *Asthibhagna*, out of these *Asthimajjagata Vata* 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* (weakness), *Sandhishathilyam* (flaxity of joints), *Aswapna Satatruka* (sleeplessness due to continuous pain), *Shiryantiva Cha Asthi-Dourbalyani* (destruction of bony tissue causing generalized weakness).<sup>[6]</sup> *Asthimajjagata Vata* can be cured if treated in acute stage but it becomes difficult for the complete recovery in chronic stages. The present day modern modalities includes administration of anti-inflammatory analgesics, steroid therapy, arthroplasty, femoral head graft, hip compression, hip replacement, osteotomy, and physiotherapy; each of them is having its own limitations and they have serious side effects like loss of memory, weight gain, gastrointestinal disturbance, habit forming nature and dermatological diseases like psoriasis, eczema, contact dermatitis and SLE.<sup>[7]</sup> Since all the surgical treatments are cost worthy and having poor prognosis on AVN an effort is made to evaluate the efficacy of *Manjisthadi Majja Basti Karma* in the management of the AVN of femoral head.

## CASE REPORT

A 56-year-old female patient came to the OPD of Pt. Khushilal Sharma Govt. Ayurveda Institute, Bhopal having complaints pain in B/L hip joints which radiates to both thigh region (Rt. > Lt.), morning stiffness more than 30 minutes, pain in groin region, pain during prolonged sitting, difficulty in walking, restricted movement of both lower limb, sleeplessness due to pain and indigestion. The patient was well before 10 months then gradually pain start in right hip joint with stiffness which radiates in lower limb then after 2 months her condition become worsened and felt pain in left hip joint too. The pain aggravates during prolonged sitting on the chair or any other activity. The pain was so severe so her gait has been changed. Moreover, her day-to-day activities were also

hampered due to pain and stiffness. The patient had received allopathic treatment (analgesic and physiotherapy) for 5-6 months but did not get satisfactory relief. Thus, she approached further for *Ayurvedic* management.

**Table 1: History of Patient**

SN	History	Details of the patient
1.	Past history	Patient suffering from covid in April 2021
2.	Family history	No, any important family history
3.	Personal history	Diet - Pure Vegetarian Addiction - No <i>Krur Kostha</i> , taking <i>Alpa Aahar</i> , <i>Avara Jaran Shakti</i> , doing <i>Yoga</i> and exercise daily Sleeplessness

## Local Examination

1. Tenderness present in bilateral hip region and groin region (R > L)
2. Swelling (mild) - over bilateral hip joint.
3. Significant loss in the range of movement.
4. Gait - Trendelenburg sign positive.
5. Painful internal and external rotation.
6. Involuntary Movement - Absent

**Table 2: O/E Ashtavidha Pariksha**

<i>Nadi</i>	<i>Vata Kaphaj</i>
<i>Mutra</i>	<i>Prakrut</i>
<i>Mala</i>	<i>Kathina</i>
<i>Jivha</i>	<i>Saam</i>
<i>Shabdha</i>	<i>Spastha</i>
<i>Sparsha</i>	<i>Samasheetoshna</i>
<i>Drik</i>	<i>Prakrut</i>
<i>Aakriti</i>	<i>Madhyam</i>

Table 3: Samprapti Ghatak

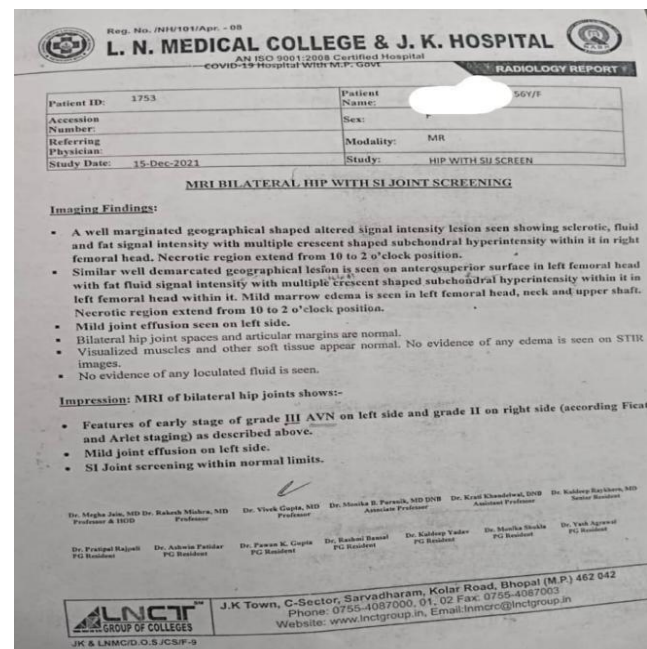
Dosha	Vata - Kapha
Dushya	Rakta, Sira, Asthi, Majja, Sandhi
Srotas	Raktavaha, Asthivaha, Majjavaha
Srotodushti	Sang
Rogamarg	Marmaasthisandhi
Adhishtan	Asthi-Sandhi
Udhabhavasthan	Aam- Pakwashaya
Vyakta Sthan	Asthi-Sandhi

