



## **Ayurvedic management of Avascular necrosis of head of the femur (*Asthimajja gata vata*) – A case report**

**Jaimini Rathod1\*, Deshpande Shailesh V.2 , Deshpande Vaishali S.3**

1. Final year PG scholar Department of *Kayachikitsa* , Parul Institute of Ayurved, Parul University, AP Limda, Tal – Waghodia, Vadodara, Gujarat, 391760, India
2. Professor and Head, Department of *Kayachikitsa*, Parul Institute of Ayurved, Parul University, AP Limda, Tal – Waghodia, Vadodara, Gujarat, 391760, India
3. Professor and Head, Department of *Kayachikitsa*, Parul Institute of Ayurved and Research, Parul University, AP Ishwarpura, Tal – Waghodia, Vadodara, Gujarat, 391760, India

\* Corresponding Author's **E-mail**: [jaiminiguddi@gmail.com](mailto:jaiminiguddi@gmail.com)

### **ABSTRACT**

*Avascular necrosis (AVN) is a disorder when the bone tissue begins to deteriorate as a result of a cut off blood supply. It is also referred to as osteonecrosis, aseptic necrosis, and ischemic bone necrosis. According to modern medicine, joint replacement surgery and pain management are used to treat AVN. Ayurveda does not directly correlate with AVN. However, terms like Asthi Majja Gata Vata, symptoms and Asthi kshaya stand extremely near to this medical condition. A 33-year-old male patient arrived at the OPD complaining of pain in Rt hip joints and difficulties walking for the past eight months. A stage 2(a) AVN of the bilateral femur head was discovered by hip MRI. Physical investigations led to the diagnosis of Asthi Majja Gata in the patient. Lakshaguggulu, Asthiposhak vati, Raktapachak Kashaya and Pancha Tikta Ksheera Basti, was administered for 14 days following the administration of Sthanika Snehana and Swedan. Pancha Tikta Ksheera Kashaya has Tikta Rasa. Tikta Rasa has Ashraya Asharee Bhava with Asthi Dhatu. Hence it improves the quality of Asthi Dhatu. Laksha Guggulu aids in easing discomfort and enhancing Rakta. Ksheera Basti aids in enhancing the quality of Majja Dhatu and Asthi.*

**Key Words:** AVN, *Asthimajja Gata Vata*, *Panchatikta Ksheerapaka*, *Lakshadi Guggulu*, *Asthi Poshak Vati*

Received 23.09.2023

Revised 21.11.2023

Accepted 25.12.2023

### **INTRODUCTION**

Avascular necrosis (AVN) of the femoral head is a form of aseptic osteonecrosis that develops when the blood supply to the proximal femur is cut off, which causes the death of the bone's osteocytes. The development of ischemia on a traumatic or non-traumatic background may lead to AVN [1,2]. The most frequent etiological variables are corticosteroid therapy, fractures, hip joint dislocations, and alcohol addiction [3]. It typically affects physically active people aged between 20 and 40 years.

*Asthi Majjagatavata* shows a strong correlation with the AVN condition [4]. This is regarded by some Ayurvedic doctors as *Asthi kshaya*. In this case report, the AVN's condition is referred to as *Asthi Majja Gata*.

### **CASE STUDY**

A 33-year-old factory working patient who has been complaining of hip discomfort for eight months visited the OPD. Due to hip joint pain, the patient is unable to ascend stairs or move quickly. Compared to the left hip, the right hip is substantially more painful.

### **MEDICAL BACKGROUND**

Prior to eight months, the patient appeared to be normal.

He first noticed right hip joint ache eight months ago but ignored it thought that it was due to work . Day by day, it started to grow. He went to a local hospital, and they suggested an MRI. The femur head has grade 2(A) avascular necrosis, according to an MRI. He received a variety of treatments, but He didn't really profit much from them. He visited our hospital to get the same managed.

Personal history

*Ahara* (Diet) : Non-Vegetarian food habit

*Nidra* (Sleep) : Disturbed due to pain

*Vyasana* (Habits) :Alcohol since the Age of 19 years

**TABLE 1 : TREATMENT GIVEN**

MEDICINE	DOSE	ANUPAN	TIME DURATION
<i>Raktapachak Kashaya</i>	50 ml BD B/F	-	21 days
<i>Ashthiposhak vati</i>	1 BD B/F	Warm Milk	21 Days
<i>Lakshadi guggulu</i>	1 Bd A/F	Warm water	21 Days

**TABLE -2: Panchakarma Treatment**

Treatment	Dravyas	Days
<i>Sthanik Abhyang</i>	<i>Bala Ashvagandha Tail</i>	21 Days
<i>Nadi swedan</i>	<i>Dashamool Kashaya yukta</i>	
<i>Anuvasan Basti</i>	<i>Pancha Tikta Guggulu Ghrit</i> 70 ml	According to <i>Yoga Basti</i>
<i>Niruh Basti</i>	<i>Panchatikta ksheer Kashaya-300ml</i> <i>Kalka:Shatapushpa+Guduchi+Yastimadhu:20gm</i> <i>Sneha:Manjisthadi Tail:60 ml</i> <i>Saindhava:3gm</i> <i>Makshik:60ml</i>	According to <i>Yoga Basti</i>

**RESULT AND DISCUSSION**

Range of movement of right hip increased significantly.

