

How to Cite:

Sharma, H., Satputte, K., Mittal, I., Khandizod, S., Patwari, P. D., & Damle, N. (2023). Post radiofrequency ablation management of complications of osteoid osteoma with Ayurveda: A case study. *International Journal of Health Sciences*, 7(S1), 2698–2707.
<https://doi.org/10.53730/ijhs.v7nS1.14567>

Post radiofrequency ablation management of complications of osteoid osteoma with Ayurveda: A case study

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Abstract---Osteoid osteoma is a benign bone tumour that usually develops in the long bones of the body such as femur & tibia. It causes continuous, deep and severe pain at night, Swelling, joint stiffness. Modalities of management in modern medicine are limited and many patients suffer from post RFA complication like pain, general debility, gait disorder etc. Hence, there is a need of more efficient methods to treat this. Our present study comprises of one such way of dealing post radiofrequency management of Osteoid Osteoma through Ayurveda. A single case study of 18 year old male patient, diagnosed with Osteoid Osteoma of right hip joint who underwent RFA for same but did not get relief. Patient came to us with the complaint of severe pain in right hip joint with muscle lag associated with difficulty in doing daily activities such as walking, cross leg sitting, squatting & Gait disorder from last two years. After history & thorough examination we found that patient was suffering from Post-procedure Sthanvaigunya & emaciation due to long term deep rooted (*Asthi, Majja gatatva*) disease then decided to treat the patient conservatively with *Panchatikta Kshir Basti* along with *Shashtika shali pinda sweda* for 16 days & internal medicine like *Kaishor Guggul* 250mg 2TDS, *Rasanadi Guggul* 250 mg 2 TDS, *Ashwagandha churna* 3 gm BD for 3 months with diet modifications. This case study revealed that *Panchatikta Kshir Basti* along with *Shashtika shali pinda sweda* & internal medicine provided complete relief in symptoms of post radiofrequency management of Osteoid Osteoma.

Keywords---*Adhyasthi/Asthigranthi*, Osteoid osteoma, Ayurveda, *Panchatikta Kshir Basti*, *Shashtika Shali pinda sweda*.

Introduction

Osteoid osteoma, the third most common benign bone tumor, usually occurs in the cortex of long bones. It usually affects young males less than 30 years old. Nocturnal pain is the typical clinical presentation¹. It accounts for 10-14% of all benign and 2-3% of all primary-bone tumors. Initially, treatment of these tumors is conservative with salicylates or NSAIDs. Radiofrequency ablation and cryoablation are used for treatment in later stages². Many patients suffer from post RFA complication like burn, muscular haematoma, infection, permanent nerve injury, pain, general debility, gait disorder etc. and modalities of management in modern medicine are limited. Depending upon the condition of the patient these complications can be mild to severe³. Hence, there is a need of more efficient methods to treat this.

Ayurveda has been playing a vital role in curing various diseases and its complication. Our present study comprises of one such way of dealing post radiofrequency management of complication of osteoid osteoma through Ayurveda. In Ayurveda this can be correlated with (Post procedure) *Dhatukshaya Janya Sandhigatvat*. In the treatment of *vata vyadhi*, *Charakacharya* has described *Panchatikta KsheerBasti* in *Asthyaashrit Vyadhi* along with the

importance of *Sthanic Snehana*, *Swedana* and *Basti* in *Vatdosha Upkrama*⁴. This Case Report consist of *Dhatukshaya Janya Sandhigatvata*, in which *Panchatikta Ksheer Basti* was administered to the patient along with *Shastikshali Pinda Sweda*, *Ashwagandha Churna*, *Kaishor Guggul* and *Rasnadi Guggul*.

Patient Information

A 18 year old male patient came to the *Kayachikitsa* OPD in D.Y Patil Ayurvedic Hospital with presenting c/o severe pain and restricted movement of right hip joint since 2years associated with difficulty in doing daily activities such as walking, cross leg sitting, squatting, stair climbing, also difficulty in right knee joint movement, *Kshudhamandya* (loss of appetite) and *Karshya* (emaciation). Patient had taken treatment at multiple clinics and renowned Hospitals and was advised for right hip joint replacement before coming to our hospital. Patient was thoroughly examined and detailed history was taken.