Investigation

Table 4: Blood investigation dated December 08, 2021

1.	Hb%	11.6 g/dl
2.	ESR	31 mm/hr
3.	RBS	107 mg/dl
4.	Blood Urea	26.6 mg/dl
5.	Serum Creatinine	0.73
6.	Serum Calcium	9.2 mg/dl
7.	Vitamin D	29.9 ng/dl

**MRI** - MRI scan (15/12/2021) revealed early stage of Grade III AVN on left side and Grade II AVN on right side of femoral head.



Assessment Criteria

The range of the movement of the hip joint i.e., Adduction, Abduction, Flexion, Extension, Internal rotation, External rotation was measured. [Table No. 8] Assessment was done on the basis of subjective parameters. [Table No.5] Assessment was done on the basis of subjective criteria, signs and symptoms. Pain and morning stiffness was markedly reduced after Karma Basti course. After completion of two rounds of Karma Basti patient was able to walk without any difficulty, leg raising from 30° to 60° and trendlenberg sign was improved.

Table 5: Grading of subjective parameters

SN	Symptom	Criteria	Grade
1.	Pain	No pain while walking	0
		Mild Pain while walking	1
		Moderate Pain while walking	2
		Severe pain while walking	3
2.	Stiffness	No stiffness	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
		Mildly restricted	1
		Moderately restricted	2
		Severely restricted	3
4.	Radiating pain	Pain never radiates	0
		Occasionally radiating	1
		Mostly radiating	2
		Radiating all the time	3
5.	Gait	Unchanged	0
		Occasionally changed	1
		Walk with support	2
		Unable to walk	3
6.	Sleep	Normal	0
		Occasionally disturbed	1
		Frequently disturbed	2
		Unable to sleep due to pain	3

**Treatment Plan**

This diagnosed case of Avascular necrosis of the femoral head was admitted to the female general ward of Pt. K.L.S. Govt. Ayurveda Hospital, Bhopal with IPD no. 2022808 and undergo the following procedures.

**Table 6: Panchakarma Therapy**

S N	Date	Procedure	Drugs used	Quantity	Days
1.	10/03/22 - 16/03/22	Udhwartan	Triphala Churna	-	07 days
2.	10/03/22 - 16/03/22	Vashpa Sweda	Dashmool Kwatha	-	07 days along with Udavartana
3.	17/03/22 - 26/03/22	Sarvang Patra Pinda Sweda	Eranda Patra, Nirgundi Patra, Shigru Patra, Ark Patra, Lemon, Harida, Coconut etc.	-	Next 10 day
4.	17/03/22 - 26/03/22	Pishinchil	Ksheerbalak Tail + Vatashamalak Tail	-	Next 10 days
5.	17/03/22 - 31/03/22	B/L Vankshan Basti	Vatashamalak Tail	-	15 days
6.	06/04/22 - 09/04/22	Sarvang Patra Pinda Sweda	Same as above	-	4 days
7.	10/04/22 - 13/04/22	Pishinchil	Same as above	-	4 days

8.	15/03/22 - 13/04/22	Manjistha di Majja Basti (Karma Basti)	<b>Anuvasan a basti</b>	40 ml	30 days	
			Guggul Tikta Ghrit	40 ml		
			Majja	50 ml		
			Sehcharadi Tail	20 gm		
			Satpushpa	5 gm		
			Saindhav	150 ml		
			<b>Niruha Basti</b>	40ml		<b>Anuvasan Basti - 18</b>
			40 ml			
			Manjistha di Kwatha	40 ml		
			20 gm			
			Majja	5 gm		
			Guggul Tikta Ghrit			
			Madhu			
			Satpushpa			
Saindhav		<b>Niruha Basti - 12</b>				

