

Role of Dashmool Siddha Majja Basti in the Management of Avascular Necrosis of Femur Head-A Case Study (Asthi Majja Gata Vata)

*¹Preeti Chaturvedi, ²Sonali Dungarwal and ³Tarendra Singh Songara

¹Department of Panchakarma, Pt. Khushilal Sharma Govt. Ayurveda College & Institute, Bhopal, Madhya Pradesh, India.

^{2,3}Post Graduate Scholar, Department of Panchakarma, Pt. Khushilal Sharma Govt. Ayurveda College & Institute, Bhopal, Madhya Pradesh, India.

Abstract

Avascular necrosis is the death of bone tissue due to the lack of blood supply also called as osteonecrosis. It leads tiny break in bone and cause the bone to collapse. This takes month to years and is very common in hip joint. In modern orthopaedic practice treatment of AVN includes pain relieving medicine, steroids and total hip replacement surgery. It is common in people between ages of 30 to 50. An interruption in the blood flow can result in a gradual degenerative disorder of the bones. AVN can affect any bone, however it is most frequently found in the hip joint. In contemporary orthopaedics, the prognosis for illness is extremely bad. Modern medical science treats AVN mostly with complete hip replacement surgery, which has the disadvantages of a lengthy recovery period and a short hip joint lifespan. On the other hand, ayurvedic medicine has no side effects and offers long-term relief from illness and halts its progression.

In Ayurveda, it can be correlated with *Asthi Majjagata Vata* due to similar sign and symptoms of AVN. *Asthi Majjagata Vata* is *Vata Pradhan Tridoshaja Vyadhi* leads to *Kshaya* of *Asthi Majja Dhatu*. Ayurveda can provide a suitable answer through appropriate *Panchkarma* modalities useful in *Asthi Dhatu Kshaya*.

A pre diagnosed case of AVN with complaint of pain and stiffness in both hip joint and pain radiating to knee, difficulty in sitting, walking, limping gait. Patient was managed by *Udvartan*, *Manjishthadi Kshara Basti* and *Dashmoola Siddha Majja Basti*. Significant improvement was noticed after the treatment and pain was reduced significantly

Keywords: Dashmoola siddha majja basti, asthi-majjagata vata, Avascular necrosis (AVN)

Introduction

Avascular necrosis (AVN), also known as osteonecrosis/bone infarction/aseptic necrosis or ischemic bone necrosis, is cellular death of bone components due to interruption of blood supply, because of which the bone tissue dies and the bone collapses [3]. If AVN affects the bones of a joint, it often leads to destruction of the articular surfaces. It primarily affects epiphysis of long bones such as the femur and also involves shoulder, knee and hip joints etc. Other common sites include the humerus, shoulders, knees, ankles and the jaw [4]. Many people have no symptoms in the early stages of avascular necrosis. As the condition worsens, the affected joint may hurt under stress.

Pain can be mild or severe, localized and develops gradually. If AVN affects the hip, it may be limited to groin, thigh or buttock, Pain location tends to be most specific in anterior hip and lower pelvis. It can be acute in onset (acute infarct phenomenon), which can mimic an acute injury. Range of motion will be reduced affecting the gait. No satisfactory therapy is available in conventional system of medicine, while the available procedures are not affordable by all and the Prognosis of all such approaches are not convincing [5].

This condition can be correlated to *Asthi majja gata vata* and or *Asthi dhatu kshaya* manifesting symptoms like *Bhedo asthi parvanam* (breaking type of pain in bones and joints), *Sandhi*

shoola (joint pain), *Mamsa kshaya* (muscular wasting), *Balakshaya* (weakness), *Aswapna santataruk* (disturbed sleep due to continuous pain) and *Sandhi shaithilyam* (afflicted joints) with *Shiryanti iva cha asthina durbalani* (destruction of bony tissue causing generalized weakness), *Pratata vata rogin* (other aggravated features of vata) etc. [8]. Wide range of treatment modalities have been mentioned in Ayurveda that are effective in such manifestations.

