



Case Study

A CASE STUDY ON THE EFFECT OF *GUDUCHYADI YAPANA VASTI* IN AVASCULAR NECROSIS OF HIP JOINT Vasu ray^{1*}, D.Venkata Krishna Naik¹, J Srinivasulu², N. Satya Prasad²

¹PG Scholar, ²Reader, PG Dept. of Kayachikitsa, Dr.BRKR.Govt. Ayurvedic College & Hospital, Hyderabad, Telangana, India.

KEYWORDS: Ayurveda, *Samprapativighatana*, AVN, *Margavarodha*, *Sandhivata*, *Yapana Vasti*.

ABSTRACT

Ayurveda being evidence based science mentioned *Samprapti vighatana* as a mode of treatment which can be applied in so many diseases evolving in this era. Avascular necrosis (AVN) is one of the rare, progressive disease conditions of the bone which require a life time management. It affects the bones of the joints particularly at their ends. Here death of the bone tissue occurs due to lack of blood supply. It is mainly idiopathic in nature and some of the causes that may lead to AVN are long term use of steroids, excess intake of alcohol and some autoimmune disease. Long term use of steroids and joint replacement are the only way of management in modern medical science. This gives scope to find other alternative treatment measures to rescue the patients from harmful effects of steroids.

In Ayurveda AVN can be compared to that of *Margavarodha janyasandhivata*, a disease manifesting due to *Srotodushti* of *Asthidhatu* caused by *Vatavridhi*. The objectives of the treatment include preservation of the structure and symptomatic relief. The treatment opted/suggested in this condition in Ayurveda includes *Srotoshodhana* thereby increasing the vascularity as well as nutritional supplementation to *Asthi Dhatu*.

The present study has been conducted on a patient suffering from AVN of the Hip joint since 2 years which is idiopathic in origin. The treatment plan includes *Abhyanga* followed by *Patrapatali pindasweda*, followed by *Guduchyadi yaapanavasti* for 14 days. The drugs of the *Guduchyadi yaapanavasti* are known to be effective in clearing channels as well as in alleviating *Vata*. Patient got marked relief from pain, tenderness and gait is improved. The pathogenesis, mode of action of the treatment, results are discussed in detail in full paper.

*Address for correspondence

Dr. Vasu Rai

PG scholar

Pg dept of Kayachikitsa

Dr BRKR Govt. Ayurvedic College

Hyderabad – 500038

Email: drvaivasu@gmail.com

Mob: 08019724103

INTRODUCTION

Bone is a living tissue that provides structural support to the body. It performs the functions of movement, protection and storage of minerals. Among the many diseases that affect the bone tissue Avascular necrosis is one in which bone tissue is necrosed due to injury or occlusion in the arteries nourishing the bone tissue. This Disease may affect an individual bone as well as joint. Of all the joints in the body, the hip is the joint most commonly affected by AVN.

The chief blood supply for the hip joint is through the branches of lateral circumflex arteries, which enter the capsule at its distal attachment and pass with the reflected capsule proximally along the posterior surface of femur enroot to the femoral head, nutrient branches penetrate the femoral neck and as the femoral head is approached the nutrient vessels become fewer in number and of smaller caliber^{1,2}.

Causes

There are many theories about what causes Avascular necrosis, but the risk factors includes,

alcoholism³, excessive steroid use, post trauma, chemotherapy, vascular compression⁴, arterial embolism and thrombosis, sickle cell anemia, hypertension, rheumatoid arthritis and lupus are also common causes of AVN. Osteonecrosis or AVN may be classified mainly into two types

- 1) Traumatic
- 2) Idiopathic

1. Traumatic AVN: Traumatic AVN develops when the blood supply is interrupted by trauma that produces a fracture through the femoral neck or head or tears the posterior capsule, as in a dislocation of the hip. When the peripheral vessels of the femoral neck are shut off, the integrity of the centrally situated vessels become all important in the effecting a union and in re-establishing circulation to the femoral head. Therefore it is essential to obtain adequate reduction and fixation to protect the newly developed vascular reparative tissue that extends upward the intramedullary

portion of the distal bone. Initially the bone remains unaltered. Only the lacunae are empty to contain osteocytes showing necrobiotic changes, and the marrow is transformed rapidly into formless debris. This explains the normal roentgen graphic picture.

2. Idiopathic AVN: Idiopathic AVN is most common now days, it was formerly regarded as rare, but is now being recognized with increasing frequency. Its aetiology is unknown. Pathologically it is characterized by infarction of the antero-superior weight bearing portion of the femoral head followed by spontaneous repair, which is interrupted by a sub-chondral fracture, collapse, and compaction and fragmentation osteo-arthritic changes.

