

## A COMPARATIVE STUDY OF AGNIKARMA BY PANCHADHATU SHALAKA AND LAUHA SHALAKA IN THE MANAGEMENT OF HEEL PAIN DUE TO CALCANEAL SPUR

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### ABSTRACT

*Ayurveda* is an ancient science. There are various types of *Vaidic* literature which represents a copious and precise knowledge. *Sushruta Samhita* is one of them. *Acharya Sushruta* has mentioned surgical and parasurgical procedure. *Agnikarma* is among of them. The incidence of Calcaneal spur in Indian population with Heel pain is 59 %. The Heel pain occurs majorly due to Calcaneal spur. It is one of the most troublesome common health complaints. Usually it affects badly people's routine work and it is very difficult for the body to heal. Hence, it is necessary to cure this problem completely. *Agnikarma* is the method to eradicate complete pathology of disease. In this study we compared the effect of *Agnikarma* by *Panchadhtu shalaka* in Trial Group A (20 pts.) and *Agnikarma* by *Lauha shalaka* in Control Group B (20 pts.) on Heel pain due to Calcaneal spur.

**Keyword:** Heel pain, Calcaneal spur, *gnikarma*.

### INTRODUCTION

In modern medical science, Calcaneum is the name for the heel bone and spurs means tiny projection. The middle aged overweight, high heeled foot wear exert more pressure over heel region. This leads to stretching or flattening of the Calcaneum and thorny hook shaped growth formed in the local regions. It gradually exerts the pressure over soft tissue around it. When a foot bone is exposed to constant pressure, it causes to build up calcium deposit on the bottom of the heel bone. Repeated damage for long time causes these deposits to pile up on each other causing spur shaped deformity. They are frequently associated with planter fasciitis. There are a large percentage of people suffering from this disease. This is most often seen in patients over the age of 35 years. It is declared by many surveys that women are the common sufferers. It may be due to the use of high heeled foot wear and overweight<sup>1</sup>.

*Sushruta Samhita* is a main pillar of *Ayurvedic* surgery. *Acharya Sushruta* has mentioned

*Agnikarma*, which is therapeutic burning on specific sites. It can be done with various tools like *Pippali*, *Ajashakruta*, *Godanta*, *Shara*, *Shalaka* etc<sup>2</sup>. *Acharya Vagbhata* has suggested *twaka*, *mansagat dahanakarma* with *Lauhadi shalaka* (i.e. Tamra, Lauha, Raupya, kasya etc.) which is applied on various diseases like *Granthi*, *Arbuda*, *Arsha*, *Antravridhi*, *Bhagandara*, *Dushta Vrana* etc<sup>3</sup>. As per modern medical science Calcaneal spur is a bony projection it can be correlated with *Adhyasthi*<sup>4</sup>. *Adhyasthi* is an *asthiprado-shaja Vyadhi* which is caused due to *Vatakar Aharvihar*, *Vyayam* etc<sup>4</sup>. It means there is a *prakopa* of *Vata Dosha*. *Acharya Sushruta* has indicated *Agnikarma* on *Asthigata Vata-prakopa* for complete cure of disease<sup>5</sup>. Therefore we studied the Comparative effect of *Agnikarma* by two types of *shalaka* in 40 patients on heel pain due to Calcaneal spur.

## AIMS AND OBJECTIVES

- To evaluate the effect of Agnikarma with Panchadhatu shalaka and Lauha shalaka in Heel pain due to Calcaneal spur.
- To compare the effect of Agnikarma with Panchadhatu shalaka and Lauha shalaka in Heel pain due to Calcaneal spur.

## MATERIAL AND METHOD

Patients suffering with complaint of Heel pain due to Calcaneal spur, attending OPD of Shalyatantra Dept. C.S.M.S.S. college kanchanwadi Aurangabad, were registered. The patients were diagnosed on the basis of signs and symptoms and divided randomly in two groups irrespective of their age, sex, religion, caste, occupation etc. Case histories were noted in specially prepared case proforma.

### Clinical study

The patients were divided into two groups as follows: Group A: Agnikarma done by Panchadhatu shalaka. Group B: Agnikarma done by Lauha shalaka.

