

Ayurvedic Management of Avascular Necrosis of Neck of Femur w.s.r. to Asthi Majja Gata Vata

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Abstract

Avascular necrosis (AVN) is a condition that occurs due to loss of blood supply to the bone which leads to cellular death of bone tissue. A 59 years old female patient, who was suffering from AVN for last 1 year, was admitted in NIA *Panchakarma* ward. She was diagnosed as a case of avascular necrosis of neck of femur based on MRI reports. As per *Ayurveda*, the patient was diagnosed as a case of *Asthi Majja Gata Vata* (~*Vata* disorder involving bone and bone marrow). The patient was treated with *Panchakarma* procedure such as local massage and fomentation, *Panchatikta Ksheera Basti* (enema with medicated milk) with *Yashtimadhu Taila Anuvasana* (enema with oil) as per *Karma Basti* schedule (30 days regime of purification and oleation enema) and oral medication as *Kaishore Guggulu* 3 tab twice a day, *Dashmool Kwath* 40 ml twice a day, *Ashwagandha Churna* (Powder of *Withania somnifera* DUNAL) 3 gm, *Chopchini Churna* (Powder of *Smilax glabra*) 500 mg, *Madhuyasthi churna* (Powder of *Glycyrrhiza glabra*) 2 gm three times a day, *Triphala churna* 5 gm at bed time for 1 month. Before treatment, the patient was complaining of severe pain in both hip joints and thigh regions and difficulty in walking. After completion of treatment, the pain in both hip joints and thigh regions decreased, range of movement of both hip joints improved, difficulty in walking was much reduced and walking distance also improved. This case shows that *Ayurved* treatment may be helpful in the management of avascular necrosis of neck of femur.

Keywords: Avascular necrosis, *Asthi Majja Gata Vata*, *Panchatikta Kshira Basti*

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INTRODUCTION

Avascular necrosis (AVN) is defined as cellular death of bone components due to interruption of the blood supply; the bone structures then collapse, resulting in bone destruction, pain, and loss of joint function [1]. The femoral head is most commonly affected by this disease. Usually, the patients are in their third, fourth or fifth decade of life at the time of diagnosis. Men are more prone to this disease than women. 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 [2].

The present day modern therapeutics includes administration of anti inflammatory analgesics, steroid therapy, surgical correction 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 [3]. There is an immediate need for the efficient management of AVN with usage of herbal medicines, following the proper life style and eradicating the problems from root itself.

In the early stage of disease, there are no sign and symptoms but in advanced stage, the bone collapses and shows many symptoms like groin or hip pain radiating to buttocks, thigh or knee that is aggravated by weight-bearing. If in this condition the disease is untreated, then the pain progressively increases and worsens with time and use, later on pain increases at rest, which may be worse at night and may be associated with morning stiffness also. In *Ayurveda*, there is no direct mention of AVN; the treatment modality of this disease is done according to *Dosha* and *Dushya* [4]. Here in AVN, it seems that the predominant *Dosha* is

Vata and *Dushya* is *Asthi*, in the chronic stage there is *Tridosha* involvement. On the basis of clinical presentation, AVN can be co-related with *Asthi Majja Gata Vata* [5]. The clinical features of *Asthi Majja Gata Vata* are *Bhedoasthiparvanam* (breaking type of pain in bones), *Sandhishoola* (joint pain), *Satata ruk* (continuous in nature), *Mamsabalaksaya* (loss of strength and muscles weakness) and *Asvapna* (disturbed sleep), which can be correlated with symptoms of AVN.

Here, we represent a case that was diagnosed as AVN and was managed with Ayurvedic treatment of *Asthi majja gata Vata* with satisfactory outcome.

CASE REPORT

A 59 year-old female patient presented with the complaint of pricking type of pain in both hip joints, both thighs and difficulty in hip joints movements since 1 year. 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 her condition worsened and she needed support for walking and other daily routine work. She was advised to undergo surgery but she refused and opted for Ayurved treatment. The patient was consulted in Sawai Man Singh hospital Jaipur and diagnosed to suffer from AVN.

Her family history was not significant. She had no history of addictions and trauma. She was non-diabetic and non-hypertensive. She was a known case of contact dermatitis for last 3 years. She was under corticosteroid therapy for this disease for last 2 years. She had been taking Deltacortil, 10 mg once daily, Clobetasol ointment for external use, Calcimax, 1000 mg once daily three days a week for dermatitis.

