



MANAGEMENT OF AVASCULAR NECROSIS THROUGH PANCHAKARMA -A CASE STUDY

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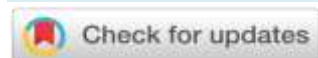
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ABSTRACT

Avascular necrosis of the femoral head (AVNF) is an increasingly common cause of musculoskeletal disability. It is a progressive pathological process, resulting in the death of bone cells of the femur head due to disruption of blood supply to the proximal femur. However, the healing process is usually effective in AVN, and the bone tissue breaks down faster than the body can repair. All the treatment procedures are cost worthy, and the prognosis is poor. Management of AVNF aims to prevent structural deformity, regulate functional activity, and relieve pain. There is no direct diagnostic correlation to AVNF in *Ayurvedic* classics; however, signs and symptoms of AVNF are nearer to *Vatarakta and Asthimajjagata vata* (disorders of musculoskeletal origin). **Objectives: By considering AVNF as Vatarakta, Asthimajjagata vata has attempted** in the present study to evaluate the efficiency of *Ayurvedic* formulation in the conservative management of AVNF. **Method-**A case of AVN with bilateral femoral head presented with complaints of pain in the bilateral hip region with difficulty in routine work, i.e. walking, sitting, squatting, along with a change in gait. Initially, the patient was treated with Manjishatadi Kshara Basti, followed by Manjishatadi Ksheera Basti and Anuvāsana Basti with Panchatikṭaka gritha as per Karma Basti schedule (modified), followed by Shaman *Aushadhi*. **Result-**Patient was observed for symptomatic improvement based on a questionnaire over graded signs & symptoms, also observed for clinical examination before & after treatment, and the therapy provided marked relief from pain, tenderness, stiffness and improvement in the gait & hip joint movements. **Conclusion: The study has shown that conservative management of AVNF can be managed effectively through Ayurvedic principles and improve quality of life.**

Keywords: Avascular Necrosis, Ayurveda, Panchakarma, Vatarakta, Asthimajjagata vata, Basti karma

INTRODUCTION

Avascular necrosis (AVN) is osteonecrosis (dead bone) and is also called Osteochondritis Dissecans/Chandler's Disease in young adults, with 60% of the cases being bilateral. This condition is one of the most challenging problems faced by orthopaedic surgeons. The treatment's objectives include preserving structure, function and relief from pain.^[1] Many surgical procedures such as drilling, insertion of bone grafts, modified Whitman or Colonna reconstruction and insertion of prosthesis are carried out to remedy this condition. In *Ayurveda*, there is no direct correlation for avascular necrosis. It can be understood under *vatarakta* and *asthimajjagata vata*. In the disease *vatarakta*, *vata dosha* gets vitiated, and at the same time, *rakta* gets vitiated by its etiological factors. The vitiated *rakta* produces obstruction to the *vata*. In the later course, the obstructed *Vayu*, in turn, vitiates *rakta dhatu*. In the later stages, there will be *vataprakopa*, which further leads to *kshaya* of *asthi dhatu*, as they have *ashraya ashrayi sambandha*.

MATERIALS AND METHODS

CASE REPORT-

A Male patient named Shivaraj, age 30 years, came to the hospital c/o pain in the b/l hip joint with no h/o DM, HTN, and RTA was healthy six months back.

Examination

TABLE 1

Dashavidha pariksha

<i>Prakrati</i>	<i>Kapha-Pittaja</i>
<i>Sara</i>	<i>Madhyam</i>
<i>Satva</i>	<i>Madhyam</i>
<i>Saatmya</i>	<i>Shad ras saatmya</i>
<i>Ahar Shakti</i>	<i>Madhyam</i>
<i>Abhyavaran Shakti</i>	<i>Madhyam</i>
<i>Vyayama Shakti</i>	<i>Madhyam</i>
<i>Vayah</i>	<i>30 yrs(Madhyam)</i>
<i>Pramana</i>	<i>Madhyam</i>

SAMPRAPTI GHATAKA

<i>Dosha</i>	<i>Vata pradhana tridoshaja</i>
<i>Vata</i>	<i>Vyana</i>
<i>Pitta</i>	<i>Pachaka</i>
<i>Kapha</i>	<i>Shleshaka</i>

Then, one day, while doing his routine, he gradually experienced the complaint mentioned above with stiffness in the bilateral hip region, which is associated with difficulty performing daily routines such as standing, walking, sitting, and squatting.

