



## Case Study

### AYURVEDIC MANAGEMENT IN OSTEOMYELITIS: A CASE STUDY

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#### ABSTRACT

Inflammation of bone is called as Osteomyelitis. Osteomyelitis of calcaneum is a condition progressive towards morbidity of the patient because of the chronicity and severe complication. According to modern science, available treatment on calcaneum osteomyelitis is debridement, incision and drainage. But due to chronicity of disease there may be relapse of the infection. According to Ayurved Science, this condition can be correlated with *Antarvidradhi* and was treated according to its principles like *Snehana*, *Mruduswedana*, *Raktprasadkar*, *Dhatubalaya rasayan*. **Methodology:** A patient of 47 year old visited SHREE Ayurvedic Chikitsalaya on 28.10.2019, with severe pain in right foot, edema all over the foot and patient with complete inability to walk and stand. This condition was diagnosed as *Antarvidradhi*. In this condition, following internal medicines were given to the patients for 2 months like *Varandi kashayam*, *Phaltrikadi Kashyam*, *Chaturmukh rasa*, *Vasant kusumakar rasa*, *Kaishor Guggul*. Along with this, externally *lepa of Mahasneham* and cooked *mamsa* of goat was also applied for 2 months. **Results:** After using this treatment, significant results were observed in the form of reduced signs and symptoms like edema, pain, difficulty in walking that were complained in the first visit to the OPD. And there is also increased stamina & confidence while walking. **Conclusion:** Considering the above observation in the patient, given treatment is useful in reducing signs like edema, pain and difficulty in walking. Hence it can be concluded that it is useful in Osteomyelitis of calcaneum i.e. *Antarvidradhi*.

**KEYWORDS:** Osteomyelitis, *Antarvidradhi*, *Snehana*, *Mahasneham*.

#### INTRODUCTION

Osteomyelitis of calcaneum is a condition progressive towards morbidity of the patient because of the chronicity and severe complication. According to modern science, available treatment on calcaneum osteomyelitis is debridement, incision and drainage. But due to chronicity of disease there may be relapse of the infection. But Ayurveda offers us good treatment protocol on the basis of Ayurvedic principles related to pathophysiology of the disease and gives ray of hope to such patient.<sup>[1]</sup>

According to Ayurved, *Vidradhi* is classified as *Bahyaa Vidradhi* (external part of the body) and *Antar Vidradhi* (internal part of the body).<sup>[2]</sup> *Asthividradhi* can be correlated with Birdie's abscess or infective osteomyelitis. Chronic infective Osteomyelitis can be correlated with *Asthimajjagata Vidradhi*. Acharya Charaka described that due to very early or acute suppuration by vitiated blood in abundance, it is called *Vidradhi*. There is more

involvement of *Raktdushti* by which pus formation (*Paka*) takes place predominantly. The *Doshas* located around the *Asthi* or bone tissue, on getting vitiated will contaminate *Twaka* (skin), *Rakta* (blood), *Mamsa* (muscle), *Meda* (fat).

Acharya Sushruta has given much importance to multidisciplinary management for all sorts of surgical wound. Treatment principle of *Asthividradhi* includes *Snehana*, *Swedana* and use of *TiktaKashyam* and *Tiktasarpi*.<sup>[3]</sup>

#### MATERIALS AND METHODS

A 47 year old medical professional, male, chronic diabetic patient visited the SHREE Ayurvedic Chikitsalaya, Barshi on 28.11.2019 with major complaints of:

1. Severe pain in right foot, especially over the ankle region.
2. edema

3. Blackish discoloration of the foot on the affected portion.
4. Inability to walk and stand.

The patient was unable to take pressure on that leg while standing and walking. No wound or ulcer was found over the region.

