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Effect of *Basti Karma* in the Management of Avascular Necrosis of Femoral Head - A Case Study

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ABSTRACT

PURPOSE

Avascular Necrosis (AVN) is a disease affecting bone due to temporary or permanent cessation of the blood supply. AVN is also known as ischemic bone necrosis which finally leads to the destruction of joint. AVN of the femoral head is the most common type among all AVN. In early stages AVN is asymptomatic but as the disease progress there is constant pain with decrease in the function of joints. Although bone grafting, hip replacements, osteotomy etc. are done for the management of AVN but no satisfactory cure has been developed yet, even in early stages. Most of the surgical treatments are cost worthy and have poor prognosis. Hence an effort has been made to evaluate the efficacy of *Basti Karma* in the management of the AVN of femoral head.

METHOD

This is single case study of 60 years old male suffering from pain and stiffness in bilateral hip joints, difficulty in walking and restricted movement of both legs. It was diagnosed case of avascular necrosis of femoral head based on MRI report. As per *Ayurveda* the case was diagnosed as *Asthimajjagata Vata Vikara* and was admitted in the male ward of *Panchkarma*, NIA, and Jaipur. The whole treatment includes *Sarvanga Abhyanga*, *Swedana* for 16 days, *Panchatikta Ksheer Basti* and *Dasmool Anuvasana Basti* in *Kala Basti* Schedule. *Yograj Guggulu*, *Rasnasaptak Kwatha*, *Ashwaghandha Churna*, *Nagaradhya Churna*, *Chopchini Churna* and *Brahma Rasayana* for 30 days was given as *Shamana Chikitsa*. Assessment was done on the basis of sign and symptoms.

RESULT

The therapy provided marked relief in pain and stiffness along with improvement in gait and difficulty in walking was reduced



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CONCLUSION

On the basis of this case study it can be concluded that *Basti Karma* along with *Shamana Chikitsa* is effective in the management of AVN of femoral head. Since the single case is not enough more rooted study in this is required.

KEYWORDS

Basti Karma, Avascular Necrosis of Femoral Head



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INTRODUCTION

Avascular necrosis (AVN) is the chronic, degenerative disease characterized by the temporary or permanent suppression of the blood supply causing collapse of subchondral bone and secondary destructive arthropathy¹. Several factors like trauma, genetic factors, metabolic factors, use of glucocorticoids, diseases that promotes hypercoagulable states are the etiological factors of AVN^{2, 3}. AVN is difficult to diagnose in early stages from clinical findings and plain radiograph so early MRI should be done to verify clinical suspicion⁴. AVN of the femoral head is the most common type. In early stages AVN is asymptomatic but as the disease progress there is constant pain in affected joints with decrease in the function of joints. 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 coughing⁵. Factors like pain in lower limbs, alcohol history, hidden diseases, disease of lower limbs etc may lead to the misdiagnosis of the AVN⁶. Modern treatment modalities like arthroplasty, femoral head graft, hip compression, hip replacement, osteotomy, etc. having higher failure rate^{7,8,9}.

On the basis of *Dosha* and *Dushya* avascular necrosis resembles with *Asthi*

majjagata Vata. Due to vitiation of *Vata* residing in *Asthi* and *Majja* causes several symptoms like severe pain in small and big joints, wasting of muscles and bones, constant body pain, disturbed sleep etc are found¹⁰. *Asthimajjagata Vata* can be cured if treated in acute stage but it becomes difficult for the complete recovery in chronic stages¹¹. Since all the surgical treatments are cost worthy and having poor prognosis on AVN an effort is made to evaluate the efficacy of *Basti Karma* in the management of the AVN of femoral head.

CASE REPORT

This is a case study of 60 years old farmer who came to OPD of *Panchakarma* Department, NIA, Jaipur (Reg. no. 42618062018) with complaints of pain and stiffness in bilateral hip joints, pain radiating to bilateral knee joint, restricted movement of both lower limbs and difficulty in walking for past 13 years. His condition gradually worsened and he was unable to walk without support after 4 years. Symptoms were aggravated by cold climate, supine posture and during night hours and got relieved by warm weather. He visited to orthopaedic department where he was diagnosed as avascular necrosis of femoral head from MRI and was advised for surgical intervention, which he refused.



