International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Conservative Management of Avascular Necrosis by Siddha Therapy without Medicines and Surgical Intervention - A Case Study

Dr Bhuvanagiri Sathya Sindhuja[1], Injarapu Sankar[2], Dr Ram Mohan Reddy[3], Dr Shweta Tiwari[4]

[1]Patron, Chakrasiddh, Department of Siddha Medicine, Chakrasiddh Health Centre, Hyderabad, India

[2]Chief Healer, Department of Siddha Medicine, Chakrasiddh Health Centre, Hyderabad, India

[3, 4]Consultant Dr, Department of Siddha Medicine, Chakrasiddh Health Centre, Hyderabad, India

[4]Corresponding Author Email: *shweta11_in [at]yahoo.com*

Abstract: ***Avascular Necrosis also called Osteonecrosis, is a disease that occurs from poor blood supply to the bones, leading to deadbony tissues. This process can cause breaks in the affected bone that eventually causes collapse of bone. Management of AVN aims at the preservation of structure, function and relief from pain and gain flexibility in the affected joint area. Modern medicine suggests for expensive surgical procedures with poor prognosis. Long medicine dependency with less effect has made many people to take up various alternative methods which help in managing these diseases. In this present case, a 43-years old female was diagnosed with non-traumatic Stage-3 AVN of left hip joint, with complaints of severe pain in Left hip joint and lower back from last 10 years was managed with Varmam therapy of Siddha Medicine. Alternative therapies like Siddha vaidyam; which is an ancient and old therapy has proved to be beneficial in managing the symptoms of such chronic disease like AVN. Signs and symptoms of Avascular necrosis are nearer to Thasai Kootu Noigal (disorders of musculoskeletal origin) in Siddha medicine and can be seen in chronic condition. It may be explained by increase of Vatham and Pitham in body. An effort has been made in the present study to evaluate the efficacy of Siddha therapy on curing the AVN condition by reducing pain and providing better flexibility in hip joints without use of medications. A treatment plan for 35-days in 2-phases with follow-up after 6 months was planned along with support of physiotherapy and some diet modifications. An assessment was done by the questionnaire through grading system of signs and symptoms before and after treatment and patient was observed for symptomatic improvements. MRI scans of bilateral hip joints after 7 months of this treatment revealed changes in AVN grade, with the left hip joint transitioning from grade III to grade II, and the limb length measurement changing from 2cms to 1 cm post treatment. The range of motion at these joints was also improved significantly. The results were positive and indicated good recovery. There was marked relief from pain on VAS scale, tenderness, stiffness and improvement in the gait. Conservative management of AVN through Siddha practices provides significant relief and improves quality of life without the intervention of any use of medicines.***

Keywords: Avascular necrosis, Osteonecrosis, Musculo-skeletal disorders, Siddha therapy, *Thasai Kootu Noigal*, Varmam therapy

Abbreviations: Avascular necrosis (AVN), Complementary Alternative Medicines (CAM), Range of Motion (ROM)

1. Introduction

Avascular necrosis also called as Osteonecrosis is a condition that occurs when there is loss of blood supply to the bone and bone tissues. As bone is a living tissue that requires continuous supply of blood, an interruption to it may lead to necrosis of bone [1]. If left untreated for a longer time, the bone becomes brittle, distorts and eventually breaks. In 90% cases, AVN can happen at any site in the body, but it's commonly seen at the hips, knees, shoulders and ankles. AVN of femur head is the most typical type of necrosis of the bones [2].

AVN can be commonly seen in individuals aged between 25-50 years. In India, the mean age of onset of necrosis is 34.5 years [3]. The possible causes for AVN are by trauma or non-traumatic injury, excessive alcohol intake and steroid abuse. Almost 35-40% of all non-traumatic AVN cases are because of long term steroids dependency. AVN is highly prevalent among males; this could be attributed to higher levels of smoking and alcohol use among them [4]. Sometimes, cancer treatments where radiation therapy is used, can also weaken the bone leading to necrosis of bone. Overweight and obesity i.e. more BMI, can also cause Osteonecrosis in some cases [5]. In initial stages, AVN causes no symptoms; but as the condition becomes chronic, the joint pain increases and restricts the movements of hip. If the disease is left untreated, there is irreparable joint degeneration, resulting in severe pain that interferes with individual's ability to move the joint. It also leads to the height decrease of affected leg and causes the lower limb to shorten [6].