**TABLE :3 RANGE OF MOTIONS**

No.	MOVEMENT	AFFECTED HIP	Before treatment	After treatment
1	Abduction	Right leg	15 <sup>0</sup>	45 <sup>0</sup>
2	Adduction	Right leg	10 <sup>0</sup>	25 <sup>0</sup>
3	Flexion	Right leg	100 <sup>0</sup>	110 <sup>0</sup>
4	External Rotation	Right leg	20 <sup>0</sup>	45 <sup>0</sup>

**TABLE :4 Harris hip score [5]**

Sl No	Criteria	Assessment	Right leg	
			Before treatment	After treatment
1	PAIN	<ul style="list-style-type: none"> <li>• None or ignores it (44)</li> <li>• Slight , occasional, no activity compromise (40)</li> <li>• Mild pain, no effect on average activities, moderate pain rarely with unusual activity, may take aspirin (30)</li> <li>• Moderate pain, tolerable, some limitations of ordinary activity or work May require occasionally medications stronger than aspirin (20)</li> <li>• Marked pain, serious limitation of activities (10)</li> </ul> Total disability, pain in bed, crippled, bedridden(0)	10	30
2	LIMP	<ul style="list-style-type: none"> <li>• None (11)</li> <li>• Slight (8)</li> <li>• Moderate (5)</li> <li>Severe (0)</li> </ul>	5	8
3	SUPPORT	<ul style="list-style-type: none"> <li>• None (11)</li> <li>• Cane for long walks (7)</li> <li>• Cane most of time (5)</li> <li>• One crutch (3)</li> <li>• Two canes (2)</li> <li>Two crutches or not able to walk (0)</li> </ul>	5	7

4	DISTANCE WALKED	<ul style="list-style-type: none"> <li>• Unlimited (11)</li> <li>• Six blocks (8)</li> <li>• Two or three blocks (5)</li> <li>• Indoors only (2)</li> </ul> Bed and chair only (0)	5	11
5	SITTING	<ul style="list-style-type: none"> <li>• Comfortably in ordinary chair for one hour (5)</li> <li>• On a high chair for 30 minutes (3)</li> </ul> Unable to sit comfortably in any chair (0)	0	5
6	Enter public transportation	<ul style="list-style-type: none"> <li>• Yes (1)</li> </ul> No (0)	0	1
7	STAIRS	<ul style="list-style-type: none"> <li>• Normally without using a railing (4)</li> <li>• Normally using a railing (2)</li> <li>• In any manner (1)</li> </ul> Unable to do stairs (0)	2	4
8	Put on shoes and socks	<ul style="list-style-type: none"> <li>• With ease (4)</li> <li>• With difficulty (2)</li> </ul> Unable (0)	2	4
9	Absence of deformity	<ul style="list-style-type: none"> <li>• Less than 30 fixed flexion contracture               <ul style="list-style-type: none"> <li>• Yes or No</li> </ul> </li> <li>• Less than 10 fixed abduction               <ul style="list-style-type: none"> <li>• Yes or No</li> </ul> </li> <li>• Less than 10 fixed in extension               <ul style="list-style-type: none"> <li>• Yes or No</li> </ul> </li> <li>• Limb length discrepancy less than 3.2 cm               <ul style="list-style-type: none"> <li>• Yes or No</li> </ul> </li> </ul>	-	-
10	RANGE OF MOTIONS	<ul style="list-style-type: none"> <li>• Flexion (140)</li> <li>• Abduction (40)</li> <li>• Adduction (40)</li> <li>• External rotation (40)</li> <li>• Internal rotation (40)</li> </ul>	2 0 0 0 0	3 1 0 1 0
11	Range of motion scale	<ul style="list-style-type: none"> <li>• 211 - 300 (5)</li> <li>• 161 - 210 (4)</li> <li>• 101 - 160 (3)</li> <li>• 61 - 100 (2)</li> <li>• 31 - 60 (1)</li> <li>• 0 - 30 (0)</li> </ul>		
12	TOTAL	• 100	31	79

Avascular necrosis is a disorder when the bone tissue begins to deteriorate. It is also referred to as osteonecrosis, aseptic necrosis, and ischemic bone necrosis. According to modern medicine, joint replacement surgery and pain management are used to treat AVN.