### Inclusion criteria

Patients suffering from pain in heel due to Calcaneal spur confirmed by X- ray after clinical diagnosis.

### Exclusion criteria

- D.M.
- Pregnancy
- Anaemia.
- Leprosy.
- K/c of any major systemic disorder.

### Agnikarma Vidhi

- **Purva karma**
  - Patients were advised to have Snigdha and Pichichhila diet on the day of Agnikarma<sup>6</sup>.
  - Informed consent of patients were taken.
  - The specific site for Agnikarma was confirmed as area of maximum tenderness.
  - Jatyadi Ghrita was applied locally on it.
- **Pradhana karma**
  - At this site Agnikarma was done in 13 – 15 Bindu till Samyaka dagdha Vrana were achieved.
- **Pashchata karma**

- Dusting of Triphala churna was done on Samyaka Dagdha Vrana and it was dressed with

### Sitting of Agnikarma

A total of seven sitting of Agnikarma were done with a gap of 7 days in 43 days. Follow up for next Agnikarma – on every 8<sup>th</sup> days.

Last sitting of Agnikarma on 43<sup>rd</sup> day.

Last observation of study on 50<sup>th</sup> day.

### Assesment criteria

1) Parshni shoola (Pain even on rest.)

2) Parshni Sparshaasahatwa (Pain during walking / on pressure.)

- **Parshni shoola (Pain)**

0 – No pain

1 – Mild (occasionally)

2 – Moderate (frequently)

3 – Sever (almost constant)

- **Parshni Sparshaasahatwa (Tenderness)**

0 – No tenderness

1 – Mild (occasionally)

2 – Moderate (frequently)

3 – Sever (almost constant)

### Investigation

X - Ray before and after treatment, AP view and Lateral view of affected Heel.

### ❖ OBSERVATIONS AND RESULTS

In present clinical trial total 40 patients were registered from which 20 patients in Group A & 20 patients in Group B excluding dropouts. Among 40 patients, 62.5% of patients were in age group of 36 to 50 yrs. & 37.5% patients were in age group of 21 to 35 yrs. The maximum number i.e. 72.5% were female while remaining i.e. 27.5% patients were male.

Sr. No	Observation	Maximum Category	Group A (20 pts.)	Group B (20 pts.)	Total	In %
1	Age	21 – 35	06	07	13	32.5%
		36 – 50	15	12	27	67.5%
2	Sex	Female	16	13	29	72.5%
		Male	04	07	11	27.5%
3	Health	Middle aged over-weight	15	17	32	80%

• **Effects of therapy: (Before and after treatment)**

**Pain in Group A**

	BT	AT	Difference
P value	0.0019		
Mean	2.3	0.4	1.9
Std. deviation	0.801	0.502	0.64
Std. error	0.179	0.112	0.14

Using Wilcoxon match paired rank test  $p < 0.05$  considered extremely Significant, changes on Pain in Group A.

**Pain in Group B**

	BT	AT	Difference
P value	0.0009		
Mean	2.3	0.75	1.55
Std. deviation	0.656	0.55	0.51
Std. error	0.146	0.123	0.114

Using Wilcoxon match paired rank test Pain in Group B.  $p < 0.05$  considered Significant, changes on

**Pain in both Groups**

	Group A	Group B	Inference
P value	0.123		Significant
Mean	1.9	1.9	
Std. deviation	0.64	0.64	
Std. error	0.143	0.143	

There is highly significant difference in the Pain after treatment in the Trial group and Control group. *Panchadhatu shalaka* is

**more significant in reduction of pain than Lauha shalaka.**

**Tenderness in Group A**

	BT	AT	Difference
P value	0.106		
Mean	2.35	0.45	1.9
Std. deviation	0.875	0.51	0.85
Std. error	0.195	0.114	0.19

Using Wilcoxon match paired rank test changes on Tenderness in Group A.  $p < 0.05$  considered extremely Significant,

**Tenderness in Group B**

	BT	AT	Difference
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P value	0.302		
Mean	2.2	0.8	1.4
Std. deviation	0.615	0.615	0.82
Std. error	0.137	0.137	0.183

Using Wilcoxon match paired rank test  
p<0.05 considered Significant, changes on

Tenderness in Group B.