With advancement of disease, the ROM at hip joints gets altered. Modern medicine treats only pain and in severe cases advises for surgical intervention like Total Hip Replacement. 7-12% of total AVN patients worldwide prefer to undergo total hip replacement due to severity and unbearable pain [7]. After surgery, rehabilitation is required and it takes long term for recovery with limitations in movements and short life span of hip joints [7, 8]. Long medicine dependency with less effect has made many people to take up various alternative methods like ayurveda, massages which helps in managing these diseases [9]. Recent trends shows alternative therapies like Siddha vaidyam; an ancient and old therapy has proved to be

beneficial in managing the symptoms of such chronic disease like AVN. It treats by aligning body energies (mind, body and spirit), to empower and activate the body's internal healing mechanisms thus, resulting in cure and an improved lifestyle. It does not involve any kind of medications and chances for undergoing any kind of surgery is reduced [10].

Thasai Kootu Noigal (disorders of musculoskeletal origin) in Siddha medicine bears resemblance to symptoms related to AVN and can be seen in chronic condition. It may be explained by increase of Vatham and Pitham in body. The Siddha system is bestowed with various special therapies like Pressure Manipulation Therapy (Varmam), Physical Manipulation Therapy (*Thokkanam)*, Pranayamam and Yoga that work well on long term relief in pain, improvement in movements of joints and aims at the preservation of structure, by stopping the progression of disease without any complications [11]. Though, any kind of pressure on hip joints is contraindicated in AVN but these pressure release technique empowers the body's internal healing centres to effectively cure the condition and ensure long term healing of the disease condition internally [12]. The process stimulates blood and uninterrupted blood circulation while relaxing the strained muscles. Treating disrupted marma points and unblocking the nadi points restores the body to its natural state [13]. An effort has been made in the present study to evaluate the efficacy of Siddha therapy on curing the AVN condition by reducing pain and providing better flexibility in hip joints without use of medications. A treatment plan for 35-days in 2-phases was planned along with support of physiotherapy and some diet modifications. The aim of presenting this case is to see how Siddha therapy worked on curing the AVN by reducing pain and improvement and better flexibility in hip joints without use of medicines. This was confirmed by noting her symptoms on VAS scale for pain and pre-post ROM assessment. Clinically, pre and post x-rays also verified the success of treatment.

2. Patient Information

In this present case, a 43-years old female from Hyderabad was diagnosed with non-traumatic Stage-3 AVN of left hip joint, with complaints of severe pain in left hip joint and lower back from last 10 years. She had complaints of pain and stiffness in bilateral anterior hip to knee region since last one year which was associated with difficulty in doing normal daily activities such as walking, taking bath standing or sitting, bending, etc. Aggravating factors were any activity, cold weather, gastric upset and supine posture. The pain is insidious in onset and gradually progressive in nature with an intensity varying 9 on VAS pain rating scale. On examination, her left leg was 2-cm shorter than right leg which was visible while doing adduction of knees. She was unable to squat and do criss-crossing of her legs and could not climb stairs. The pain subsides for sometime on taking rest and medications.

The patient is Non-diabetic and age-related Hypertensive. She has a H/o Bariatric Surgery 8 years back due to overweight, She has also been operated for Hernia 5 years back and Hernia mesh was placed. After 6 months of Hernia surgery, she had infection so was operated again. She observed after her surgery, her pain in Left hip aggravated with restricted movements. She consulted an Orthopaedic surgeon 4 years back who advised her to take out an X-Ray & MRI of hip joint along with other lab tests. According to Ficat and Arlet's grading system, an X-ray showed stage-III AVN of the left femoral head [4]. The Orthopaedic doctor advised a hip replacement surgery but patient was reluctant to go for that so was started with a course of steroids and physiotherapy sessions to strengthen the core muscles. The patient showed minor pain reduction and some improvement in the daily activities. The pain progressed over 4 years to the extent to which the patient had difficulty in day-to-day activities like standing for 10 mins, sitting, unable to sit cross-legged, and bending. During the last 2 years due to covid, she had to do all work by self; the pain has aggravated to scale of 9-10.

The patient by profession is a teacher & had to stand for long to take classes but due to her ailment she had to take a break from her job. She is a single mother and her house responsibility is totally on her. The ailment has lead to depression and her quality of life is disturbed [14]. Her relative who had taken treatment at Chakrasiddh advised her to visit centre to take treatment for the disease.