The patient's clinical condition has become improved as a result to the Ayurvedic treatment. Following treatment, there is an improvement in abduction, adduction, flexion, and external rotation.

Right leg Harris hip score increased from 31 (poor) to 79 (fair), We could control the illness using ayurvedic remedies without suffering any morbidities.

#### **Panchatikta ksheera Basti**

The *Panchatikta Ksheera Basti* is a well-proven and highly efficient treatment. All of the elements in *Panchatikta Ksheera Basti* are *Tikta Rasa*, which has a *Vayu* and *Akasha Mahabhuta* predominance. As a result, it resembles a body element like *Asthi*. The *Ksheera* decoction, which has *Madhura* and *Snigdha* related characteristics that assist manage *Pitta Dosha* and *Vata Dosha*, acts as *Brimhana* (nourishing). *Saindhava's Sukshma Guna* enables it to enter the body's microchannels and aids in facilitating the opening of the bone tissue's fresh blood supply.[7]

### **Rakta Pachaka Kashaya**

This formulation is *Dipan-Pachan* (improves digestive fire), *Anulomak* (mild laxative), *Raktaprasadak* (improves quality of blood).

### **Asthiposhaka Vati**

The name Asthiposhak Vati suggests that it feeds the Asthi dhatu (bones). Natural calcium is predigested in the form of *Kukkutandatvak Bhasma*, and other ingredients, such as *Asthisamhruta*, etc., aid in converting this calcium into *Asthi* (Bony tissues). *Asthidhatvagni* is improved by *Asthiposhak*, which also corrects *Asthidhatvagni Mala Vikruti*.

### **Lakshadi Guggulu**

There are histological and experimental studies that demonstrate the bone healing effects of *Laksha*[8], which will aid in localised anti-inflammatory action and encourage the mending of the bone tissue, and guggulu has also anti arthritic activity.[9]

### **CONCLUSION**

It is extremely difficult to treat avascular necrosis of the femoral head. The patient's morbidity can be avoided with prompt intervention. To get a definitive conclusion, it is advisable to undertake such research with a large patient sample.

**Sources of Funding :** Nil

**Conflict of Interest:** Nil

**Acknowledgement:** Nil

**Author Contributions:** JM: Conceptualization; DS, DV: Project monitoring and supervision; JM: Writing-original draft; DS: Writing-review and editing, DV: Writing and editing

### **REFERENCES**

1. Petek, D.; Hannouche, D.; Suva, D. (2019). Osteonecrosis of the femoral head: Pathophysiology and current concepts of treatment. *EFORT Open Rev.* 2019, 4, 85–97.
2. Mankin, H.J. (1992). Nontraumatic necrosis of bone (osteonecrosis). *N. Engl. J. Med.* 326, 1473–1479.
3. Tripathy, S.K.; Goyal, T.; Sen, R.K. (2015). Management of femoral head osteonecrosis: Current concepts. *Indian J. Orthop.* 49, 28–45. [CrossRef]
3. Gauttam J, Jamir A, Verma P, Dharmarajan P, Bhatted S. (2019). Management of Asthi-Majjagata Vata wsr to Avascular Necrosis (AVN) of Femoral Head Stage 3 By Panchakarma-A Case Study. *International Journal of Ayurveda and Pharma Research.* 18:21-8.
4. Söderman P, Malchau H. (2001). Is the Harris hip score system useful to study the outcome of total hip replacement?. *Clinical Orthopaedics and Related Research*. ;384:189-97.
5. Vishwanathan K, Pathan SK, Makadia RC, Chaudhary CB. (2020). Psychometric assessment of modified Harris hip score for femoral neck fracture in Indian population. *Indian journal of orthopedics.* ;54:87-100.
6. Gurjar RS, Gokhale MV. (2021). Mode Of Action of Panchtikta Ksheera Basti In Dhatukshayajanya Sandhigata Vata: Conceptual Study. *World Journal of Pharmaceutical Research;* 11 [1]: 1816-1822
7. Dudhamal TS, Mahanta VD, Gupta SK. (2012). Efficacy of Lakshadi Plaster and Laksha Guggulu in the Management of Bhagna (Stable Colle's Fracture) Case Report. *International Journal of Ayurvedic Medicine.* ;3(2):124-9.
8. Patel MG, Pundarikakshudu K. (2016). Anti-arthritic activity of a classical Ayurvedic formulation Vatari Guggulu in rats. *Journal of traditional and complementary medicine.* ;6(4):389-94.

### **CITATION OF THIS ARTICLE**

Jaimini R, Deshpande S. V. Deshpande V. S. Ayurvedic management of Avascular necrosis of head of the femur (*Asthimajja gata vata*) – A case report. *Bull. Env.Pharmacol. Life Sci., Vol 13 [2] January 2024: 207-210*