**Table 7: Assessment before and after treatment**

Symptoms	Before treatment	After 16 days of t/t	After 30 days of t/t
Pain	3	2	1
Radiating pain	3	1	0
Stiffness	2	1	0
Movement of joints	2	1	1
Gait	2	1	1
Sleep	3	1	0
Trendelenberg Sign	Positive	Improved	Improved

**Table 8: Observation in Range of Movement of Hip Joint**

Range of Movement		Before Treatment	After Treatment
Abduction (30°-50°)	Right Leg	20	40
	Left Leg	30	50

Adduction (20°-50°)	Right Leg	20	25
	Left Leg	30	40
Flexion (110°-120°)	Right Leg	90	100
	Left Leg	100	120
Extension (10°-15°)	Right Leg	10	10
	Left Leg	10	15
Internal rotation (30°-40°)	Right Leg	10	20
	Left Leg	20	30
External Rotation (40°-60°)	Right Leg	20	20
	Left Leg	40	50

## DISCUSSION

Avascular necrosis is cellular death of bone components due to interruption of blood supply causing collapse of the bone, resulting in pain, loss of joint function and finally damage of the joint.<sup>[8]</sup> Avascular necrosis is usually of traumatic and non-traumatic causes. Some non-traumatic AVN are found to be associated with corticosteroid usage, alcoholism, infections, storage disorders, coagulation defects and some autoimmune disease.<sup>[9]</sup> According to Ayurvedic point of view, there is no direct mention of avascular necrosis but on the basis of clinical presentation, there is predominance of *Vata Dosha* and *Vikruti* (vitiation) of *Asthi Dhatu*. In AVN of femoral head, the blood (*Rakta Dhatu*) supply to the femoral head is decreased due to *Margavrodha* (occlusion of blood vessels) or *Abhighata* (trauma), and ultimately leads to necrosis. *Margavrodha* and *Abhighata* both are also responsible to aggravation of *Vata Dosha* and increase in *Vata Dosha* finally resulting into loss of *Asthi Dhatu*. In advance stage, due to continuous imbalance of *Vata Dosha* (due to necrosis), it is further responsible for vitiation of *Pitta* and *Kapha Dosha* also. So, here *Basti* is a choice of treatment for AVN, in all *Panchakarma* procedures, because *Basti* is the first line of treatment for *Vata Dosha*<sup>[10]</sup> and is also beneficial in the imbalance of *Pitta*, *Kapha* and *Rakta Dosha*.<sup>[11]</sup> Here the Avascular necrosis of femoral head on the basis of

sign, symptoms, *Dosha* and *Dushya* is treated on the line of *Asthimajjagata Vata Vikara*. *Snehan* and *Swedan* is also considered as the line of treatment of *Vata Vyadhi*.<sup>[12]</sup> *Snehan* either internal or external is indicated for the disorder of *Asthimajjagata Vata*.<sup>[13]</sup> *Swedan* helps in reducing the heaviness and stiffness.<sup>[14]</sup> *Rakta*, *Asthi* and *Majja* are the main involved *Dhatu*s in AVN. In *Asthimajjagata Vata* patient *Manjishthadi Majja Basti* (processed with bone marrow) was planned as *Manjishthadi Kwatha* is *Tikta*, *Katu Rasa Pradhana* and *Ushna Virya* which is *Tridosahara* and *Raktaprasadaka* and *Majja* helps strengthen *Majja Dhatu* which in turn nourishes *Asthi Dhatu*. The ingredients of these *Basti* include *Tikta rasa*, *Katu Vipaka*, *Ushna Virya*, etc. They all combinedly enhance the properties of *Majja* and helps in balancing the aggravated *Vata Dosha* and favours normal functioning of *Dhatvagni* facilitating increased nutrition to the *Asthi Dhatu*, also *Tikta Rasa* has *Srotoshodhan* properties which help to clear the *Srotosanga*. The *Majja* nourishes *Asthi* by means of its *Purana* (filling) and *Snehan* properties and pacifies vitiated *Vata* in *Asthi*. In this, *Basti Guggultiktaka Ghrita* was used as a *Sneha* and *Tikta Dravyas* are having *Tikta Rasa*, *Ushana Virya* and *Madhura* and *Katu Vipaka* favour normal functioning of *Dhatvagni* (metabolic stage), facilitating increased nutrition to the *Asthi Dhatu* (bony tissue). Thus, it pacifies *Vata*; improves the *Dhatu Upachaya* (metabolism of the tissues) and acts as a rejuvenator of the body and overall, this *Basti* helps in body metabolism.