Sign and Symptoms of AVN

Sign and symptoms may vary widely depends on the stage of presentation. Some people may have no symptoms in the earlier stage of AVN. As the condition worsen affected joint might hurt only when putting weight on them. Eventually patient might feel the pain while lying down.

Pain associated with AVN of hip joint might center on the groin, thigh, or buttock, besides the hip the shoulder knee hand can be affected. Some patient may develop AVN on both side such as both hips or in both knees. One main feature of AVN is severe night pain. The time period between first sign and loss of motion of joint may vary from several month to more than a year [5].

In Ayurveda as wide range of treatment mode in Ayurveda that are effective in such manifestations. Symptoms like

- *Bhedo Asthi Parvanam* (breaking type of pain),

- *Sandhi Shoola* (joint pain),
- *Mamsakshaya* (muscular wasting),
- *Balakshaya* (weakness),
- *Aswapna Santataruka* (disturbed sleep due to continuous pain) and
- *Sandhi Shaithilyam* (afflicted joints) with
- *Shiryanti Iva Cha Asthini Durbalani* (destruction of bony tissue causing generalized weakness),
- *Pratata vata rogin* (other aggravated features of *Vata*) etc.

Aim and Objective

Assessment of the effect of *Dashmoola Siddha Majja Sneha Basti* in *Asthi Majjagat Vata* w.s.r. to Avascular Necrosis (femur head).

Materials and Methods

Case Report

A male patient of age 33 years, pre diagnosed and non-operated case of Avascular Necrosis bilateral head of femur (Rt>Lt) came to Panchkarma OPD of Pt. KLS hospital of Ayurveda, Bhopal admitted with chief complaints of pain in both hip joint, difficulty in long standing position with aggravation of pain after 50-60 feet walking. He had also abnormal walking with limping gait. Pain was associated with morning stiffness, was given *Dashmool Siddha Majja Basti* and some oral medications for few days.

MRI Scan (10/06/2022)

MR images revealed altered signal intensity involving head, neck of the of bilateral femoral head/neck with areas of bony erosion involving head of the femur, formation of subarticular irregular crescent, mild articular surface irregularity of anterior part of femoral head on either side and mild joint effusion either side-s/o suggestive of avascular necrosis in bilateral femoral head (Stage-III).

Past History

Patient was quiet well before 3 months. Gradually he was developed with mild pain in left knee joint and he was unable to do daily routine work like walking, bending forward etc. pain was in episodes of short duration but didn't affect major works. The pain has sudden onset which subsides after sometime.

Patient consulted to modern physician in Bangalore on 01/05/2022 treated with steroids which gave temporarily relief. Advised MRI Scan which showed ACL Partial Tear. Simultaneously, he developed stiffness and pain in pelvic region. He was advised surgery but not willing for surgical intervention.

Then he went to Govt. Ayurveda Hospital, Gwalior where he was given with Janu Basti, Sarvanga Snehana Swedana, Matra Basti and Physiotherapy but didn't get proper relief.

For better treatment he came to Pt. Khushilal Sharma Ayurveda Hospital, Bhopal on 05/07/2022.

General Examinations

G.C.-Fair

RS, CVS, CNS-NAD

Pulse-68/min

P/A-Soft, non-tender

B.P.-120/80 mmHg

Local Examination

1. Swelling (mild)-over B/L Hip joint

2. Tenderness-present.

3. Local temperature-slightly raised.

4. Range of movements-Restricted and painful

5 Locomotor Examination

- Gait-Asymmetrical, limping
- Vertebrae-deflected to affected side
- Length of lower limb-Rt < Lt
- Palpitation present on Right femoral joint

Samanya Samprapti

Dosha Dushya Lakshana: Predominant Dosha in the disease is Vata associated with Pitta and Kapha. Since, there was a history of sudden jerk that may be responsible for local inflammation, vitiating Pitta. Besides, Avarana of Kapha and Meda over Vata may also be considered to play an important role in the manifestation of symptoms like stiffness and restricted movements of hip joint in the patient.