3. Clinical findings

On examination, the vital signs of the patient were normal. The height of the patient was 158 cm and the weight was 89 kg. The patient felt pain in the bilateral iliac regions and left hip joint, the pain was radiating up to the knee joints. On neurological examination of both the lower limbs' reflexes and sensations, testing was normal. Motor examination was also normal. Tenderness of grade-3 was present over the left hip region. The gait pattern was altered and left leg length was 2 cms shortened. The examination for a range of motion revealed restricted movements in bilateral hip joints especially in Lt hip (Table-1).

Table 1: ROM at Bilateral hip joints Pre and Post treatment

S. no	Range of Motion	Before Treatment (Lt)	After Treatment (Lt)	After 6M Treatment (Lt)	Before Treatment (Rt)	After Treatment (Rt)	After 6M Treatment (Rt)
1	Flexion	100˚	110˚	110˚	110˚	110˚	110˚
2	Extension	20˚	25˚	30˚	20˚	25˚	30˚
3	Adduction	20˚	25˚	30˚	20˚	30˚	30˚
4	Abduction	30˚	35˚	40˚	30˚	35˚	40˚
5	Internal Rotation	40˚	40˚	40˚	40˚	40˚	40˚
6	External Rotation	30˚	40˚	40˚	35˚	40˚	40˚

4. Treatment Protocol

The treatment was started in Feb, 2022; it was planned for 35 days with 20 days in two phases with gap of 1 month. The treatment included Lumbar and B/L hips till the knees especially the Left leg with not too much pressure on the hip region. The patient was kept on strict liquid diet to reduce weight and daily physio exercise for 1/2 hr. The following varmam points were stimulated by thokkanam technique in lumbar and hip region for pain and stiffness. *Chippi Varmam, Kakkatai Kaalam, Naai thalai varmam Komberi kaalamKaal moottu varmam, Viruthi kaalam & Veeradangal* were pressured and manipulated. The different techniques used in thokkanam were *Thattal or Patting technique, Azhuthal or Pressing & Asaithal or shaking*for achieving the best results [16].

The client was asked maintain a daily diary, which included a VAS to assess general pain (no pain to excruciating pain), fatigue (no fatigue to severely fatigued), morning stiffness intensity (no stiffness to intense stiffness), and morning stiffness duration (0 - 2 hours or more).

The patient started feeling more active after first week. Though difference in pain was not much noticeable but could see difference in her walking style. Her standing and walking time had increased with very less discomfort in her joints. She could identify her stiffness reduction as now she was able to bend. Her posture also corrected and she lost 5 kgs in 2 weeks time period. In 3 rd week, there was 50% improvement in stiffness in hip region and almost no radiating pain in left leg. After a break for a month, the treatment was again given to her for 14 days and the treatment were closed on 1st April, 2022.

5. Result & follow-up

After 3 months of treatment the patient had got relief in pain, stiffness at the bilateral iliac region and hip joints during rest but felt slight discomfort while walking.

There was no tenderness in these regions and significant changes were noticed in the range of motion. After 35 days of Siddha therapy on Varmam points, the range of motion was improved, there was weight reduction from 89 Kg to 83 Kg and the patient felt pain only during long walks (>1.5 kms). Range of motion (measured by Gonioscopy) further improved after 6 months of treatment when he visited the centre for follow-up (Table-1). Her posture corrected and on examining her left leg length which was short by 2 cms as compared to Rt leg, it had decreased by 1 cm (Table-2). Daily activities like bending, standing had improved as now she was able to stand for 1 hr in kitchen and could do exercises for 30 mins with bearable pain of mild intensity on VAS scale. She was also able to take stairs which she had stopped 7 years back accounting to pain in joint while climbing.

After 6 months patient's X-ray showed changes in AVN grade from Grade III to Grade II in her left hip joint and her blood reports were normal.

Table 2: Pre and post rehabilitation pain rating and limb length measurement

Parameters	Pre treatment	Post treatment	After 6 months
Pain rating (VAS)	09/ 10	04-Oct	02/ 10
Limb length measurement	2 cm true shortening	1 cm true shortening	1 cm

6. Conclusion

Decreased blood flow to the femoral head due to trauma or non-traumatic disruption is the main pathology in AVN. Osteonecrosis, aseptic necrosis, bone necrosis are all terms used to describe this condition [1]. On advancement of the condition, it usually leads to irreparable joint degeneration, resulting in considerable disability as a result of pain and restrictions in movement [4]. More BMI and obesity can also lead to AVN which more likely is the case in this study [5].