Onset- gradual

Site - B/L hip region

Type of pain - pulling type of pain

Aggravating factors- during cold weather, walking, standing.

Relieving factors-warm weather, rest

PAST HISTORY-

The patient was treated in a famous hospital in Bengaluru for six months; the doctor at the orthopaedic department diagnosed his problem as stage 3rd AVN of Bilateral Head of Femur with the aid of an MRI (done at that time). Since then, the patient has been taking allopathic treatment for conservative management but could not get any relief from pain and stiffness. The Orthopaedic surgeon recommended the surgical intervention, but the patient was reluctant, and he approached the Government Ayurvedic Medical College and Hospital, Bangalore, for an alternative conservative treatment.

Dushya	Dhatu-rakta, mamsa, meda, asthi, majja
	Upadhatu-sira, kandara, sandhi, snayu, tvacha
Agni	Jataragnijanya, dhatugnijanya
Rogamarga	madhyama
Srotas	Rasavaha, raktavaha initially, later involves all dhatus
Srotodusti	sanga
Adhistana	Jangha, uru, kati
Udhhavasthana	Pakvashaya
Vyaktha sthana	Jangha uru kati pradesha
Sanchara sthana	Rasa, raktavahinyah
Swabhava	asukari
Sadhyasadyata	sadhya

TABLE 2
SYSTEMIC EXAMINATION

Gait Changed (walk with support)
Pain in B/L Hip joints +++
Stiffness +++
Pain during Walking +++
Tenderness Second degree over B/L thigh
Movements of joints Restricted
Power of lower limbs Grade 4 bilaterally
Involuntary movements Absent
Raising of lower limb Right leg 100, Left leg 150
Trendelenburg sign Positive

Treatment Protocol Adopted

□ **Koshtha Shuddhi** ^[2] (Instant Purgation) A Day before the start of *Basti karma*, *Gandharvahastadi* A 30 ml tail was given orally to *Koshtha Shuddhi*.

□ **Niruha Basti** (Decoction Enema) *Manjishtadi Kshara* and *Manjishtadi Ksheera Basti*- A total 12 dose of *Niruha Basti* were administered which initially six doses of *Manjishtadi Kshara Basti* were administered later then, six doses of *Manjishtadi Ksheera Basti* were administered according to *Basti yogas* (Table-4)

Administration of *Basti* was done on the basis of *Karma Basti*^[3] schedule (modified) (Table-3) Table-3 *Karma Basti* Schedule (modified)

Anuvasana Basti (Oil Enema)

According to *Karma Basti* (modified schedule), a total of 18 doses of *Anuvasana Basti* of *Panchatik-taka Ghrita* 60ml in dose was administered. (Table 4).

□ **Shaman aushadhi** (Given after *Basti karma*)
o *Manjishthadi Kwatha* 20 ml BD for 15 days
o *Kaishore Guggulu* 1-tab TID for 15 days

o *Agnitundi Vati* (125mg) 1 tab BD for eight days

ASSESSMENT CRITERIA & RESULT

Assessment was done based on scoring of subjective parameters (Table 6) & Observation.

(Table-7)

Table 6 Assessment before, during and after treatment

Table-7 Observation

Assessment was done based on subjective criteria, signs and symptoms. Pain and stiffness were markedly reduced after the *Karma Basti* (modified) course. After completion of the treatment, the patient was able to walk without support, tenderness was comparatively reduced, leg raising was up to 60⁰, and there was a change in gait.

was observed, and the Trendelenburg sign was negative (Table 6); all the restricted.

movements of bilateral hip joints were significantly improved.

