



COMPARATIVE STUDY OF AGNIKARMA AND INTRALESIONAL STEROIDAL INJECTION IN VATAKANTAKA W.S.R.PLANTAR FASCIITIS

Ayurveda

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ABSTRACT

Background- Plantar fasciitis is the most common cause of chronic pain beneath the heel in adults. Aim of this study is to reduce heel pain in planter fasciitis and compare the results of *Agnikarma* with Intralesional steroidal injection.

Methodology- Its randomized controlled trial. Total 60 Patients diagnosed as *Vatakantaka* (plantar fasciitis) were selected and divided into two groups. Tamra Shalaka was selected for *Agnikarma* in group A while Intralesional injection of Triamcinolone 40mg (1ml) was given in Group B.

Results- In both groups of 30 patients each, pain and tenderness was reduced. Comparing results in both groups obtained same results but in *Agnikarma* group pain and tenderness was reduced immediately.

Conclusion- *Agnikarma* and Intralesional Steroid both are equally effective treatment for *Vatakantaka* i.e. Plantar Fasciitis. Still advantage of *Agnikarma* is instant pain relief. It is cost effective and OPD procedure with minimum requirement of instruments.

KEYWORDS

Agnikarma, Plantar fasciitis, *Vatakantaka*

INTRODUCTION

Plantar fasciitis is the most common cause of chronic pain beneath the heel in adults, making up 11–15% of the foot symptoms requiring professional care among adults.[1,2,3,4] It is estimated that 1 in 10 people will develop plantar fasciitis during their lifetime.[5], PF has been described as painful heel syndrome, chronic plantar heel pain, heel spur syndrome, runner's heel, and calcaneal periostitis.[6] Plantar Fasciitis is a painful condition caused by overuse of the plantar fascia or arch tendon of the foot. Typically, plantar fasciitis results from repeated trauma to the tissue where it attaches to the calcaneum.[7] Patients usually complain of pain at the anteromedial prominence of the calcaneum. The pain is exacerbated by passive dorsiflexion of the toes. Symptoms may have been present for weeks or months at the time of presentation. The pain is worse when first standing after rest, typically early in the morning.[8] Numerous interventions have been described for treatment of PF, which include: rest, heat, ice pack, non-steroidal anti-inflammatory drugs (NSAIDS), heel pads, magnetic insole, night splints, walking cast, taping, plantar and Achilles stretching, ultrasound, steroid injection, extra-corporeal shock wave therapy, platelet-rich plasma injection, pulsed radiofrequency electromagnetic field therapy, and surgery.[9]

As per *Ayurvedic* perspective *Vatakantaka* can be correlated with Planter fasciitis. *Vatakantaka* is *vata* predominance disease. In various *Samhitas* of *Ayurveda*, there are lots of references regarding *Vatakantaka*. A foot placed unevenly or by abnormal movements cause *vatavaishmya* i.e. vitiation of *Vata*. This enters in the *khudaka*(heel) and produces pain. This condition is called as *vatakantaka*. [10] In *Ayurvedic* texts, there are various methods used as a line of treatment, some of which are effective, simple, safe and cheap for the patients like *Snehana*, *Swedana*, *Lepa*, *Siravyadha*, *Agnikarma*, Oral medication.[11]

Acharya Sushrut has described *Agnikarma* as more effective than any other types of treatment because of non recurrence of diseases.[12] *Agnikarma* is indicated in severe painful condition. In *vatakantaka* there is a severe pain in the heel. It gives quick relief in these type of conditions. For *Vatakantaka* *Acharya Vangsen* has described bloodletting, ingestion of castor oil, *dahan*(*Agnikarma*) with hot needles. To test the above said utility of *Agnikarma* this topic is selected. Aim of this study is to reduce heel pain in planter fasciitis and compare the results of *Agnikarma* with Intralesional steroidal injection.

MATERIALS AND METHODS

Randomized controlled trial was done and results were compared in both groups. Total 60 Patient diagnosed as *Vatakantaka* (plantar fasciitis) were selected and divided into two groups by simple random allocation method. *Tamra Shalaka* was selected for *Agnikarma* in

group A while Intralesional injection of Triamcinolone 40mg (1ml) was given in Group B a comparative group. *Agnikarma* was done at maximum tender point selected by pressing at site of heel(Two points were selected one at Heel and other at inner aspect of heel). Single sitting of *Agnikarma* was done by Red hot *Tamra shalaka* (Copper probe), *Biduvat* Type i.e. Spot of 3*3mm with depth of *Twakdagdha* (skin burn). Study was conducted at Bharati Vidyapeeth University Ayurved Hospital,Pune.

INCLUSION CRITERIA

Age- 18 years above to 70 years, Both Gender

Patients with heel Pain diagnosed as Planter Fasciitis and Calcaneal Spur

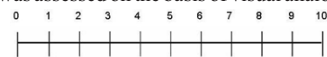
Exclusion criteria

- Vascular disease
- Infective pathology
- Fracture of Calcaneum
- Uncontrolled diabetes mellitus.
- Pregnant women

Criteria of Assessment

Change in sign and symptoms were assessed according to the following criteria.

1) Pain –pain was assessed on the basis of visual analogue scale.



2) Tenderness-tenderness was assessed on grading given below.

