

AVASCULAR NECROSIS - A CASE REPORT

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ABSTRACT

Avascular Necrosis (AVN) is a pathological process that result from interruption of the blood supply to bone thus causes painful limitations of joint movement. There are different causes of AVN that weakens the bone and harm blood vessels. In *Ayurved* AVN can be correlated with *Vankshananaha*. Correlation of AVN can also be made as dominant involvement of *Vankshan* according to Charak which had been stated under *Nanatmaj Vata Vyadhi*. He further explained two main causes of *Vata Prakopa viz Dhatukshaya* and *Margavarodha*. Management of such diseases depends on factors involved like *Dosha, Dushya, Adhishthan and Nidan*. As well as *Dhatukshaya* and

Margavarodha has importace in the management. *Samanya Chikitsa Sidhhant* of *Vatavyadhi* and *Asthimajjagatavata* can be applied for the better management of AVN. Already diagnosed case of AVN of both hip joints came to our institute with complaints of *Ubhaya Vankshan Sandhi Shoola Avum Graha, Ubhay Janu Sandhi Shoola, Chankramankashtata*, muscle wasting of both thighs etc having history of chronic alcoholism. He was managed with *Asthi-Majja –Rakta Pachak Kvath Sidhha-Majjabasti, Pindasveda, Jalaaukavacharana* and some *Shaman* drugs. Observations and results obtained were encouraging and assessed on different parameters which are presented in full paper.

KEYWORDS: AVN, *Vankshananaha, Asthimajjagatvata, Asthi-Majja-Rakta Pachak Kvath Sidhha-basti* and *Pindasveda*.

INTRODUCTION

Avascular Necrosis also known as Osteonecrosis, aseptic necrosis and bone death; is a pathological process that results from interruption of blood supply to the bone. AVN causes deformation of the bone this leads to secondary osteoarthritis a few years later thus causes painful limitation of joint movement. Head of femur, proximal pole of scaphoid, body of talus are the sites where AVN commonly occur. Different causes of AVN includes alcoholism, Gauchers disease, sickle cell anaemia, decompression sickness, trauma or injury to bone, it is late complication of bone fracture, steroids, hypothyroidism, extravascular and intravascular blood supply, fat metabolism, prolonged cancer treatment therapy like radiation that weaken the bone and harm blood vessels.^[1]

AVN may be prevented by early energetic reduction of susceptible fractures and dislocations, once it has occurred following treatment options remains.^[2] Excisions of AVN segment and total joint replacement or arthodesis are the treatment modalities available from modern point of view in AVN. For pain management tablet ultracet may be given.^[3]

In *Ayurved* Avascular necrosis can be correlated with *Vankshananaha*, which had been depicted by *Charak*.^[4] While *Vagbhat* included it as one of the diseases of *Madhyam Rogamarga*.^[5] *Charak* stated that *Ativyayam*(Excessive Exercise), *Atisankshobh*(Excessive Trauma), *Asthivighatanat*(Fracture)^[8] *Ruksha*, *Shit*, *Laghu Aahar*, *Atijagrana*(Excessive Sleeplessness)^[6], *Abhighat*, *Virudhahar*, *Utkshepanat*^[7] *Vidahi*, *Drava* and *Ushna Annapana*, *Atap* and *Anil Sevan* are the factors responsible for *Vankshananaha* and *Trikagraha*.^{[6][7][8][9]} He has included it in *Apatarpanjanya Roga*.^[10] He also included it in *Asthipradoshaj* and *Majjapradoshaj Roga*.^[11] Symptomatic similarity of AVN seems like *Majja-Avritta Vata*.^[12] *Charak* stated two main causes of *Vataprakopa* as *Dhatukshayajanya* and *Margavarodhajanya*.^[13] *Dhatukshaya Janya Aahar-Vihar Atisevan*, *Vayu Prakop* and vitiated *Vayu Dosh* in *Khavaigunya* in *Vankshan Sandhi* and mixed with *Pitta* and *Kapha*.^[14] There is *Dusti* of *Vyan* and *Apan Vayu*, *Ranjak Pitta*, *Avalambak* and *Shleshak Kapha* as stated by *Vagbhat*.^[15] *Charak* mentioned the treatment of *Asthimajjagatvata* as *Bahyabhantar Snehan*.^[16]

A Case Profile

A 30 year male already diagnosed with Avascular Necrosis came to our institute for management. He had complaints of *Ubhay Vankshan Shool Avum Graham*,

Chankramankashtata, Asanuthapankashtata since 4 months. Patient was taking NSAIDs but was not having relief. Orthopaedic surgeon advised him Hip replacement.