On examination, the patient was found to be anxious with disturbed sleep, had a moderate appetite, *Vishmagni* (unstable digestive functions), *Krura Kosta* (bowel hard to purgate) with normal micturition. The tongue was clean, the voice was clear, and skin roughness was prominent. Her pulse was 84/min, regular; BP was 130/80 mm of Hg; patient was afebrile and respiratory rate was

18/min, regular. She had *Vata Pitta 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), *Madhyam Ahara Shakti* (medium food intake) and *Avara Jarana Shakti* (Poor digestive power). *Asthivaha Srotodusti* (pathology in bone) and *Majjavaha srotodusti* (pathology in bone marrow) were more prominent.

The examination also revealed in left lower limb SLR test was positive (40°), flexion was 40°, backward extension was 5°, adduction was 10° and abduction was 20° and in right lower limb SLR test was positive (45°), flexion was 45°, backward extension was 5°, adduction was 15° and abduction was 25°.

Baseline hematological investigation was done on May 7, 2016, which revealed hemoglobin (Hb) 12.1 gm%, total leukocyte count (TLC) 10600/mm³, erythrocyte sedimentation rate (ESR) 50 mm first hr, differential leukocyte count (DLC) neutrophils 71%, lymphocytes 18%, eosinophils 2%, basophils 0% and random blood sugar (R.B.S.) 90 gm/dl. Urine examination was within normal limits. Magnetic resonance imaging (M.R.I.) report which was done on 08 Sep 2015, showed stage-II avascular necrosis of right femoral head and stage-III avascular necrosis of left femoral head.

Diagnosis

The patient was a known case of AVN and for Ayurvedic diagnosis, it was diagnosed as *Asthi-majja gata vata*. The clinical features of *Asthi Majja Gata Vata* are *Bshedoasthiparvanam* (breaking type of pain in bones), *Sandhishoola* (joint pain), *Satata ruk* (continuous in nature), *Mamsabalaksaya* (loss of strength and muscles weakness) and *Asvapna* (disturbed sleep), which can be very well correlated with symptoms of AVN.

Treatment

The line of treatment for *Asthi Majjagata Vata* is external and internal administration of *snehana* (oleation) [6]. External oleation is

performed by *Abhyanga* with medicated oils and internally it is administered in the form of *paana* (internal oleation through oral route) and *Basti* (oleation through rectal route). For nourishing, *Asthi Dhatu*, *Panchatikthaka Ksheera Basti* is the best option.

So, in this condition, *Panchakarma* procedure like *Abhayang*, *Basti Karma* (Rectal administration of drugs) in the schedule of *Karma Basti* from 08 May 2016 to 06 June 2016 along with *Shamana* drugs (palliative treatment) proved very effective and improved the quality of life of the patient.

Some reports on *Asthi Majja Gata Vata* [7] and *Panchatikta Ksheera Basti* are also published in PubMed indexed Journal [8].

Basti Karma

The *Basti karma* was planned in schedule of *Karma Basti* (Table 1). In this *Karma Basti* schedule, *panchatikta kshira Basti* was administered as a *Niruha Basti* and *Yasthimadhu Taila* as *Anuvasana Basti* in the amount of 400 and 60 ml respectively [9].

Shamana Chiktisa

Palliative treatment was given with following drugs:

Kaishor Guggulu: 2 pills (500 mg) three times a day with *Dashamula Kwath* 40 ml two times a day. *Ashwagandha Churna* (Powder of *Withania somnifera*) 3 gm, *Chophini churna* (Powder of *Smilex glabra*) 500 mg, *Madhuyasthi churna* (Powder of *Glycyrrhiza glabra*) 2 gm with milk three times a day. *Triphala Churna* 5 gm at bed time with water.

Table 1: Panchakarma Procedures Given to a Case of AVN.

Panchakarma Procedures	Method of Preparation	Method of Application	Days of Treatment
<i>Karma Basti</i> <i>Panchatikta Kshira Basti</i>	<i>Saindhava</i> salt 5 g, honey 60 g, <i>Guggulu tiktaka ghrita</i> 90 ml, milk processed with <i>Panchatikta Ksheera Basti kwatha</i> drugs (<i>Guduchi</i> [<i>Tinospora cordifolia</i>], <i>Nimba</i> [<i>Azadirachta indica</i>], <i>Patola</i> [<i>Trichosanthes dioica</i>], <i>Vasa</i> [<i>Adhatoda vasica</i>] and <i>Kantakari</i> [<i>Solanum surattense</i>]) 300 ml and <i>Putoyavanyadi Kalka</i> (<i>Yawani</i> [<i>Trachyspermum ammi</i>], <i>Madanphala</i> [<i>Randia spinosa</i>], <i>Bilwa</i> [<i>Aegle marmelos</i>], <i>Kushtha</i> [<i>Saussurea lappa</i>], <i>Vacha</i> [<i>Acorus calamus</i>], <i>Soya</i> [<i>Anethum sowa</i>], <i>Motha</i> [<i>Cyprus rotundus</i>] and <i>Pippal</i> [<i>Piper longum</i>]) 30 gm of <i>Panchatikta Basti</i> . Powdered rock-salt is added to honey and stirred. Then <i>Ghrita</i> are added to this mixture and again stirred.	Given before meal with <i>Basti yantra</i> .	Total 30 <i>Basti</i> was given daily. (From 08 May 2016 to 06 June 2016)
<i>Yastimadhu Taila Anuvasana Basti</i>	Then paste of <i>Putoyavanyadi</i> followed by decoction is to be added and mixed properly to make homogenous emulsion. This emulsion is heated gently in a water bath.	Given after meal.	

