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# The management of *Asthimajjagata Vata* w.s.r. to *Avascular Necrosis* of Femoral Head with Ayurveda recipes - A Case Study

Chhaya Thakur<sup>1</sup>, Sanjay Srivastava<sup>2</sup>

<sup>1</sup>Post Graduate Scholar, Dept. of Rog Nidan & Vikriti Vigyan, Pt. Khushilal Sharma Government Ayurveda Institute, Bhopal, Madhya Pradesh, India.

<sup>2</sup>Professor and HOD, Dept. of Rog Nidan & Vikriti Vigyan, Pt. Khushilal Sharma Government Ayurveda Institute, Bhopal, Madhya Pradesh, India.

## ABSTRACT

In musculoskeletal clinics, one of the conditions that is more frequently observed, is Avascular necrosis (AVN) of the head of the femur. Basically, it is an osteonecrosis caused by a wound or any obstruction in the arteries supplying blood to the bone tissue. The most frequent type of necrosis is AVN of the femur head because the artery supplying that region is very thin and readily injured by simple dislocation or a sub capital fracture, which causes a lack of food to the tissue and necrosis. Usually, men are more prone to Avascular necrosis than women. There is no specific treatment available in modern medicine other than surgery. Additionally, the prognosis is not good and the cost is high. Present case was aimed to evaluate the efficacy of Ayurvedic procedures in the conservative management of AVN of the femoral head. In this present case a 27 Years old male was diagnosed with AVN of bilateral hip joint was presented with bilateral groin pain associated with limitation of movements of hip joint and pain in back, with difficulty in walking He was given *Manjishthadi Majja Basti* along with other *Panchakarma* therapies and oral medicines. After the treatment, the pain decreased, range of movement of both hip joints improved. This case shows that *Ayurveda* treatment is helpful in the management of Avascular necrosis and helps in improving quality of life.

**Key words:** *Asthithi Majja Gata Vata, Panchkarma, Avascular Necrosis.*

## INTRODUCTION

Avascular necrosis (osteonecrosis) is a progressive disorder where the cellular death of bone component due to interruption of the blood supplies to the bone in transiently or permanently.<sup>[1]</sup> Avascular necrosis (AVN) is also called Osteochondritis Dissecans / Chandler's Disease in young adults with 60% of the

cases being bilateral.<sup>[2]</sup> While it can affect any bone, AVN is particularly common in the hip joint. It generally affects people between age of 30 to 50 years. Several factors like trauma, genetic factors, metabolic factors, use of glucocorticoids, diseases that promotes hypercoagulable states are the etiological factors of AVN.<sup>[3]</sup> Initially, patients are asymptomatic, but with the passage of time, AVN leads to joint destruction, requiring surgical intervention in latter stages, total hip replacement (THR) is required.<sup>[4]</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>[5]</sup> As per the clinical features, this condition can be correlated with *Asthithi - Majjagata Vata* in Ayurveda. The sign and symptoms of *Asthimajjagata Vata* are *Bhedoasthiparvanam*

### Address for correspondence:

Dr. Chhaya Thakur

Post Graduate Scholar, Dept. of Rog Nidan & Vikriti Vigyan, Pt. Khushilal Sharma Government Ayurveda Institute, Bhopal, Madhya Pradesh, India.

E-mail: thakurchhaya1113@gmail.com

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(breaking type of pain in bones), *Sandhishoola* (Joint Pain), *Mamsakshaya* (Muscular Wasting), *Balakshaya* (weakness), *Sandhishaithilyam* (flexity of joints), *Aswapna Satatruka* (sleeplessness due to continuous pain), *Shiryantiva Cha Asthi-Dourbalyani* (destruction of bony tissue causing generalized weakness).<sup>[6]</sup>

## CASE REPORT

A 27 years old male patient came to the OPD of Pt. Khushilal Sharma Government 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 B\L groin region, pain during prolonged sitting, difficulty in walking, restricted movement of both lower limb, sleeplessness due to pain. The patient was well before 11 months then gradually pain start in right hip joint with stiffness which radiates in lower limb then after 3 months his 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 his gait has been changed. Moreover, his day-to-day activities were also hampered due to pain and stiffness. The patient had received allopathic treatment for 5-6 months but did not get satisfactory relief. Thus, he approached further for Ayurvedic management.

### Local Examination

1. Tenderness present in bilateral hip region (R>L)
2. Significant loss in the range of movement.
3. Gait-Trendelenburg sign positive.
4. Painful internal and external rotation.