Table-3
KARMA BASTI SCHEDULE

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
MORN- ING		MN J KS AR	MN J KS AR	MN J KS AR	MN J KS AR	MN J KS AR	MN J KS AR	MN J KS R	MN J KS R	MN J KS R	MN J KS R	MN J KS R	MN J KS R					
EVEN- ING	A B	A B	A B	A B	A B	A B	A B	AB B	AB B	AB B	AB B	AB B	AB B	A B	A B	A B	A B	A B

MNJKSAR-Manjishtadi kshara basti, MNJKSIR-Manjishtadi ksheera basti, AB-Anuvasana Basti

Table-4
Description of Basti yoga

Manjishtadi kshara basti	Manjishtadi ksheera basti
<i>Madhu 60ml</i> <i>Saindhava 6 gm</i> <i>Panchatiktaka Ghrita 80 ml</i> <i>Shatpushpa Kalka+</i> <i>Ashwagandha Kalka- 40gms</i> <i>Manjishtadi Kwatha 280 ml</i> <i>Gomutra Arka (Avapa dravya) 20 ml</i>	<i>Madhu 60 ml</i> <i>Saindhava 6 gm</i> <i>Panchatiktaka Ghrita 80 ml</i> <i>Shatpushpa Kalka+</i> <i>Ashwagandha Kalka - 40gms</i> <i>Panchatikta ksheera Kwatha 300ml</i>
Total 486ml	Total 486ml

Table-5
Grading of Subjective Parameter

S.N Symptom Criteria Grade	S.N. Symptoms Criteria Grade
1 Pain No pain while walking 0. Mild pain while walking 1. Moderate pain while walking 2 severe pain while walking 3	4. Radiating Pain never Pain radiates 0. Occasionally radiating 1 Mostly radiating 2 Radiating all the time 3
2 Stiffness No stiffness 0 Stiffness for 10 -30 min 1 Stiffness for 30 -60 min 2 Stiffness more than 1 hr. 3	5. Gait Unchanged 0 Occasionally Changed 1 Walk with support 2. Unable to walk 3
3 Movements Normal 0 Of joints Mildly restricted 1 Moderately restricted 2 Severely restricted 3	6. Tenderness no tenderness 0 mild tenderness to palpate 1 mild tenderness with grimace and flinch to moderate palpation 2 severe tenderness with withdrawal 3 severe tenderness with withdrawal from noxious stimuli 4

TABLE - 6
Assessment before, during and after treatment

Criteria	0 th day	18 ^h day	27 th day	36 th day
Pain	3	2	1	1
Stiffness	3	1	1	1
Movement Of joints	3	2	1	1
Radiating Pain	2	1	1	0
Gait	3	2	2	1
Tenderness	2	1	1	1
Trendelenburg Sign	Positive	Negative	Negative	Negative
SLR Test	Rt. leg 10 ⁰ Lt. leg 15 ⁰	Rt. leg 20 ⁰ Lt. leg 30 ⁰	Rt. leg 45 ⁰ Lt. leg 50 ⁰	Rt. leg 55 ⁰ Lt. leg 60 ⁰

Table-7
Observation of hip joint movements

	Sign & Symptoms	Before Treatment	After Treatment
1)	Flexion of Hip Joint	No	Yes
2)	Extension of Hip Joint	No	Yes
3)	Abduction of Hip Joint	No	Yes
4)	Adduction of Hip Joint	No	Yes
5)	Medial Rotation	No	Yes
6)	Lateral Rotation	No	Yes

DISCUSSION

According to the Ayurvedic point of view, there is no direct correlation with avascular necrosis. Still, the clinical presentation shows Vata dosha is dominant along with Kapha dosha and Vikrati (vitiation) of Asthi Dhatu. This can be taken as a Gambhira cataract. In AVN, the blood supply to the femoral head is decreased due to any Margavarana [4] or Abhighata, ultimately leading to necrosis. Margavarana is also responsible for aggravating Vata Dosha and increasing Vata Dosha, resulting in Kshaya (loss) of Asthi Dhatu. In the advanced stage, due to continuous Vata Dosha (due to necrosis), Imbalance is further responsible for the vitiation of Pitta and Rakta, so here Basti is a choice of treatment for AVN in all Panchakarma of Vata Dosha as well as Pitta, Kapha Dosha and Rakta also [5]. Procedures because Basti is the first line of treatment of Vata Dosha and Pitta, Kapha Dosha and Rakta.