No tenderness	-0
Deep tenderness	-1
Mild tenderness	-2
Moderate tenderness	-3
Hyperaesthesia	-4

Method of *Agnikarma*

Agnikarma was done at the point of maximum tenderness only two points were selected one at Heel and other at inner aspect of heel. *Tamra shalaka* was kept on ignited burner of Gas till it became red hot. Immediately *Shalaka* was touched to desirable points of heel and kept upto *Samyak Twakdagdha lakshana* occurs i.e. *Shabdapradurbhava*, *Durgandhata* and *Twak sankoch*. Immediately after burn Aloe vera was applied for cooling effect. Then dressing was done with Gruta and bandage was applied.

Method of Intralesional injection

Under all aseptic precautions Needle inserted into Planter Fascia by medial approach Injecting deep to the plantar fascia ensures adequate

spread of the steroid preparation.

Follow up

Follow up was done on 0th, 1st, 3rd and 7th day and data was recorded.



Intralesional injection

Agnikarma

OBSERVATION AND RESULTS

Pain

This Table no 1 shows the P-value is less than 0.05 i.e. there is significant reduction in pain after treatment with "Agnikarma".

Table no 1	Group A	B.T.	A.T.	T.cal	T table	P-value
	MEAN	7.26	1.8	8.53	2.14	0.00038
	S.D.	2.17	2.22			

This Table no 2 shows the P-value is less than 0.05 i.e. there is significant reduction in pain after treatment "Injection Triamcinolone".

Table no 2	Group- B	B.T.	A.T.	T cal	T table	P- value
	MEAN	6.66	0.86	10.35	2.14	0.000438
	S.D.	1.88	1.45			

Table no 3 shows comparison between two groups by different statistical values of the groups. After statistical analysis P-value of the two groups which is greater than 0.05 so both the treatment are equally effective

Table No 3	Group-A	Group- B	T cal	T table	P- value	
	MEAN	5.46	5.8	0.4	2.041	0.36
	S.D.	2.49	2.19			

Tenderness This Table no 4 shows the P-value is less than 0.05 there is significant reduction in tenderness after treatment.

Table no 4	Group A	B.T.	A.T.	T cal	T table	P- value
	MEAN	2.33	0.53	9.47	2.14	0.00013
	S.D.	0.59	0.61			

Table no 5	Group B	B.T.	A.T.	T cal	T table	P- value
	MEAN	2.26	0.4	6.4	2.14	0.00028
	S.D.	0.77	0.61			

This Table no 5 shows the P-value is less than 0.05 i.e. there is significant reduction in tenderness after treatment Injection Triamcinolone.

Table no 6	Group-A	Group- B	T cal	T table	P- value	
	MEAN	1.8	1.861	0.171	2.041	0.34
	S.D.	0.74	1.14			

DISCUSSION

Plantar Fasciitis is one of the most common condition of painful heel. Almost 80 percent patients of heel pain are diagnosed as plantar fasciitis. In this Study out of 60 patients 38 patients were female and 22 patients were male. In 60 patients calcaneal spur was present in 45 patients i.e. 75 percent. There is a deep association between Calcaneal spur and Plantar fasciitis. Pain in the heel is one of the common complaints in the patient of *vatakantaka* (Plantar fasciitis). Pain is usually more in the morning when foot is placed for getting up from the bed. In study group *Agnikarma* was done on the point of maximum tenderness and good result was obtained. Comparing both *Agnikarma* and Intralesional Steroid Injection relief in pain was significant proves both the treatment are equally effective but pain was relived immediately after *Agnikarma* than injection group. So *Agnikarma* can be used as immediate pain reliever. Similarly tenderness was significantly reduced in both groups after 7th day so statistically both the treatments are equally effective but tenderness was relived immediately after *Agnikarma* while it was reduced gradually after Intralesional Steroid injection. Sushruta has indicated *Agnikarma* in intense pain. According to Sushruta *vata* is main causative factor for *Ruja* (pain) which is cardinal symptom of *Vatavydhi*. *Vata Dosh* is predominantly having *Sheeta Guna* which is exactly opposite to *Ushna Guna* of *Agni*. *Agnikarma* Pacify local *Vata* due to its *Tiksha*, *Ushna* and *Ashukari guna*. [13]

Probable mode of action of *Agnikarma* on *Vatakantaka* (Plantar Fasciitis)

Due to unevenly placing of foot and other similar causes *vata* get vitiated and enter in the *khudaka* (Heel) which produces intense pain. *Agnikarma* has opposite *guna* to that of *vata*, so *Agnikarma* on the heel stabilizes vitiated *vata* and pain cause by that *vata* is relieved.

Agnikarma works by giving external heat there by increasing the *Dhatvagni* which helps to digest the aggravated *Doshas* and hence cures the disease.

Counter Irritation theory

Theory suggest of that exited Nocicepters are inhibits in the dorsal horn due to stimuli. When *Agnikarma* is done on the site of pain Thermoreceptors are stimulated. [14]

Vasodilatation

After performing *Agnikarma* the superficial sensory nerves gets stimulated which leads to dilatation of local blood vessels, resulting in increased blood circulation due to this all metabolic waste get excreted which normalize the blood circulation thus resulting in reduction in intensity of pain. [15]

CONCLUSION

Agnikarma and Intralesional Steroid both are equally effective treatment for *Vatakantaka* i.e. Plantar Fasciitis. Still advantage of *Agnikarma* is instant pain relief. It is cost effective and OPD procedure with minimum requirement of instruments.

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Conflict of Interest

No conflict of interest.

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