### Ashtavidha Pariksha

|         |                |
|---------|----------------|
| Nadi    | Vata - Pittaja |
| Mutra   | Prakrut        |
| Mala    | Snigdha        |
| Jivha   | Saam           |
| Shabdha | Spastha        |

|         |                |
|---------|----------------|
| Sparsha | Samasheetoshna |
| Drik    | Prakrut        |
| Aakriti | Madhyam        |

### Samprapti Ghatak

|                |  |
|----------------|--|
| Dosha          | Vata - Kapha                             |
| Dushya         | Asthi, Majja, Sandhi, Rakta, Sira, Snayu |
| Srotas         | Asthivaha, Majjavaha, Medovaha           |
| Srotodushti    | Sang                                     |
| Rogamarg       | Marmaasthisandhi                         |
| Adhishthan     | Asthi - Sandhi                           |
| Udhabhavasthan | Aam - Pakwashaya                         |
| Vyakta-Sthan   | Asthi - Sandhi                           |

### Aaturbala Pramana Pariksha

|               |                               |
|---------------|-------------------------------|
| Prakruti      | Vata - Pittaja                |
| Sara          | Raktasara                     |
| Samhanana     | Madhyama                      |
| Pramana       | Weight - 71kg, Height - 180cm |
| Satmya        | Madhyama                      |
| Satva         | Madhyama                      |
| Aharashakti   | Madhyama                      |
| Vyayamashakti | Avara                         |
| Vaya          | Yuvavastha                    |
| Desha         | Sadharana                     |

### Personal History

- Diet - Vegetarian
- Appetite - Normal
- Bowel - Clear
- Bladder - Normal

- Sleep - Disturbed
- Addiction - Not any
- Occupation - Medical Representative

**Past illness** - No history of any major illness

**Family History** - Not Significant related to present illness

**Surgical History** - Not Significant

**Vital Examinations**

- Pulse Rate - 74/minute, Regular
- Blood Pressure - 120/80 mmHg
- Temperature - 98.7°F
- Respiratory Rate - 19/minute

**Investigation**

Blood investigation dated April 04, 2023

1. Hb% - 14.1 g/dl
2. Sickling test - Negative

**Radiological Report**

**MRI** - MRI scan (08/04/2023) revealed Grade II AVN on right side and Grade III AVN on left side of femoral head.

X-ray B\L Knee Joint (03/04/2023)



**Treatment administered**

This diagnosed case of Avascular necrosis of the femoral head was admitted to the male private ward of Pt. Khushilal Sharma Government Ayurveda Institute, Bhopal with IPD no. 20231953 and undergo the following procedures.

**Table 4: Oral Ayurveda medicines were administered in the patient.**

| Drugs                         | Dose     | Time       | Duration |
|-------------------------------|----------|------------|----------|
| <i>Kaishora Guggulu</i>       | 1BD      | After meal | 8 weeks  |
| <i>Singhnad Guggulu</i>       | 1BD      | After meal | 8 weeks  |
| <i>Punarnavadi Guggulu</i>    | 1BD      | After meal | 8 weeks  |
| <i>Vatvindhwasak Rasa</i>     | 1BD      | After meal | 8 weeks  |
| <i>Mahamanjishthadi Kwath</i> | 30 ml BD | After meal | 8 weeks  |
| <i>Manjishthadighan Vati</i>  | 2BD      | After meal | 4 weeks  |
| <i>Cap. Gandh Tailam</i>      | 1BD      | After meal | 8 weeks  |
| <i>Cap. Ashwagandha</i>       | 1BD      | After meal | 4 weeks  |
| Cap. Nucart OA                | 2BD      | After meal | 4 weeks  |
| Cap. Boniheal                 | 1BD      | After meal | 8 weeks  |