Then he came at *Panchakarma* Department, NIA for the Ayurveda treatment. There was history of alcohol for 15 years and used to intake nearly 200 ml of alcohol daily. There was no any significant past history of DM, STDs, HIV, traumatic injury etc. Astavidha Pariksha and Systemic examination was done. [Table 1, Table 2]

Table 1 *Astavidha Pariksha*

<i>Astavidha Pariksha</i>	
<i>Nadi</i>	76 bpm
<i>Mala</i>	<i>Samayak</i>
<i>Mutra</i>	<i>Samayak</i>
<i>Jivha</i>	<i>Niram</i>
<i>Shabda</i>	<i>Spasta</i>
<i>Sparsha</i>	<i>Samshitoshana</i>
<i>Drik</i>	<i>Spasta</i>
<i>Akriti</i>	<i>Krish</i>

Table 2 Systemic Examination

Systemic Examination	
BP	110/70 mm of hg
Temp	98.6 F
Pulse	76 bpm
Resp. Rate	18/min
Wt.	52 kg
Ht.	5'6''
Sleep	Disturbed
Gait	Changed(Walk with support)
Pain in B/L Hip joints	++
Stiffness	++
Pain during walking	++
Movements of joints	Restricted
Altitude of lower limbs	Flexed
Power of lower limbs	Grade 4 bilaterally
Involuntary movements	Absent
Trendelenburg sign	Positive
Raising of lower limbs	up to 20 degree

Investigations-

MRI (dated- 11/04/018) Irregular articular margins with subchondral cyst with adjacent marrow changes in head of femur,

osteochondritis with synovitis with AVN. Hb- 12.4 gm%, ESR- 33 mm/hr., Serology tests- Negative, Other haematological investigations within normal limit.

The case was diagnosed as avascular necrosis of femoral head form radiological imaging. Ficat and Arlet classification was used and diagnosed as 3rd stage avascular necrosis of head. Although newer system of classification has developed the Ficat and Arlet system is the earliest and most widely used classifications hence, also used in this case¹². Patient was admitted at male IPD, *Panchakarma* Department of NIA. The patient was treated on the line of management of *Asthimajjagata Vata Vikara*.

Interventions-

Panchatikta Ksheer Basti along with *Shamana Chikitsa* was given [Table 3]. 10 *Anuvasan* and 6 *Ksheer Basti* was given as per *Kaal Basti* schedule [Table 4]. *Panchatikta Ksheer Basti*¹³ [Table 5] along with *Anuvasana Basti* of *Dashmool Taila* (Prepared in the Pharmacy of NIA) was given in *Kaal Basti* format for 16 days. For *Khseer Basti* initially 50 gm of honey was taken with 5 gm of Rock Salt is added and stirred well. 90 ml of *Tikta Gugglu Grhitam* was added and mixed well. 10 gm *Shatpushpa Kalka* was added in the mixture and was mixed homogenously.

**Table 3** Interventions

Date	Drug	Dose	Frequency	
6/06/18	Yograj Guggul	2tab	Thrice a day	
	Rasna saptak kwath	20ml	Twice a day	
	Ashwaghanda Churna + Nagradhya Churna + Chopchini Churna	2gm 1gm 1gm	Twice a day	
	Brahma Rasayan	5gm	Twice a day	
	7/06/18	Panchatikta Ksheer Basti	400ml 60ml	In Kala Basti
		With Dasmool Taila Anuvasan Basti after Sarvanga Abhyanga Swedana		Format

Table 4 Basti Pattern

Days	1	2	3	4	5	6	7	8
Type of Basti	A	A	K	A	K	A	K	A
Days	9	10	11	12	13	14	15	16
Type of Basti	K	A	K	A	K	A	A	A

A= Anuvasan Basti, K = Ksheer Basti

Table 5 Ingredients of Panchatikta Ksheer Basti

Dravya(Materials)	Quantity
Madhu(Honey)	50 ml.
Saindhav Lavana(Rock Salt)	5 gm.
Tiktagugglu grhitam(Medicated Ghee)	90 ml
Shatpuspa Kalka	10gm
Panchatikta Kwatha + Ksheer(Milk)	400ml

Panchatikta Ksheer Kwath was prepared by Ksheerpaka Vidhi. Finally 400 ml of prepared Panchatikta Ksheer Kwatha was added, mixed well and homogenous mixture was obtained. Obtained mixture was filtered, kept in Basti Putak and was made Luke warm and administered to the

patient by Basti netra. Both Anuvasana and Ksheera Basti was properly given as mentioned in the classical Ayurveda texts. Pathya diet was advised to the patient after Basti Karmas.

Assessment Criteria

Assessment was done on the basis of subjective parameters. [Table 6]

Assessment was done on the basis of subjective criteria, signs and symptoms. Pain and morning stiffness was markedly reduced after Kaal Basti course. After completion of the treatment patient was able to walk without support, sleep was occasionally disturbed, leg raising to 50° and trendelenburg sign was negative [Table 7]. After completion of Kaal basti course mild fever was seen for 2 days which was managed conservatively. On discharge patient was advised to continue the medicines for 3 months with Pathya diet.