#### History of present illness

Before 5 days while he was on work, he suddenly suffered pain in right ankle joint and foot. He had taken antibiotics, anti inflammatory and analgesics but the pain and other symptoms were persistent. On serological investigation with XRAY of the right foot, he was diagnosed as Osteomyelitis Of calcaneum and suggested surgery for the same. As having chronic diabetes, he feared and came for second opinion in Ayurved Medicine.

#### History of past illness

Patient is known case of diabetes mellitus 2 for last 24 years and taking modern medicine drugs.

1. Tab. Glimy 2- 1mg twice after meals.
2. Tab. Jalra M- 1 tablet twice after meals.

In April 2019, he was treated for inflammation of tendon (Digitarium Longus) along the Rt. Toe with modern medicine drugs. He was treated and free from all symptoms but a little edema was still present all through the duration.

#### Ashtavidha pariksha

1. *Nadi: Vattapradhan.*
2. *Jivha: Niram.*
3. *Shabd: Prakrut.*
4. *Sparsh: Ruksha.*
5. *Druk: Prakrut.*
6. *Aakruti: Dirgha.*
7. *Mala: Krurakoshta.*
8. *Mitra: Prakrut*

#### General examination

1. Temperature 99°C
2. Chills with evening fever for 6 days.
3. Pulse Rate 82/ min.
4. Blood pressure 130/80 mm of Hg.
5. Respiratory rate 18/min.

#### Sthanik pariksha

Right leg was completely examined by *Darshan* and *Sparshan* method and found that the Rt. foot had edema with blackish discoloration of the skin. Skin was tensed, no wounds or ulcers seen. *Sparshasahatva* was observed all over the ankle joint, no joint movement was possible.

#### Laboratory findings

1. WBC count –5800/cmm.
2. KiD.C. –N 50, L 37, M 08, E 05, B 00.
3. Blood Sugar – 112 mg/dl Fasting
4. Post prandial sugar was not done.
5. C Reactive Protein – 8.80 mg/ l.

#### Hetu

1. Constipation– *Vataprakopa* in all body
2. *Aharaja* (dietary)-*Vishamashana* (irregular food habits) with excessive intake of hot and spicy food.
3. Standing work for long period as he is an anaesthetist.

#### Diagnosis- *Antaravidradhi (Dhatupakaawastha)*

#### Treatment Plan

Taking into consideration the *Samprapti*, the plan advised was:

1. Complete bed rest.
2. Avoid food of *Besan*, tomatoes, hot and spicy food and yogurt.
3. *Chikitsa* inclusive of *Sthanik karma* of *Sneha bandh* and oral drug therapy.
4. *Pranayam* for 30 minutes every day.

#### Sthanik Chikitsa

1. *Mamsa* of goat's leg muscle cooked in cow's milk for 3 hours and was applied on Rt. foot in morning for whole day.<sup>[4]</sup>
2. *Mahasneham* (Vaidyaratnam Oushadhsala Pvt. Ltd.) was applied overnight. Roller bandage completely dipped in luke warm *Mahasneham* was applied 10 to 12 rolls over the Rt. foot completely covering the ankle joint, heel, dorsum of foot and approximately 6cm above the ankle joint covering the leg.<sup>[5]</sup>

#### Oral Medicine

1. *Varandi kashayam* (Arya vaidyashala, kottakal) 30ml thrice a day with luke warm water after meal.<sup>[6]</sup>
2. *Phaltrikadi Kashyam* (Nagarjun pharmaceutical, Ahmadabad) 20ml after meals with Luke warm water.<sup>[7]</sup>
3. *Chaturmukh rasa* (Dhutpapeshwar company) 1 tablet of 125mg thrice a day.<sup>[8]</sup>
4. *Vasant kusumakar rasa* 1 tablet of 250mg at night with luke warm water.<sup>[9]</sup>
5. *Kaishor Guggul* (Dhutpapeshwar company) 250mg 2 tablets twice a day post meals.<sup>[10]</sup>

Above treatment plan of *Sthanika chikitsa* and oral medicines were given for 2 months.