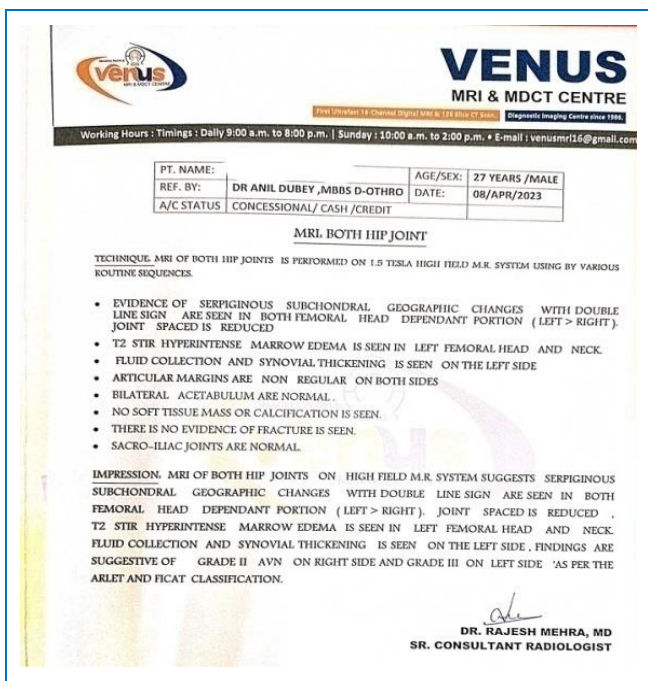


Table 5: Panchakarma Therapy

| SN | Procedure                             | Drug used  | Quantity   | Days  |
|----|---------------------------------------|--|--|---|
|    | Udavartana                            | Triphala Choorna + Kottamchukkadi Choorna  |  | 7 days  |
|    | Vashpa Swedan                         | Dashamoola Kwath   |  | 07 days along with Udavartana   |
|    | B/L Vankshan Basti                    | Chandanbalakshadi Tail   |  | Next 15 days  |
|    | Sarvang Patra Pinda Swedan            | Eranda Patra, Nirgundi Patra, Shigru Patra, Ark Patra, Lemon, Harida, Coconut etc.   |  | 15 days along with Vankshan Basti                                     |
|    | Pishinchil                            | Chandanbalakshadi Tail + Balashwagandha Tail   |  | Next 8 days   |
|    | Manjisthadi Majja Basti (Karma Basti) | <b>Anuvasana basti</b><br>Chandanbalakshadi Tail<br>Majja<br>Saindhav<br><b>Niruha Basti</b><br>Manjisthadi Kwath<br>Majja<br>Madhu<br>Saindhav<br>Saunf<br>Ajwain | 60ml<br>40ml<br>5 gm<br><br>300 ml<br>40 ml<br>50 ml<br>5 gm<br>20 gm<br>20 gm | 30 days<br><b>Anuvasan Basti - 18</b><br><br><b>Niruha Basti - 12</b> |

Table 6: Steinberg's classification of avascular necrosis of the femoral head<sup>[7]</sup>

| Stage | Description   |
|-------|---|
| 0     | No symptoms, Normal or non-diagnostic X-ray, bone scan and MRI                                      |
| 1     | Mild pain in the affected hip, pain with internal rotation, Normal x-ray, Abnormal bone scan or MRI |

|   |  |
|---|--|
| 2 | Worsening or persistent pain, increased sclerosis or cysts in the femoral head |
| 3 | Subchondral collapse, produce crescent sign                                    |
| 4 | Flattening of femoral head, normal acetabulum, normal joint space              |

Table 7: Assessment criteria on the Basis of Gradation System

| Criteria                                  | Grading   |
|---|---|
| Pain in hip and groin region              | 0 – No pain   |
|   | 1 – Occasional pain and can be ignored                |
|   | 2 – Interfere with task                               |
|   | 3 – Interfere with basic needs                        |
|   | 4 – Bed rest require                                  |
| Stiffness of hip joint                    | 0 – No stiffness                                      |
|   | 1 – Occasional stiffness present                      |
|   | 2 – Stiffness retains for 30 minutes                  |
|   | 3 – Stiffness after sitting and walking for long time |
|   | 4 – Stiffness whole day or whole night                |
| Restricted range of movement of hip joint | 0 – No restriction (flexion of 130°)                  |
|   | 1 – Restricted initially (flexion of 90°-130°)        |
|   | 2 – Partially restricted (flexion of 70°- 90°)        |
|   | 3 – Restricted with pain (flexion 45°- 70°)           |
|   | 4 – No joint movement (flexion 0°- 45°)               |
| Gait (limping gait)                       | 0 – Normal without pain                               |
|   | 1 – Occasional pain during walking                    |
|   | 2 – Walk with support with mild pain                  |

|  |  |
|--|--|
|  | 3 – Walk with support with severe pain |
|  | 4 – Unable to walk                     |
| Distance walked by patient within 10 minutes | 0 – 90 feet                            |
|  | 1 – 60 feet                            |
|  | 2 – 30 feet                            |
|  | 3 – < 30 feet                          |

Table 8: Assessment before and after treatment

| SN | Assessment criteria                          | Before treatment | After 30 days of treatment |
|----|--|------------------|----------------------------|
| 1. | Pain in hip and groin region                 | 3                | 1                          |
| 2. | Stiffness of hip joint                       | 3                | 0                          |
| 3. | Restricted range of movement of hip joint    | 1                | 0                          |
| 4. | Gait (Limping Gait)                          | 2                | 1                          |
| 5. | Distance walked by patient within 10 minutes | 3                | 0                          |
| 6. | Steinberg's classification                   | 1                | 1                          |