Prevalence

The exact prevalence of this disease is relatively uncommon, but its incidence occur at the ration of 4:1 to male & female. The male to female ration varies depending upon the associated comorbidities for ex: alcohol associated osteonecrosis is more common in men, while osteonecrosis associated with systemic lupus erythematous (SLE) is more common in women. The problem of osteoporosis in INDIA remained neglected for a long time for two important reasons: 1.The average life expectancy in our country at independence was 47 years, and 2.Osteoporosis, till recently was considered as an inevitable consequence of aging with no treatment available. With increasing numbers of elderly in India, osteoporosis is emerging as an important public health problem⁵

Pathogenesis

The pathogenesis of osteonecrosis is an area of controversy. Most experts believe that it is the result of the combined effects of genetic predisposition, metabolic factors and local factors, affecting blood supply, such as vascular damage, increased interosseous pressure, and mechanical stresses. The mechanism responsible for the osseous infarction is fat embolism and intravascular fat globules are often found in resected femoral heads in idiopathic necrosis. It probably begins by and interruption of the blood circulation within the bone, subsequently the adjacent area becomes hyperemic, resulting in demineralization in trabecular thinning and later in collapse.

Symptoms and objective findings vary according to the stage of the disease initially it is asymptomatic in stage 1 and 2.

In stage 3 intermittent pain in the groin radiating to the inner aspect of the thigh is seen. The gait remains normal and the range of hip moment is limited at extremes. Slight muscle atrophy may be seen.

After mild intermittent pain for several months, a sudden increase of pain is felt, a crunch is felt with each step and a support is required while walking. Physical finding are those of osteoarthritis of the hip in stage 5.

In stage 6 pain is intense. Entire hip is severely degenerated. InfRACTED area is compressed, flattened and disintegrated.

X-rays findings show a wedge shaped area of osteonecrosis at the antero superior aspect of the subchondral region of the femoral head. Just beneath the roof and upper edge of the acetabulum. MRI confirms the diagnosis.

AVN is clinically characterized by a gradual onset of pain in motion relieved by rest in the affected joint at times leading to the muscle spasms.

Treatment

The objectives of treatment include the preservation of structure & function and the relief of pain. Surgical intervention at the earliest moment is mandatory. In the earlier asymptomatic cases if there is any evidence of viability of articular cartilage and vascularity is good, conservative treatment mainly non-weight bearing 9-6 months may allow spontaneous reconstitution of the bone. Surgical treatments that are available includes drilling & insertion at bone graft, osteotomy, modified Whitman or Colonna reconstruction and insertion of prosthesis (conventional total hip replacement).

In Ayurveda, there is no mention of any disease resembling to that of Avascular necrosis of hip joint, but this condition can be compared to that of "*MargavarodhajanyaSandhivata*"⁶ a disease manifesting due to *Srotodhusti* of *Asthidathu* caused by *Vatavyadhi*. The *Nidanas* of the *Asthivaha Srotodusti* can be considered as the aetiology for this condition.

The Nidanas may include

- Ativyayama* (Exercise in Excess)
- Atisankshoba* (Irritation)
- Ativighattana* (Traumatic injury)
- Vatavardhakaaharaviharasevan*

Vatavardhakanidana include *Katu, Tikta, and Kashaya rasa Atisevana, Ruksha, Sheeta, Laghu, Sushiraguna dravya sevana, Ativyayama, Vyavaya, Ratrijagarana, Chinta, Shoka, Bhaya* etc. According to the principle of *Ashrayaashrayeebhava*,⁷ *Asthi & Vayu* are inversely proportion to each other as per *Vridhhi* and *Kshaya* are considered. Hence when *Vata* is increased by the *Atisevana* of its *Nidanas* the *Asthi* liable to undergo *Kshaya*.

The *Lakshanas* include *Asthishoola, Sandhishoola, Sparshaasahyata, Sandhishaitilya, Dourbalya, Keshha, Roma & Nakha* and *Dantavikaras*⁸ etc.,

The treatment of *Asthivahasrotovikaras* is explained by Acharya Charaka and Vagbhata as the use of *Basti* prepared with *Ksheera, Gritha* and *Tiktadravyas*.⁹ Use of *Swayonidravyas* is also explained by our *Acharyas* as it helps to re-establish the *Asthidathu* on the basis of *Samanyasiddanth*¹⁰. Hence the combine therapy of *Guduchiyapana Vasti*, and other internal medicines was planned in the conservative management of Avascular necrosis of hip bone.

Materials & Methods

The present study is a single case study conducted on a patient suffering from a vascular necrosis of Hip Joint.