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 joint¹⁴. Avascular necrosis is usually of traumatic and non traumatic causes. In the most of the cases of AVN causes are unknown are of idiopathic causes. Some non traumatic AVN are found



to be associated with corticosteroid usage, alcoholism, infections, storage disorders, coagulation defects and some autoimmune disease¹⁵.

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 1st line treatment of *Vata Vyadhi*¹⁶. *Snehan* either internal or external is indicated for the disorder of *Asthimajjagata Vata*¹⁷. *Swedana* helps in reducing the heaviness and stiffness¹⁸. *Acharaya Gangadhar*

mentioned administration of *Basti* for the vitiated *Vata* below *Nabhi Pradesh* (Umbilical region)¹⁹. For the treatment of *Asthi Dhatu Panchakarma* is clearly indicated and *Tikta Dravya Siddha Ksheer* (Milk) and *Grihta* is advised²⁰. Hence *Panchatikta Ksheer Basti* along with *Sneha* is used in this case. *Tikta Dravyas* are *Akash* and *Vata Mahabhoota* dominant drugs hence they directly acts on *Asthi* and *Majja Dhatu*. *Grhita* is *Balya* in nature having *Vata-Pitta Shamak* property and also contains vitamin D hence it helps in the regeneration of *Asthi Dhatu*.

Table 6 Grading of Subjective Parameters

S. N	Symptom	Criteria	Grade	S. N	Symptom	Criteria	Grade
1.	Pain	No pain while walking	0	4.	Radiating pain	Pain never radiates	0
		Mild Pain while walking	1			Occasionally radiating	1
		Moderate Pain while walking	2			Mostly radiating	2
		Severe pain while walking	3			Radiating all the time	3
2.	Stiffness	No stiffness	0	5.	Gait	Unchanged	0
		Stiffness for 10-30 min	1			Occasionally changed	1
		Stiffness for 30 – 60 min	2			Walk with support	2
		Stiffness for more than 1 hr	3			Unable to walk	3
3.	Movement of joints	Normal	0	6.	Sleep	Normal	0
		Mildly restricted	1			Occasionally disturbed	1
		Moderately restricted	2			Frequently disturbed	2
		Severely restricted	3			Unable to sleep due to pain	3

Ksheer (Milk) have *Madhur* and *Snighdha* property which helps in the nourishment of *Asthi* (joints and bones). *Ashwagandha* acts as *Balya*, *Rasayana* and *Dhatuposhaka* drug. *Chopachini* having property of

Shothahara (anti-inflammatory) *Vedanahara* (analgesic) and acts on the *Sukshma Srotsas* of the body. *Nagradhya Churna* having anti-inflammatory and neuroprotective action due to its *Madhur*,



Ushna and *Snigdha* property. *Dasmool Taila* having *Vatahar*, *Balya* and *Brihman* properties due to its *Sneha Guna*. *Rasna Saptak Kwath* having *Vatahara Guna* and anti-inflammatory in action. Thus *Panchakarma* along with internal medicine and *Pathya* diet shows marked improvement in the avascular necrosis of femoral head.

Table 7 Assessment before and after treatment

	Before	After 16 days	After 30 days
Pain	3	1	1
Radiating pain	3	1	0
Stiffness	3	1	1
Movement of joints	2	1	1
Gait	2	1	1
Sleep	2	1	1
SLR	20°	50°	50°
Trendelenburg sign	Positive	Negative	Negative

AVN causes are unknown are of idiopathic causes. Some non-traumatic AVN are found to be associated with corticosteroid usage, alcoholism, infections, storage disorders, coagulation defects and some autoimmune disease¹⁵.

Here the Avascular necrosis of femoral head on the basis of sign, symptoms, *Dosha* and *Dushya* is treated on the line of *Asthimajagata Vata Vikara*. *Snehana* and *Swedana* is considered as the 1st line treatment of *Vata Vyadhi*¹⁶. *Snehan* either internal or external is indicated for the disorder of *Asthimajagata Vata*¹⁷. *Swedana* helps in reducing the heaviness and stiffness¹⁸. *Acharaya Gangadhar*

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CONCLUSION

Panchatikta Ksheer Basti along with *Anuvasana Basti* shows remarkable symptomatic relief in the features of avascular necrosis of femoral head. The case indicates that when treatment is done on the base of *Ayurveda* guidelines avascular necrosis can be effectively managed and patient's quality of life can be enhanced. The results need to be studied in more numbers of populations for the better assessment.

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CONFLICT OF INTEREST:

There is no conflict of interest.



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