Table 9: Observation in Range of Movement of Hip Joint

| Range of Movement        |           | Before Treatment | After Treatment |
|--------------------------|-----------|------------------|-----------------|
| Abduction<br>(30° – 50°) | Right Leg | 25               | 40              |
|                          | Left Leg  | 30               | 50              |
| Adduction<br>(20° – 50°) | Right Leg | 25               | 30              |
|                          | Left Leg  | 30               | 40              |
| Flexion<br>(110° – 120°) | Right Leg | 90               | 110             |
|                          | Left Leg  | 100              | 120             |
| Extension                | Right Leg | 10               | 10              |

|                                  |           |    |    |
|----------------------------------|-----------|----|----|
| (10° – 15°)                      | Left Leg  | 10 | 15 |
| Internal rotation<br>(30° – 40°) | Right Leg | 10 | 15 |
|                                  | Left Leg  | 20 | 30 |
| External Rotation<br>(40° – 60°) | Right Leg | 20 | 40 |
|                                  | Left Leg  | 30 | 50 |

## DISCUSSION

### Udavartana

This was done using *Triphala Choorna* and *Kottamchukkadi Choornam*, *Triphala Choorna* includes *Haritaki*, *Vibhitaki* and *Amalaki* having *Ruksha* and *Tridoshahara*, *Kapha Medahara Guna* which helps in removing *Avarana*. *Kottamchukkadi Choornam* contains equal quantities of *Pushkaramoola*, *Vacha*, *Viswa*, *Suradruma*, *Lasuna*, *Sigru*, *Rasna*, *Sarshapa Chinchapatra* etc. Its *Roga Karma - Vataroganashaka*, *Dosha Karma - Vatakaphahara* and *Shophahara Guna*.

### Vashpa Swedana

*Swedana* drugs are having *Ushna* and *Tikshna Guna* which are capable of relieving *Stambhana*, *Gaurava*. This was done using *Dashmoola Kwatha* having *Tridoshara* (alleviating all deranged *Doshas*), *Vedanasthapana* (pain killer) and *Shothahara* (subside inflammation) properties. It also helps in removing *Avaradh* which helps in the proper blood circulation.

### Vankshan Basti

In *Vankshan Basti*, warmth pressure of the oil allows deeper absorption into the muscles, tendons and ligaments, relaxing spasms and reducing pain and stiffness of *Vankshan*. This was done using *Chandanbalalakshadi Tail* which contains *Til Tail*, *Sveta Chandana*, *Bala Mul*, *Pipalalakh*, *Lajjal*, *Jal*, *Godugdha*, *Sveta chandana*, *Ushir*, *Yasthimadhu*, *Satpushpa*, *Katuki*, *Devadar*, *Haridra* and *Kuth* etc. *Chandana*, has *Pitta Shamaka* (pitta pacifying) properties. It also help to reduce skin irritations, itching, burning sensations and inflammation.

*Bala*, which balances all the 3 *Doshas*, especially *Vata*. Additionally, it helps relieve the symptoms of pain,

emaciation etc. *Nagakesar*, which contains anti-inflammatory, analgesic and antispasmodic activity.

#### **Patra Pinda Swedan**

It relieves stiffness, pain, and swelling improves the range of movements associated with painful conditions of joints, improves blood circulation in the body and soothes nerves, and provides relief from pain.<sup>[8]</sup>

#### **Pishichil**

It is the *Brihana* type of *Snigdha Swedana* where *Snehana* and *Swedana* occur concurrently. *Chandanbalakshadi Tail* and *Balashwagandha Tail* were used in the procedure. *Balashwagandha Tail* balances *Vata* and *Pitta*, strengthens muscles, bones, joints and improve quality of blood. *Chandanbalakshadi Tail* helps to reduce inflammation and burning sensation.

#### **Manjisthadi Majja Basti**

In all procedures of *Panchkarma*, *Basti* is the first line of treatment of *Vata Dosha* as *Dosha Pratyani Chikitsa*. *Manjisthadi Majja Basti* (processed with bone marrow) was planned which includes *Majja* and *Manjisthadi Kwath* with *Tikta Rasa*, *Katu Vipaka*, *Ushna Virya* which is *Tridosahara* and *Raktaprasadaka*. *Tikta Rasa* has *Srotoshodhan* properties which help to clear the *Srotosanga*. *Majja* nourishes *Asthi* by means of its *Purana* (filling) and *Snehan* properties, that strengthen *Majja Dhatu* which in turn nourishes *Asthi Dhatu*. Thus, it pacifies *Vata*, improves the *Dhatu Upachaya* (metabolism of the tissues) and acts as a rejuvenator of the body.

#### **CONCLUSION**

Based on this case study, it was shown that *Manjisthadi Majja Basti*, in combination with specific palliative medications, is beneficial in treating Avascular necrosis of the femoral head. In present case, given treatment has significantly reduced discomfort, soreness,

stiffness, and improved gait. The overall outcomes were positive and recovery was encouraging and deserving of documentation. Even though there is a huge need for more research, this shows that *Ayurveda* can be very helpful in the management of AVN when used in conjunction with a thorough diagnostic and treatment plan.

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