Details of the Case

A 45 year old male patient, reported to Dr. BRKR Govt. Ayurvedic Hospital, Hyderabad with complaints of severe low back ache, stiffness in both thighs, bilateral knee joint pains and difficult in waling since 2 months his associated complaints were general debility, internal fever. Patient was known to be suffering with the above complaints wince 2 years. Patient was then admitted in a allopath hospital where he was investigated with regular blood tests, x-ray of bilateral hip joints and MRI to both hip joints and was diagnosed as avascular necrosis of bilateral hip joint, he was discharged on cartico steroids and pain killers along with a course of antibiotics. Patient went on using medicines for a period of 1 year but did not found any relief from complaints more over his condition started to get worsen. On his re-visit to hospital, the doctor suggested him to go for surgery i.e., hip replacement. Since it is cost worthy and prognosis too is poor, patient opted for alternate medicine and came to our Govt. Ayurvedic hospital for better treatment.

Patient was admitted in hospital after being thoroughly examined, regular blood investigations and routine urine and microscopic examination were also done to rule out other systemic diseases.

Patient is a business man used to travel 50-60 kms/day. There was no history of serious systemic diseases like DM, HTN, Cardiac Disorders.

On examination patient is moderately built, hemodynamically stable.

Tenderness was present at Hip region as well as at knee joints, he could not able to walk more than 20 feets at a time.

Materials

- 1) *Prasarinitaila for Abyangana*
- 2) *Patrapotalisweda karma with Nirgundipatra, Erandapatra, Arkapatra, Chinchapatra, Shigrupatra.*
- 3) *GuduchyadiYapanavasti¹¹*
 - a) *Makshika* – 80ml (1 *Prasrutha*)
 - b) *Saindhavalavana* – 5 grams
 - c) *Kalka dravyas – Satapushapa* – 6 grams (1/2 *karsha*)
Gudcuchisatwa – 6 grams (1/2 *karsha*)
Laksha Churnam - 6 grams (1/2 *karsha*)
- 4) *Kwathdravya – Guduchikwath churnam* 50gms in 480ml water reduced to ¼th – 120ml
- 5) *Guggulutiktakagritham* – 80 ml (*Snehadravya*)
- 6) *Godugdha* – 120 ml.

Method

Patients body was massaged with *Prasarinitailam* around hip region and lower limbs for a period of 30 mins, followed by *Patrapotalisweda karma* for 20 mins was done. After doing *Purva karma* patient was asked to lie in left lateral position and above said *Yapanabasti* was administered as per the norms of *Bastipranidhanavidhi*. The patient was asked to take light *Brimhana* diet till the course of treatment was completed. In this way patient

was given *Vasti* for the period of 14 days. Total 2 sitting of *Yapanavasti* were given with the gap of 1 month.

Along with *Yapanavasti* patient was advised to take *Shaman Oushadhies* such as

- 1) *Mahavatavidwamsiniras* 125mg BID for 90 days
- 2) *MahaYogarajaGuggulu* 250 mg BID for 90 days
- 3) *Ksheerabala capsules* 2 BID for 90 days
- 4) *ShringiBhasma* 500mg BID for 60 days
- 5) *Amritharista* 20ml BID for 90 days.

Results

The signs & symptoms observed were pain, tenderness, stiffness of thigh and change in gait. Which were observed before and after the treatment and the assessment was made with grading given separately for pain and tenderness.

Pain assessment scale(Numeric Rating Scale)

Grading:

- | | | |
|------|---|---|
| 0 | - | No Pain |
| 1-3 | - | Mild Pain (Nagging, annoying, interfering little with ADLS) |
| 4-6 | - | Moderate Pain (interferes, significantly with ADLS) |
| 7-10 | - | Severe Pain (Disabling, unable to perform ADLS) |

Tenderness assessment scale (Numeric Rating Scale)

- | | | |
|----|---|--|
| T0 | - | No Tenderness |
| T1 | - | Slight or Mild tolerable on palpation. |
| T2 | - | More severe pain on ordinary palpation |
| T3 | - | More intolerable pain even with light palpation |
| T4 | - | pain which may be caused by even mild stimulus such as sheet touching the joint. |

	Before Treatment	After Treatment
Pain	P3	P1
Tenderness	T2	P1
Gait	Ataxic	Normal
General Debility	+	-

DISCUSSION

- 1) The Patient did not have any history of trauma or accidental fall and hence he was diagnosed to be suffering from Idiopathic avascular necrosis. The chronicity being 2 years
- 2) *Yapanavasti* with *Guduchi*, *Ksheera*, *Laksha churnam* was found to be very effective in providing symptomatic relief.
- 3) There was a good improvement in relief from pain & tenderness which are the cardinal symptoms of *Vatadosha* and *Basti* is the treatment of choice for *Vata*. The ingredients of *Guduchyadi yapanavasti* are *Guduchiquath churna*, *Gugguluthikta gritham*, are *Vatashamaka* in nature. *Guduchi* is known to be

much more effective in cleaning channels thereby increasing blood circulation.