Considering the history and examination of the patient, treatment was planned with a chikitsa karma (treatment plan).

- Koshtha Shudhhi with Gandhrvahastadi Tail was done a day before Basti karma to remove faecal

materials and better assimilate the Basti dravyas quickly into the intestine.

- Presentation of the patient with pain and stiffness in the bilateral anterior hip to knee region showed the involvement of Kaphavritta Vata dosha associated with asthivaha srotas (disorders of musculoskeletal origin). Hence, initially, Kshara Basti [6] contained Manjishtadi Kwatha (Decoction) & Gomutra [7] as Avapa Dravya, owing to its Katu Rasa, Katu Vipaka, Ushna, Virya, Laghu, Rukhsha, Tikshna Guna, to pacify Kapha Dosha and Srotovishodhana and Vata anulomana, were administered [8].
- Manjishtadi Kshir Basti [9] is a very effective treatment for AVN. The Decoction made in Kshira, which has Madhura and Snigdha properties, helps to control Vata Dosha, and due to Shukshma guna of Saindhava, it reaches up to microchannels of the body and helps to open fresh blood supply to the bone tissue. In this Basti, Tikta Dravyas having Tikta Rasa, Ushna Virya, Madhura, and Katu Vipaka favours normal functioning of Dhatvagni [10] (metabolic stage), facilitating increased nutrition to the Asthi Dhatu. Ghritha [11] is Vatashamaka, Madhura, Shita Virya. Thus, it pacifies Vata, improves the Dhatu Upacha-

ya(tissue metabolism), and acts as a body rejuvenator. *Ghritha* has the properties of *Sanskarasya Anuvartana*(that which inherits the properties of another drug without altering itself), precipitating the bioavailability of different medications. Hence, it helps in *Samprapti Vighatana*(breaking down of pathology) of *Asthi Kshaya*. *Panchatiktaka Gritha* is specially indicated in *Asthisandhimajja vikaras*, which comprises tikta dravyas, hence given in Anuvasana Basti.

- The Kalka dravya Ashwagandha [12](*Withania somnifera* Linn.) possesses *balsa,rasayan* and *dhatuposhaka* properties. It reduces inflammation of the Joints. The other Kalka dravya of Shatapushpa (*Anethum sowa*/*Anethum radiodense*) has quality of *Deepana*, *Pachana* and *Vatanulomna*; it helps to regulate *Apana Vayu* and is widely used in *Basti*.
- *Manjishtha* ^[13-15](*Rubia cordifolia*) has *Ushna Guna* *Madhur,tikta*, and *Kashaya Rasa* and possesses qualities of *antioxidant & anti-inflammatory*, which reduces inflammation & pain in joints & maintain normal blood flow and favour smooth blood supply to the bone.
- *Kaishor Guggulu* ^[16] is a drug of choice in *Vatarakta* in which obstruction in blood vessels is the primary pathology. So, here, it is beneficial for the improvement of blood circulation.
- *Agnitundi Vati* ^[17] has *Deepana*, *Pachana*, *Vatahara* and *Shoolaghna* in properties. *Kupeelu* ^[18](*Strychnos nux vomica* Linn.) is the primary content of the drug, which is more effective in nervous disorders. It improves the stimulatory function of *vata*(raising physiological and nervous activity levels in the body).

CONCLUSION

AVN in the Present era is becoming a health status burden due to the non-availability of treatment plans except surgery in modern medicine. Avascular Necrosis of the head of the femur was treated in terms of *Indiana* (aetiology), *dosha*(dysfunction), and *dusty* (target cells)as well and the stages of progress of the disease and further deterioration were also checked by using *Ayurvedic* formulation. The case study shows successful conservative management of the stage 2nd AVN of the head of the femur. Such a *Basti* regimen can rejuvenate, further help alleviate

dhatukshaya caused by *Vata dosha*, and may aid in neovascularization. The therapy provided marked relief from pain, tenderness and stiffness and improved hip joint gait and range of motion. The result was encouraging. The gait of AVN did not worsen and was maintained, as seen during the follow-up. The therapy is cost-effective.

Conservative management of AVN through *Ayurvedic* principles provides significant relief and improves quality of life.

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