History

Patient was apparently well two years ago; then he started having pain in right hip joint which was mild in nature at starting but increased gradually for which he went to orthopaedic surgeon and was diagnosed with osteoid osteoma at right femoral neck with aid of 3DCT-hip joint for which Radio Frequency Ablation was advised and done along with conservative management. For 1 month following RFA there was slight improvement in the symptoms. But symptoms including pain and swelling, restricted and difficulty in movement of right hip joint reoccurred. For which CT guided aspirations were done of hip joint and sent for histo- pathology. This was s/o Mild Subacute Inflammation. Patient visited multiple doctors with above complaints but got no relief. His last MRI was s/o loss of articular cartilage along with marrow oedema of right femoral head, decrease in right hip joint space so he came to Padmashri Dr. D.Y. Patil Ayurveda Hospital for further management.

Examination of the Patient: General condition -moderate, afebrile

1) Aaturbala Pramana Pariksha⁵

1	Prakruti (Constitution of the person)	Vatapradhan Pitta, Rajas
2	Sara (quality of tissue)	Madhyam (average):Ras, Rakta, Mansa dhatu
3	Samhanana (body built up)	Heen
4	Pramana (antropometric measurement)	Wt.41kg Ht.5.5feet
5	Satmya (adatability)	Madhyama (average)
6	Satva (mental strength)	Heen
7	Aaharashakti (food intake and digestion capacity)	Abhyavaharan : (average) Jaran : 5-6 hrs.
8	Vyayamashakti (exercise capacity)	Heen

9	Vaya (age)	Yuvavastha (Young adult)
10	Desha (habitat)	Anup

2) **Asthavidha Pariksha (Eight fold examination)⁶**

1	Nadi (pulse)	Niram, 80/min.
2	Mutra (urine)	Samyaka
3	Mala (stool)	Samyaka
4	Jivha (tongue)	Nirama
5	Shabda (sound)	Spashta
6	Sparsha (touch)	Samsheetoshna
7	Drik (eye)	Spashta
8	Aakriti (built)	Krusha

3) Dosha: Vata vrudhi and Kapha kshaya

Vyadhi Adhithana: Asthi Sandhi(vankashan,janu sandhi)

Dushya: Rakta, Sira, Snayu, kandara and Asthi.

Sthanasanshraya: Vankshanapradesha

General Condition -Moderate, Afebrile

PR - 80/Min

Bp: 120/80 MmHg

Weight: 41kg

Height: 5.5 Feet

Local Examination

Scar: present

Redness: Absent

Pain: Present, Pain Scale 9/10

Swelling: mild swelling+

Deformity: Present

Wasting: Present

Samprapti (Pathology)

After RFA *Sthanvaigonya* is created at right hip joint according to *Samanya Samprapati of Vata Vyadhi*, Vata accumulates in the hip joint causing further degeneration resulting into severe pain and difficulty in the movement of hip joint.

Investigation

1. 3DCT-Hip joint-Focal area of cortical thickening in the right femoral neck with central lucency and nidus is classical for an osteoid osteoma.
2. MRI of both hips after radio frequency ablation (22/1/2019), marked resolution of right hip joint effusion with persistent minimal joint fluid and

synovial thickening, subtle patchy sub articular oedema post ablation changes in right Osteoid Osteoma

3. Cytopathology-Mild subcutaneous inflammatory negative granuloma.
4. MRI-Pelvis with both Hips-post ablation tract in the medial aspect of the femoral neck, synovial thickening in the right hip joint, loss of articular cartilage along with marrow oedema of right femoral head, decrease in right hip joint space.

Treatment given

As *Sandhigat Vatavyadhi* is one of the types of *Vatavyadhi* According to *Charak Acharya*, *Chikitsa* of *Asthivaha Strotas* is given i.e. *Sthanik Snehana Swedana* and *Panchatikta Ksheer Basti*. The treatment was planned as below:

1. *Panchatikta Ksheerghrit Basti* -- 120ml Basti every day given for 3 months with 8 days gap after every 23days
Bastipratyagaman Kala: 8-9 hours
2. *Shashtik Shali Pinda Sweda* – Swedan was given for 3 months with 8 days gap after every 23days
3. *Kaishore Guggul Vati* --2 tablets (250mg) three times a day for 6 months in rotational therapy of 21 days and 7 days without medicine
4. *Rasanadi guggul vati* ⁷-- 250 mg TDS 8 days gap after every 21day
5. *Ashwagandha churna* -- 3gm churna times a day. for 6 month in rotational therapy of 21 days and 7 days without medicine