- 4) There was a marked improvement in the reduction of general debility since the other ingredients in *Basti* like *Madhu*, *Ksheera*, *Gritha* are known to be *Rasayana*, *Balya*, *Jeevaniya* in nature.
- 5) Currently there is no treatment for this condition in modern system of medicine, other than providing medication for pain, relief and advising graded exercises for reducing stiffness and impaired mobility. Gross changes in the structure of the head of the hip joint are surgically corrected or a complete replacement is advised.

In this situation it is heartening to note that Ayurvedic medicines can successfully treat this disease completely and reverse the entire pathology of the disease.

CONCLUSION

1. Idiopathic avascular necrosis is the now being recognized with increasing frequency, previously it was regarded as rare.
2. As it effects bones and make them necrosed due to decreased vascularity it may be compared as *Margavarodhajanya Sandhivata*, In Ayurveda. The line of treatment mainly focused on *Srothasodhana* thereby increasing vascularity as well as nutritional supplement to *Asthi Dhatu*.
3. There was a notable relief from pain, tenderness, general debility and changes were also noted in the gait of the patients.
4. Ancient principles of Ayurveda were effective since time immemorial the name, etiology and pathology of the disease may be different in modern science, but if an Ayurvedic physician plans the treatment by the proper analysis of *Doshadushyasammurchana*, no disease may be difficult to manage.

REFERENCES

1. Herndon JH, Aufranc OE. Avascular necrosis of the femoral head in the adult. A review of its incidence in a variety of conditions. Clin Orthop Relat Res. 1972;86:43-62.
2. Mwale F, Wang H, Johnson AJ, Mont MA, Antoniou J. Abnormal vascular endothelial growth factor expression in mesenchymal stem cells from both osteonecrotic and osteoarthritis hips. Bull NYU Hosp Jt Dis. 2011;69(Suppl 1):S56-S61.
3. Chao, Yc; Wang, Sj; Chu, Hc; Chang, Wk; Hsieh, Ty (Sep 2003). "Investigation of alcohol metabolizing

- enzyme genes in Chinese alcoholics with avascular necrosis of hip joint, pancreatitis and cirrhosis of the liver". Alcohol and alcoholism (Oxford, Oxfordshire) 38 (5): 431 436. doi:10.1093/alcalc/agg106. ISSN 0735-0414.PMID 12915519
4. Laroche, M (May 2002). "Intraosseous circulation from physiology to disease". Joint, bone, spine : revue du rhumatisme 69 (3): 262-269. doi:10.1016/S1297-319X(02)00391-3.
5. Gupta A., Osteoprosis in India - The nutritional hypothesis, Natl Med J Ind 1996; 9: 268 -74.
6. Vagbhata, Ashtanga Hridaya- Chikitsa Sthana -(Vata Sonitha Chikitsa) verse 22/47.edited 'Vidyoni', hindi commentary, kaviraja Gupta, editor Delhi Chaukhambha Sanskrit Sansthan, 2005,p-426.
7. Vagbhata, Asthtanga Hridaya, with the commentaries 'Sarvangasundara' of Arunadatta and Ayurvedarasayana of Hemadri, Krishnadas Academy, Varanasi, 2000, page 186, Sutrasthana chapter 11, shloka 26-28.
8. Agnivesha, Charaka Samhita, Revised by Charaka and Dhridhabala with the Ayurveda Dipika commentary of Chakrapanidatta, edited by Vaidya Yadavaji Trikamji Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Fifth edition, 2001, page 62, Sutrasthana chapter 17 shloka 67.
9. Agnivesha, Charaka Samhita, Revised by Charaka and Dhridhabala with the Ayurveda Dipika commentary of Chakrapanidatta, edited by Vaidya Yadavaji Trikamji Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Fifth edition, 2001, page 180, Sutrasthana chapter 28 shloka 27; Vagbhata, Asthtanga Hridaya, with the commentaries 'Sarvangasundara' of Arunadatta and Ayurveda rasayana of Hemadri, Krishnadas Academy, Varanasi, 2000, page 187, Sutrasthana chapter 11, shloka 31.
10. Vagbhata, Asthtanga Hridaya, with the commentaries 'Sarvangasundara' of Arunadatta and Ayurvedarasayana of Hemadri, Krishnadas Academy, Varanasi, 2000, page 187, Arunadatta on Sutrasthana chapter 11, shloka 31.
11. Agnivesha, Charaka Samhita, Revised by Charaka and Dhridhabala with the Ayurveda Dipika commentary of Chakrapanidatta, edited by Vaidya Yadavaji Trikamji Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Fifth edition, 2001, siddhi sthana chapter 12/13.

Cite this article as:

Vasu ray, D.Venkata Krishna Naik, J Srinivasulu, N. Satya Prasad. A Case Study on the Effect of Guduchyadi Yapana Vasti In avascular Necrosis of Hip Joint. AYUSHDHARA, 2016;3(1):465-468.

Source of support: Nil, Conflict of interest: None Declared