Past illness: No history of past illness.

Past medicinal history: Patient was taking tablet ultraset 1 O.D., tablet Rantac 150 mg 1BD, tablet diclofenac 50 mg 1 BD, tablet osto-far 75 mg 1 OD since 2 month.

Present medicinal history: No

Past hospitalisation: No

Family history: No specific

Personal habit: Alcoholic since 10 years, Quantity-180 ml daily

Ahar: Katu Ras Pradhan, mixed diet (non-vegetarian once a week), *Vishmashan, Paryushit Ahar Sevan.*

Vihar: Works at Stationary shop (standing work) 8hr/day

Ashtavidh Parikshana

1. **Nadi:** 74/min, Regular
2. **Mala:** Samyak Malpravritti
3. **Mutra:** Samyak Mutrapravritti
4. **Jivha:** Nirama
5. **Shabda:** Spashta
6. **Sparsha:** Samshitoshna
7. **Drika:** Prakrit
8. **Aakriti:** Krisha, Underweight BMI-17

Urah Avum Udar Parikshana

- **Urah Parikshana:** Doesn't reveal any abnormality

B.P.: 110/80 mm of hg, HR- S1 & S2 Normal

- **Udar Parikshan:** Shape of abdomen- Normal
- P/A- Liver- Tender and palpable 2 fingers. Spleen- NT, NP

Heamatological examination

CBC and ESR: WNL

Blood sugar level

1. BSL Fasting: 92mg/dl
2. BSL Post-prandial: 112 mg/dl

Liver function test

1. Total Bilirubin: 0.89
2. Direct Bilirubin: 0.23
3. Indirect Bilirubin: 0.66
4. SGPT: 31.2
5. SGOT: 25
6. Alkaline phosphate: 184
7. GGT: 17.4.

Lipid profile: Within normal limits

PTINR

PT – 18 sec, INR- 1.2
B.T.- 1.30 min, C.T.- 3.30 min
Sickling test: Negative

Urine examination: Within normal limits

Radiological examination

MRI of Pelvis and both hip joints: Finding s/o bilateral stage – 2 to 3 Avascular necrosis involving both femoral heads.

Management

1. Nidan Parivarjan and Pathyapathya were explained and patient was observed closely.
2. Initially the combination of Asthimajja and Rakta Pachak Kwath 20 ml BD for 5 days was given to increase Dhatvagnimandya.
3. Drakshasava 20 ml BD and Syr. Beliver 10 ml TDS were added as a treatment of Madatyaya.
4. Raktamokshan by Jalokavacharan was done in both hip joints on 5th day.
5. Pindsveda for Brimhan and Muscle wasting was given for 15 days from 6th day.
6. Asthi-Majja-Rakta Pachak Kwath (Guduchi, Amalaki, Musta, Patol, Sariva, Patha, Kutaki) Sidhha Majjabasti 90 ml was given for 15 days from 6th day.
7. Capsule Porotin 1 BD and Capsul Repaire 1 BD along with Asthishrinkhala Sidhha Kshirpaka 20 ml BD was given for 15 days from 6th day.

OBSERVATIONS AND RESULTS

Table-1: Table Showing the Effect of Therapy on Pain by Visual Anoulogus Scale (VAS).

Parameter	B.T.	A.T.
VAS	08	04

Table-2: Table Showing the Effect of Therapy on GALS Examination Before Treatment.

SN	Joints		Pain	Tender	Swelling	Temp	Movement	Crepitus
1.	Shoulder	Right	-	-	-	-	N	-
		Left	-	-	-	-	N	-
2.	Elbow	Right	-	-	-	-	N	-
		Left	-	-	-	-	N	-
3	Wrist	Right	-	-	-	-	N	-
		Left	-	-	-	-	N	-
4.	Hip	Right	+	+	-	-	Restricted	-
		Left	+	+	-	-	Restricted	-
5.	Knee	Right	+	+	-	-	-	-
		Left	+	+	-	-	-	-
6.	Ankle	Right	-	-	-	-	N	-
		Left	-	-	-	-	N	-
7.	Metacarpophalangeal	Right	-	-	-	-	N	-
		Left	-	-	-	-	N	-
8.	Tarsophalangeal	Right	-	-	-	-	N	-
		Left	-	-	-	-	N	-

Table-2 A: Table Showing the Effect of Therapy on GALS Examination After Treatment.