The present study demonstrates that, after one months treatment, there was marked improvement in the range of motion of the affected joints. Visual analogue scale decreased from 9 (severe) to 2 (mild). Improvement in the leg length difference and the strength of the muscles [15] was remarkably improved. The patient experienced alleviation from symptoms and achieved functional mobility that she had previously been unable to tolerate owing to pain. The therapy provided marked relief from pain, tenderness, Stiffness and improvement in the gait. The grade of AVN did not worsen and was maintained as seen during the follow up [6]. There was no intervention of any kind of medications and surgical procedures with the treatment protocol [8].

By managing the weight and aligning body energies, Siddha therapy activated the body's internal healing mechanism, resulting in slowing the progression of disease with improved quality of life [14]. The therapy is cost effective and the results were encouraging. Much importance is also given to diet and physiotherapy to support Siddha therapy for better outcome. Conservative management of AVN through Siddha therapy has been proved to be highly beneficial but not totally curing which requires for the continuous research work.

References

[1] Tierney Jr. LM, McPhee SJ, Papadakis MA. Current Medical diagnosis and treatment. 36th ed. Stamford: Appleton & Lange 1997; 798-799.
[2] Dillane J, Fry J, Kalton G. Acute back syndrome-a study from general practice. Br Med J.1966; 2: 82-4.
[3] Salvati EA, Cornell CN. Long-term follow-up of total hip replacement in patients with avascular necrosis. AAOS Instr Course Lec. 1988; 37: 67.
[4] Matthews AH, Davis DD, Fish MJ, Stitson D. Avascular Necrosis December 6th. 2021.

[5] Pijnenburg L, Felten R, Javier RM. A review of avascular necrosis, of the hip and beyond. *Rev Med Interne*. 2020 Jan; 41 (1): 27-36.
[6] Pawar A, Phansopkar P, Gachake A, Mandhane K, Jain R, Vaidya S. A review on impact of lower extremity muscle Length. *J Pharm Res Int.* 2021: 158-164.
[7] Salvati EA, Cornell CN. Long-term follow-up of total hip replacement in patients with avascular necrosis. AAOS Instr Course Lec. 1988; 37: 67.
[8] Devlin VJ, Einhorn TA, Gordon SL, et al. Total hip arthroplasty after renal transplantation: Long-term follow-up stuffy and assessment of metabolic bone status. J Arthroplasty. 1988; 3: 205.
[9] Gocen Z, Sen A, Unver B, Karatosun V, Gunal I. The effect of preoperative physiotherapy and education on the outcome of total hip replacement: a prospective randomized controlled trial. *Clin Rehabil.* 2004 Jun; 18 (4): 353-8.
[10] Kadlimatti SM, Subbanagouda PG, Sanakal AI, Deshpande M. Ayurvedic management of avascular necrosis of the femoral head - A preliminary study. AYU. 2008; 29: 154-60.
[11] Acharya YT, editor, Shri Chakrapanidatta, commentator, Agnivesha, Charka Samhita, Chikitsasthana; Vatavyadhichikitsa Adhyaya, 28/33, Chaukhamba Surbharati Prakashan, Varanasi, 2014; page 617.
[12] Kuppuswamy Mudhaliyar KN, editor. Siddha maruthuvam (Podhu). 6th ed. Chennai: Department of Indian Medicine and Homoeopathy; 2004. p. 583.
[13] Sivaranjani K. Varma therapy for musculoskeletal disorders. Eur J Pharm Med Res 2016; 3 (10): 131e5.
[14] Subramanian SS, Dinesh S. Impact of physiotherapy on an obese subject with Avascular necrosis-case study report. World wide Journal of Multidisciplinary Research and Development (WWJMRD) 2017; 3 (9): 103-7.
[15] Lakhwani M, Phansopkar P. Efficacy of percussive massage versus calf stretching on pain range of motion muscle strength and functional outcomes in patients with plantar fasciitis-a randomized control trial. 2021
[16] Siddha formulary of India Part-1. 1st ed. Ministry of AYUSH, Government of India; 1992. p. 48.