## OBSERVATIONS

Table 1: Changes in Signs and Symptoms According to Date

Sr.no.	Date	Edema	Pain	Difficulty in walking	Laboratory findings
1.	30.10.1019	++++ All over foot.	++++ On rest also.	++++ Could not walk or stand	CRP- 8.80mg/l BSL-F-112mg/dl.
2.	15.11.2019	++++ All over foot.	+++ Pain on weight bearing.	+++ Could walk for his daily chores with a 20 to 25 steps at a stretch	Not done.
3.	30.11.2019	+++ Oedema reduced over dorsum of foot	++ Pain was reduced by 50% on walking and standing (As described by the patient.)	++ Walking in the house became more comfortable and	Not done.
4.	15.12.2019	++ Oedema only on ankle region.	+ Pain sometimes could be felt during a day.	+ Walking and standing was more easier and could be performed with minimal pain	CRP- 3.40mg/l BSL-F-112mg/dl.
5.	30.12.2019	+ Oedema reduced in the ankle region and was only present on the calcaneal portion the foot.	No Pain.	Could walk, stand, climb stairs without pain, comfortably and ease	Not done.

## DISCUSSION

Osteomyelitis of the calcaneum bone is often considered to outcome with worse complications than osteomyelitis of the more distal bones. It is extremely difficult to treat. Infection complicates ulcers caused by pressure or trauma on the background pathology of neuropathy or vasculopathy or the combination of both. Treatment options include antibiotics, radical debridement and major amputation.

According to the principle of Ayurved this is the condition affecting the *Asthidhatu*. The etiology may be *Nija* (within the body) *Hetu* or *Aganthu* (outside the body) *Hetu*. This can happen when the blood supply to that area of the bone gets infected and in addition to the *Asthidhatvagni vaigunyam* (Bone formation is disturbed). When this process is affected, the bone will be impaired and surrounding tissues also gets affected resulting in *Dhatupaka* condition.

Taking into consideration the *Vikalp* and *Anshanshamprapti* in the perspective of *Guna's*, it indicates the following process taking place

1. *Vata- Rukshagunavrudhi* leading to *Asthikshay*.
2. *Pitta- Increase in Ushna, Tikshnaguna* leading to *Dhatupaka*.
3. *Sthanshanshray- In Pada* due to long standing diabetes mellitus 2, and professional hazard.
4. History of infection of Rt. *Digitariumlongus* tendon leading to the spread of infection in adjacent area and also vitiating the blood.

The line of treatment was thus decided to control the *Dhatupaka*, *Snehana*, and maintaining healthy blood supply to the *Dhatu* and to balance the *Dosh gunakshaya* and *Vrudhi*.

For the control of *Prameha*, *Phaltrikadi kashayam* was used and *Vasant kusumakar rasa* was used as a *Rasayana*. To control and take care of infection and

*Kshaya, Chaturmukh rasa* was used. And for the treatment of osteomyelitis *Varanadikashyam* was used. *Kaishorguggul* was used to purify the blood and increase the vascularity useful in *Vata* and *Raktadushti* taking care of the appropriate, healthy blood supply to the tissues. *Bahya* and *Abhyantar Chikitsa* were advised taking into consideration the *Prakupit guna, Dhatukshaya, Dushtrakta* in the diseased region. The above medication gives purification and balanced healthy outcome to the *Rakta, Sira, Kandara, Mansadhatu, and Asthidhatu*.

After using this treatment, significant results were observed in the form of reduced signs and symptoms that were complained in the first visit to the OPD. And there is also increased stamina and confidence while walking.

### CONCLUSION

Considering the above observation in the patient, given treatment is useful in reducing signs like edema, pain and difficulty in walking. Hence it can be concluded that it is useful in Osteomyelitis of calcaneum i.e. *Antarvidradhi*. This is a single case study, so to prove effectiveness of *Chikitsa*, it should be conducted on large sample size for long duration of time.

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