Sr. no.	Drug	Dose	Anupana	Duration
1	<i>Kaishore guggulu</i>	2Tab TDS	Luke warm water	3 weeks
2	<i>Rasnadi Guggulu</i>	500 mg TDS	Luke warm water	3 weeks
3	<i>Ashwagandha churan</i>	3 gm BD	Luke warmwater	3 weeks

The patient was assessed at regular intervals and the details of assessment parameters with gradation criteria are mentioned in table 1,2,3,4

Result and Discussion

Mode of action of Drugs

- A. *Panchatikta Ksheer Basti*- The decoction made in *Ksheera* which have *Madhura* and *Snigdha* properties helps to control *Vata Dosha*. In this *Basti*, *Dravyas* used are having *Tikta Rasa*, *Ushana Virya*, *Madhura* and *Katu Vipaka* which favours normal functioning of *Dhatvagni* facilitating increased nutrition to the *Asthi Dhatu*. *Ghrita* being *Madhura Rasatmaka* and *Shita Virya* works as *Vatashamak*. Thus, it pacifies *Vata*, improves the *Dhatu Upachaya* and acts as a rejuvenator of the body. *Ghrita* has the properties of *Sanskarasya Anuvartana* precipitating bioavailability of other drugs. Hence, helps in *Samprapti Vighatana*. And improve *Sthan Vaigunya* of *Vankshan*

Sandhi. According to commentator *Arundatta*, as *Asthi* is *Khara* by nature but in *Kshaya* this *Khara guna* of *Asthi* increases resulting in making the bones brittle and porous, therefore the properties that can decrease the brittleness of the bones is *Snigdha* (unctuous) so, *Pancha Tikta* with combination of *Ksheer* (milk) and *Ghrut* (ghee) which are *Snigdha* as well as *Tikta* helps in this condition.

- B. *Shashtika shali Pinda Sweda*⁸- It is *Brimhaniya Snehika* sudation performed by bolus of boiled *Shashtika Shali* with *Vatahar Kwath* and *Dugdha*. *Snigdha*, *Guru*, *Sthira*, *Sheet* properties are present in *Shashtik Shali*. Though, a *Sweda Karma* it has *Brimhana Guna*. In this procedure moist heat is used and moist heat is more effective than the dry heat because it deeply penetrates the skin so increases the effect on muscle, joint and soft tissue. By using the *Shashti Shali Pind Sweda*, skin blood flow increases. This procedure also increases the flexibility of affected parts. *Swedana* makes the skin more permeable by opening the skin appendages through sweating, dilating blood vessel and all these thing help in absorption of medicine. *Bala Moola Kwath* also helpful to muscular tissues nourishment and prevent the muscle weakness.
- C. *Kaishore Guggulu*⁹- It contains *Guggulu* ,*Guduchi* stem, *Amalaki* fruit, *Bibhitaki* fruit, *Haritaki* fruit, *Ardrak* root, *Pippali* fruit, *Marich* fruit, *Danti* and *Nishoth* root. *Kaishore Guggulu* is a drug of choice in *Vatarakta* in which obstruction in blood vessels is main pathology. So, in this condition also it might have helped to improve blood circulation of head of the femur.it results into healthy joints, muscles, reduces pain and improves the tone of connective tissue.
- D. *Rasanadi Guggul*¹⁰- It contains *Rasanadi Churna*, *Shudh Guggulu* and *Grihta*, *Rasanadi Guggul* is a drug of choice in *Sandhigatvata*, having properties like *Vatanashak*, *Deepan*, *Balya*, *Rasyana*, *Tridoshanashak*, *Pachan*, *Shothaghna* and *Vedanasthapan*. It cures muscle stiffness of joints and helps in easy movements of joints.
- E. *Ashwagandha churn* -It is well known *Rasayana*. It works as *Vata Shamana* as it has properties of *Madhura Rasa Snigdha Guna* and *Ushna Veerya* having *Madhur Vipaka*. All these properties help in pacifying the increased *Vata Dosha*. It also has *Brimhana* effect on different type of tissues of body which helps in the condition of *AsthiKshaya*. *Laghu Guna* of *Ashwagandha* helps in improving the *Dhatvagni* and helps in *Dhatu Uppchaya*.