## CONCLUSION

*Manjishthadi Majja Basti (Karma Basti)* along with *Udhwartan*, *Vaspha Sweda*, *Sarvang Patra Pinda Sweda*, *Pishinchal* shows remarkable symptomatic relief in the features of avascular necrosis of femoral head. This case indicates that when treatment is done in accordance with *Ayurveda* guidelines avascular necrosis can be effectively managed and patient's quality of life can be enhanced. This result needs to be studied in more numbers of populations for better assessment.

## REFERENCES

1. Robert S Weinstein, Erin A Hogan, Michael J Borrelli, Serguei Liachenko, Charles A O'Brien, Stavros C Manolagas; (2017) The Pathophysiological Sequence of Glucocorticoid-Induced Osteonecrosis of the Femoral Head in Male Mice, *Endocrinology*, Volume 158, Issue 11, Pages 3817–3831, [PubMed]
2. <http://www.emedicine.medscape.com/article/386808>, updated: Aug 1, 2008.
3. Orban HB, Cristescu V, Dragusanu M. (2009) Avascular necrosis of the femoral head. *MAEDICA-a Journal of Clinical Medicine*. 1;4(1):26-34.
4. Chen ZW et al (2017), Study on the risk factors for the misdiagnosis of femoral head osteonecrosis. *Zhongguo*
5. Bohndorf K, Roth A. (2018) Imaging and classification of avascular femoral head necrosis. *Orthopade*. 47(9):729-734 [PubMed]
6. Acharya YT, editor, Shri Chakrapanidatta, commentator, Agnivesha, Charaka Samhita, Chikitsasthana; Vatavyadhichikitsa Adhyaya, 28/33, Chaukhamba Surbharti Prakashan, Varanasi, 2014; page 617.
7. Epstein NN, Tuffanelli DL, Epstein JH. Avascular Bone Necrosis: A Complication of Long Term Corticosteroid Therapy. *Arch Dermatol*. 1965; 92: 170–80p. (PubMed)
8. Tofferi JK, Gilliland W (2008) Avascular Necrosis. Available via eMedicine. Accessed 18 Sep 2018.
9. Assouline-Dayana Y, Chang C, Greenspan A, Shoenfeld Y, Gershwin ME. (2002) Pathogenesis and natural history of osteonecrosis. *Semin Arthritis Rheum*. 32(2):94–124. [PubMed]
10. Bhahmanand Tripathi, editor. *Astangharadyam*. Sutra Sthana, Chapter 1, Verse no. 25–26. 2007 Edn. Delhi: Chaukhamba Pratishtan; 2007; 20p.
11. Kaviraaj Ambikadutta Shastri, editor. *Susruta Samhita*. Chikitsa Sathana, Chapter 35, Verse no. 6. 2012 Edn. Varanasi: Chaukhamba Sanskrit Series Publication; 2012; 189p.
12. Harish Chandra Singh Kushwaha, editor (2009) Charaka Samhita. 28th Adhyaya 75-78th shloka Chikitsasthana. 1st ed. Varanasi: Chaukhamba Sanskrit Sansthan; reprinted 2018. p. 745.
13. Harish Chandra Singh Kushwaha, editor (2009) Charaka Samhita. 28th Adhyaya 93rd shloka Chikitsasthana. 1st ed. Varanasi: Chaukhamba Sanskrit Sansthan; reprinted 2018. p. 749.
14. Harish Chandra Singh Kushwaha, editor. (2009) Charaka Samhita. 28th Adhyaya 80th shloka Chikitsasthana. 1st ed. Varanasi: Chaukhamba Sanskrit Sansthan; reprinted 2018. p. 746

**How to cite this article:** Sakshi Gupta, Sanjay Srivastava. An Ayurvedic approach for the management of Avascular Necrosis (AVN) - A Case Study. *J Ayurveda Integr Med Sci* 2023;05:265-270. <http://dx.doi.org/10.21760/jaims.8.5.46>

**Source of Support:** Nil, **Conflict of Interest:** None declared.

\*\*\*\*\*