#### Tenderness in both Groups -

	Group A	Group B	Inference
P value	0.093		Significant
Mean	1.9	1.4	
Std. deviation	0.852	0.82	
Std. error	0.19	0.183	

There is significant difference in the Tenderness after treatment in the Trial group and Control group. **Panchadhatu shalaka is more significant in reduction of pain on pressure than Lauha shalaka.**

#### DISCUSSION

In the people who have sedentary habit and one who have weakness of the calf muscle the pressure is immediately transferred to the heel region. When the planter fascia is tight and pulled on heel bone, the bone releases calcium to protect and for supporting. It causes the inflammation of soft tissue and pain while walking. Spur is nothing but ossification of the plantar fascia at its calcaneal end. On an X-ray, a calcaneal spur can extend forward by as much as a half inch. Management of calcaneal spur and associated conditions include exercise, custom-made orthotics, anti-inflammatory medications and local cortisone injections. If conservative treatment fails, surgery might be necessary.

Acharya Sushruta suggested Agnikarma is one of the most efficient parasurgical treatments. It can be applied in those diseases which are not cured by Aushadha, Kshara and Shastrakarma. It is also called Apunarbhava Chikitsa. It is one of the main treatment modality to decreasing the pain threshold. Following explanation may support pain relieving by Agnikarma. Agni possesses

viz. Guna Ushna, Tikshna, Sukshma, Ashukari. Here the heat pacifies Vata and increase Dhatwagni. As it is transferred via skin, might be acts as removing obstruction in the Sookshma Strotas and increases the local blood circulation, reduces the inflammation of affected site.

Rate of any metabolic activity is increased by rise in temprature It forms good newer tissue. Due to increased local metabolism, the waste products which are produced, gets excreted, which normalizes the blood circulation and releases the pressure on end nerves, resulting in reduction in intensity of pain.

Here, Panchadhatu shalaka is more efficient than Lauha shalaka. It may be due to following reason are as follows:

The components of Panchadhatu shalaka with different proportion such as, Tamra (copper) – 40% Lauha (iron) – 30% Yashada (zinc) - 10% Rajata (silver) – 10% Vanga tin) – 10% From above sense, it can be clarified as there are variations in heat capacities of each metal, The lower heat capacities take lower time to get heat of metals (red hot) and vice versa. Due to combination of metals with different heat capacities, thermal conductivities and cooling capacities, Panchdhatu shalaka can get heated earlier due to high thermal conductivity. As per law of chemistry, the lower heating temperature takes more time to reach at cooling temperature

(room temp.). So the combined effect of different cooling capacities of different metals takes longer time to reach at room temperature. It facilitates to take multiple points (*Dagdha Vranna*) of equal intensity (*Samyaka Dagdha*). The role of above qualities can help to get multiple *Agnidagdha Vrana* in short time everywhere, due to equal retention of heat. Hence, the synergetic effect can be found in *Panchadhātu shalaka*. So, it can be state as *Panchadhātu shalaka* is more effective than *Lauha shalaka*. Based on this principle the study was carried out and after completion of therapy the symptoms found to be relieved.

### CONCLUSION

It is easy to learn and apply the principle of *Agnikarma* in managing different surgical conditions where surgery is not possible to treat the condition or there is great chance of relapse of disease. *Agnikarma* provides lot of options for the surgeon as it is easy to implement and no chance of recurrence.

The present clinical trial showed highly significant consequences in both groups. In *Agnikarma*, *Panchadhātu shalaka* and *Lauha shalaka* are both effective in the management of Heel pain. So both these modalities are non-pharmacological, easy to perform, cost effective and result oriented in all kind of Heel pain. But *Agnikarma* by *Panchadhātu shalaka* found most efficient than *Lauha shalaka* on the background of heat capacities, thermal conductivity and therapeutic utility. So, it can be state as *Panchadhātu shalaka* is more advisable than *Lauha shalaka*.





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**Source of Support:** Nil

**Conflict of Interest:** None Declared