Conclusion

- It can be concluded that *Panchatikta Kshir Basti* along with *Shashtika Shali Pinda Sweda* & Internal medicine can be used as effective treatment in the Post Radiofrequency management of Osteoid Osteoma (*Dhatu kshayjanya sandhigatvat*). While there is enormous scope of further research but still it proves that with proper diagnosis and treatment protocol, *Ayurveda* can be extremely beneficial in patients suffering from Post Radiofrequency Ablation complication of Osteoid Osteoma. The recovery in the present case was promising and worth documenting.
- Patient was earlier on NSAID's which was tapered down and stopped gradually. while being on NSAID's and other allopathic treatment he was still having severe pain, restricted movement of right hip and knee joint and

was not able to walk. Patient was advised right total Hip Joint Replacement but at the end of our *Ayurveda* management he was completely free from all the symptoms was able to walk without any support.

- The maximum life of replaced hip joint is 25 years, as patient is young he may require multiple times hip joint replacement which was economically and physically difficult so with the *Ayurveda* we can treat the patients and postponed Hip Joint Replacement

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Table 1: *Akunchaana Prasarana Vedana* (Pain during movement) – Subjective parameter.

0	No pain
1	Pain without wincing of face
2	Pain with wincing of face
3	Prevent complete flexion-extension
4	Does not allow passive movement

Table 2: Observation was done both before and after the treatment.

Sr. No.	Parameter	Before Treatment	After Treatment
1	Pain	4(Severe difficulty in walking, disturbs sleep, under analgesics)	1(Mild pain bearable in nature, comes occasionally)
2	Pain on joint movement	3(Prevent complete flexion-extension)	0(No Pain)
3	Gait	Painful and difficulty in movement(severe pain while walking in right hip and knee joint) Uses Mobility aid (uses crunch)	Able to walk freely without any support, no pain
4	Corrective shoe	Uses shoe-correction half inch in left shoe	No shoe correction required
5	VAS Scale	9	3

Table 3: Movement (before and after treatment) ⁻¹¹ Objective parameter.

	Before treatment Right	After treatment RIGHT	Before treatment LEFT	After Treatment LEFT	NORMAL
Hip Flexion	0°- 20	0°- 80°	0°-100°	0°-100°	0°-120°
Hip Extension	0°-10	0°-20°	0°-25°	0°-30°	0°-30°
Hip Abduction	0°-10°	0°-25°	0°-30°	0°-30°	0°-40°
Hip Adduction	0°-5°	0°-10°	0°-30°	0°-30°	0°-35°
Hip internal rotation	0°-5°	0°-15°	0°-30°	0°-30°	0°-45°
Hip external rotation	0°-10°	0°-20°	0°-20°	0°-20°	0°-45°
Knee flexion	0°-100°	0°-140°	0°-140°	0°-140°	0°-135°
Ankle Dorsi	0°-15°	0°-15°	0°-10°	0°-10°	0°-15°
Ankle Plantar	0°-50°	0°-50°	0°-45°	0°-45°	0°-50°
Ankle Inversion	0°-35°	0°-35°	0°-35°	0°-35°	0°-35°

Ankle Eversion	0°-20°	0°-20°	0°-15°	0°-15°	0°-20°
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Table 4 Muscle power (before and after)¹² – Objective parameter.

Joint	Action	Muscle	Before(right)	After(right)	Before(left)	After(left)
HIP	Flexors	Psoas major	3	4	4	4
		Ilio psoas	3	4	4	4
		Iliacus	3	4	4	4
		Sartorius	3	4	5	5
		Tensor Facia Latae	2	4	4	4
	Extensors	Gluteus Maximus	2+	4	5	5
		Biceps Formis	2+	4	5	5
	Adductors	Pectineus	2+	3+	4	4
		Adductor Magnus	2+	3+	4	4
		Gracilis	2+	3+	4	4
		Adductor Gravis	2+	3+	4	4
		Adductor Longus	2+	3+	4	4
	Abductor	Gluteus Medius	2+	3+	4	4
		Gluteus Minimus	2+	3+	4	4
	Medial rotators	Tensor Facia Latae	2	4	4	4
		Gluteus Medius	3+	4	3+	3+
		Gluteus Minimus	3+	4	3+	3+
	Lateral rotators	Piriformis	3+	3+	3+	3+
		Quadratus Fermis	3+	3+	3+	3+
		Obturator Internus	3+	3+	3+	3+
		Obturator Extemus	3+	3+	3+	3+
		Superior Gemellius	3+	3+	3+	3+
		Inferior Gemellius	3+	3+	3+	3+

Figure 1(patient before the treatment)



Figure 2(patient after the treatment without any support)