Table 1: Assessment criteria on the Basis of Gradation System

Criteria	Grading
Pain in hip and groin region	i) No pain ii) Occasional pain and can be ignored iii) Interfere with task iv) Interfere with basic needs v) Bedrest require
Stiffness of hip joint	i) No stiffness ii) Occasional stiffness present iii) Stiffness retains for 30 mins iv) Stiffness after sitting and walking for long time v) Stiffness whole day or whole night
Restricted range of movement of hip joint	i) No restriction (flexion of 130°) ii) Restricted initially (flexion of 90°-130°) iii) Partially restricted (flexion of 70°-90°) iv) Restricted with pain (flexion 45°-70°) v) No joint movement (flexion 0°-45°)
Gait (Limping Gait)	i) Normal without pain ii) Occasional pain during walking iii) Walk with support with mild pain iv) Walk with support with severe pain v) Unable to walk

Table 2: Treatment administered

Sr. No.	Panchkarma Therapy		Duration
1.	<i>Udvardana</i>	<i>Varun Twak Churna, Gokshur, Kolkulathadi churna</i>	3 Days
2.	i) <i>Manjishthadi Kshar Basti</i> (400 ml) ii) <i>Ashwagandha Ghrit</i> (900ml)	(2 :1)	8 days (yoga Basti)
3.	<i>Dashmoola Siddha Majja Basti</i> (3 course of this Dashmoola siddha Majja Basti was given for 11 consecutive days for 3 months)	<i>Majja</i> processed with <i>Dashmoola Kwatha</i>	11 days

1. Contents of Dashmoola

Bilva root (*Aegle marmelos*), *Agnimantha* root (*Premna integrifolia*), *Shyonaka* root (*Oroxylum indicum*), *Patala* root

(*Stereospermym suaveolens*) Kashmari root (*Gmelina arborea*), Bruhati root (*Solanum indicum*), Kantakari root (*Solanum xanthocarpum*), Prushniparni root (*Uraria picta*) etc.

2. Extraction and Preparation of Majja

The large bones of *Gramya* (goat, sheep etc.) and *Anupa* (like pig, buffalo etc.) animals were collected. The bones were crushed into pieces and boiled in water for 7 days. By this process the *Majja Sneha* was obtained [7].

3. Processing of Majja

The decoction of *Dashmoola* was made by adding the *Dashmoola Churna* into the water and reducing it into 1/4th part. In this decoction the *Majja Sneha* was added and boiled for the next 3 days till the separation of *Majja* [7].

4. Basti Vidhi

Prior to Basti sarwang snehana swedana was done with Tila Taila. The *Dashmoola Siddha Majja basti* was given in the form of *Sneha Basti* in which the *Shatpushpa 10-12 gm* and *saindhav lavana 6 gm* was added. This basti was taken in the 150ml syringe and given in left lateral position of the patient with daily dose of *Majja Sneha* starting from 140 ml on the first day to 240 ml on the 11th day increasing 10ml dose every day.

Table 3: Majja Basti Schedule.

Day	Basti	Dose	Time of Basti Adanakala	Time of Basti Pratyagamana	Retention time	Complication (If any)
1	A	140 ml	10:00am	5:00pm	7 hr	-
2	A	150 ml	10:00am	3:00pm	5 hr	-
3	A	160 ml	11:30am	3:45pm	4:15 hr	-
4	A	170 ml	10:00am	3:00pm	5 hr	-
5	A	180 ml	11:10am	4:00pm	4:50 hr	-
6	A	190 ml	11:00am	3:00pm	7.30 hr	-
7	A	200 ml	12:00am	2:00pm	8 hr	-
8	A	210 ml	12:00am	4:00pm	4 hr	-
9	A	220 ml	12:00am	3:00pm	6 hr	-
10	A	230 ml	12:30am	2:40pm	5:10 hr	-
11	A	240 ml	11:00am	3:20pm	4:20 hr	-

Treatment Outcome

Result and Discussion

In this case study patient got Moderate relief in above symptoms of *Asthi Majja Gata vata*. Marked improvement in stiffness and timing of walking distance. Overall significant relief was found in this case.