SN	Joints		Pain	Tender	Swelling	Temp	Movement	Crepitus
1.	Hip	Right	+	-	-	-	Restriction decreased	-
		Left	+	-	-	-	Restriction decreased	-
2.	Knee	Right	-	-	-	-	-	-
		Left	-	-	-	-	-	-
3.	Ankle	Right	-	-	-	-	N	-
		Left	-	-	-	-	N	-
4.	Tarsophalangeal	Right	-	-	-	-	N	-
		Left	-	-	-	-	N	-

Table 3: Table Showing Effect of Therapy on Deep Tendon Reflex (DTR).

SN	Reflexes	Left (BT)	Left (AT)	Right (BT)	Right (AT)
1.	Biceps	+++	+++	+++	+++
2.	Triceps	+++	+++	+++	+++
3.	Supinator	+++	+++	+++	+++
4.	Brachioradialis	+++	+++	+++	+++
5.	Knee	+++	+++	+++	+++
6.	Ankle	+++	+++	+++	+++
7.	Babinskis sign	Normal	Normal	Normal	Normal

Table 4: Table Showing Effect of Therapy on Dimensions.

SN	Dimensions	BT Right	BT Left	AT Right	AT Left
1.	10 cm above patella	38cm	38cm	38cm	38.5cm
2.	16 cm above patella	36cm	36.5cm	36cm	37cm
3.	20 cm above patella	31cm	32cm	31cm	32cm
4.	16 cm below patella	27cm	27.5cm	27cm	27.5cm

Table-5: Table Showing Effect of Therapy on Goniometric Angle of Joints Involved in Degree.

Joints Involved	BT	BT	AT	AT	Normal Range (Values in degree)
	Right	Left	Right	Left	
Flexion	110	120	120	120	115-125
Extension	20	15	25	20	10-30
Abduction	25	25	25	25	40-50
Adduction	24	24	24	25	20-30
Mid. Rotation	30	25	30	25	35-50
Lat. Rotation	25	25	25	25	35-50
Knee joint					
Extension	140	140	140	140	135
Flexion	140	140	140	140	140-0

Table-6: Table Showing Effect of Therapy on Time Required for 50 meter Walk.

SN	BT	AT
1.	1 min 45 sec	1 min 30 sec

DISCUSSION

Ayurvedic fundamentals suggests to treat *Vata Vyadhi* by considering the state of disease viz. *Dhatukshaya* and *Margavarodhjanya* depending on vitiated status of *Dosha*, *Dhushya* and *Adhithana*. Keeping this concept of management in mind, the said patient was treated. In this patient necrosis of femur head was occurred that can be resulted due to *Margavarodha*. *Sandhishula*, *Mansbalakshaya*, *Santata Ruk* were also found in this case might have been resulted due to *Dhatukshayaj*. Obstruction of *Rasa and Rakta Dhatu* might have been lead to

Dhatukshaya of further *Dhatu* with respect to *Kedarkulyanyaya*.^[17] Symptoms of *Asthi* and *Majjagat Vata* were found dominantly in this case.

Considering the fact that the manifestation of AVN in this patient was mainly due chronic alcoholism, that might have resulted *Avarodhajanya* Samprapti leading to lack of blood supply to hip joint and hence necrosis of hip joint. *Dipan and Pachan* drugs were given for enhancement of *Dhatvagni*. To revert this obstruction, *Sthanik Jalaukavachana* was done and relief in the local pain and stiffness up to some extent was noted immediately after *Jalaukavacharana*. But the nourishment of that affected joint in terms of *Rasa, Rakta, Asthi, Majja* and *Mamsa Kshaya* was also aimed along with correction of alleviated *Vata*. So *Pindasveda* and *Asthi-Majja-Rakta Pachak Kwath Sidhha Majjabasti* were administered for consecutive 15 days. Some *Shaman* drugs were also given in this case along the duration of treatment. This line of treatment in this patient was turned to be successful as the signs and symptoms along with increase in circumference of thighs were noted to be positively changed.^[18] After treatment assessment on VAS, Goniometric angles and 50 meter walk were also noted to be positively improved.

CONCLUSION

The combination of this *Ayurvedic* treatment can be helpful in treating the cases of AVN, however the trial was on only one patient and multiple such cases can be taken for study by similar line of management.

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