Outcome

After treatment, in left lower limb SLR was increased 40 to 70°, flexion was increased 40 to 70°, backward extension was increased 5 to 15°, adduction was increased 10 to 15° and abduction was increased 20 to 30°. In right lower limb SLR was increased 45 to 80°, flexion was increased 45 to 80°, backward extension was increased 5 to 20°, adduction was increased 15 to 20° and abduction was increased 25 to 35°. Before treatment, the patient was complaining of severe pain in both hip joints and thigh regions and difficulty in walking. After completion of treatment, the pain in both hip joints and thigh regions decreased, range of movement of both hip joints improved, difficulty in walking was much reduced and walking distance also improved.

DISCUSSION

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 Dhātu*. In AVN, the blood (*Rakta Dhātu*) 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 Dhātu*.

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* [10] and is also beneficial in the imbalance of *Pitta*, *Kapha* and *Rakta Dosha* [11].

Panchatiktaka ksheera Basti [12] was planned as it is indicated as a treatment modality in *Asthi pradoshaja vikaras* [13]. *Panchatikta Ksheera Basti* is very effective and proven treatment for avascular necrosis. All ingredients in *Panchatikta Ksheera Basti* are *Tikta Rasa* having predominance of *Vayu* and *Akasha Mahabhuta* (space element); hence it has got resemblance towards body tissue like

Asthi. The decoction made in *Ksheera* which is having *Madhura* and *Snigdha* (oleaginous) properties help to control *Vata Doṣa* and *Pitta Doṣa* and acts as *Bṛimhaṇa* (nourishing). Due to *Sukshma Guna* of *Saindhava* it reaches up to micro channels of the body [14]. In this, *Basti Mahatiktaka Gharita* was used as a *Sneha* and *Tikta Dravyas* are having *Tikta Rasa*, *Ushana Virya* and *Madhura* and *Kaṭu Vipaka* favour normal functioning of *Dhatvagni* (metabolic stage), facilitating increased nutrition to the *Asthi Dhātu* (bony tissue). Thus, it pacifies *Vata*; improves the *Dhātu Upachaya* (metabolism of the tissues) and acts as a rejuvenator of the body.

Yashtimadhu Taila was administered as *Anuvasana Basti* which is having *Madhura Rasa*, *Madhura Vipaka*, *Guru Snigdha Guna*, *Shita Virya*, and having *Vata-Pitta Shamaka* properties [15]. *Yashtimadhu* also helps to increase the blood circulation due to *Rasa Rakta Prasadaka* property. Thus, the combination of these *Panchatikta Ksheera Basti* and *Yashtimadhu Taila Anuvasana Basti* act at different levels in treating avascular necrosis of neck of femur.

Kaishore Guggulu is a drug of choice in *Vatarakta* where obstruction in blood vessels is main pathology. So, here it is very useful for improvement of blood circulation [16].

Dashamula Kvatha is *Tridoshahara*, *Vedana sthapak* and *Sroto Shodhaka*; so, in the condition of AVN, it gives relief in signs and symptoms of disease and in breaking down the *Samprapti* (pathogenesis) of the disease [17].

Ashwagandha possesses *Rasayana* and *Brahmana* properties, so it is useful in all types of *Dhatukshya*. [18]

Chopchini is *Vedanahara*, *Shothanashaka* and able to carry drugs in *Sukshma Srotasa*. So, it helps in decreasing the pain and facilitates the penetration of drugs to deeper tissues like *Asthi Dhātu* [19]. This case study showed that Ayurvedic treatment may be effected in the management of AVN.

CONCLUSION

On the basis of this single case study it can be concluded that *Panchatikta Ksheera Basti*

along with certain palliative medicine of *Ayurvediya* treatment are helpful in the management of avascular necrosis of neck of femur.

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