Table 4: Overall Assessment.

S.N.	Assessment criteria	BT	AT	Relief
01.	Pain in hip and groin region	3	1	Moderate
02.	Stiffness of hip joint	4	2	Mild to Moderate
03.	Restricted range of movement of hip joint	3	2	Mild
04.	Gait (Limping Gait)	3	1	Moderate

Table 5: Subjective Criteria

S. N.	Locomotor Changes	BT	AT
1.	Flexion	80 ⁰	120 ⁰
2.	Extension	0 ⁰	10 ⁰
3.	Adduction	25 ⁰	40 ⁰
4.	Abduction	10 ⁰	25 ⁰
5.	External Rotation	15 ⁰	35 ⁰
6.	Internal Rotation	10 ⁰	30 ⁰
7.	SLR Test	Negative	Negative
8.	FABER Test	Positive	Positive

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. In most of the cases, AVN is of idiopathic origin associated with excessive usage corticosteroid, alcoholism, infections.

Basti plays a major role in Vatavyadhi said to be Ardhachikitsa by Acharya Charak, [6] cures not only vatika disorders, but also samsarga and sannipataja condition of Dosha.

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.

Majja Sneha basti plays an important role in asthi pradoshanya vikar by strengthening and nourishing the asthi dhatu (Bone tissue).

Asthi Sandhi is main site of Vata where Shleshmaka Kaph is located. Dashmoola siddha majja basti have Madhur, tikt ras and Katu vipak, which are opposite to the ruksha sheeta and khara guna of vata [7]. Acharya Charak has described Dashmool siddha majja basti in which majja is processed with dashmool kwath. The ingredients of this basti includes Madhur, Tikt ras, Katu vipak, Ushna Virya etc. the dashmoola siddha majja basti is given in increasing order starting dose of 140 ml increases upto 240ml, this type of pattern is helpful in retaining the medicaments for a longer duration, resulting in providing more nutrition to the bone tissue

Probable Mode of Action Dashmoola Siddha Majja Basti

It nourishes majjadhatu, which in turn nourishes asthidhatu, due to the attributes of snigdha, pichchila, guru, and brimhana-poshana guna. When both dhatus are fed, vatashamana occurs. Therefore, by the rasa and vipaka we might conclude that this basti reaches up the asthi elevating the Majja dhatu in asthi and majja vaha srotasa. This majja provides nourishment for Asthi using its puran guna (filling the vata in the asthi dhatu).

Ushna veerya heals the vatajanya shoola which implies that the entire basti dravya is vatashamaka. Hence, the action of Dashmoola Siddha majja vasti plays vital role in Asthi Majjagata vata.

The dashmoola siddha majja basti removes the avarana of the vata and increases the blood supply which is the main purpose of the this given treatment.

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. Snehana and Swedana is considered as the first line treatment of Vata Vyadhi.

For the treatment of Asthi Dhatu Panchakarma is clearly indicated and Dashmoola Siddha Majja Basti is advised.

For fulfilling this aim Basti Chikitsa have been selected.

Probable Mode of Action of Poorva Karma

1. Prior to the Basti, Snehana and Swedana does the anulomana of Apana vayu. Increases the blood supply to the particular area and thus, basti becomes more efficacious.
2. Abhyanga also causes vasodilatation in skin and muscle by stimulating receptors sympathetic nervous system. Vasodilatation increases blood flow and helpful to removes the toxins

Conclusion

This study can be helpful for reducing the need of steroids and surgical process in the treatment of AVN. dashmoola siddha majja Basti shows remarkable symptomatic relief in the features of avascular necrosis of femoral head. The results need to be studied in more numbers of populations for the better assessment.

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