

# A Clinical Study to Evaluate the Efficacy of Agnikarma with Lauha Shalaka and Raktamokshana in Parshnishool W.S.R. To Plantar Fasciitis

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**Abstract—** Over a long period of time different branches of Ayurveda has evolved in which health is mainly concerned with preventing as well as curing the diseases. Plantar fasciitis is a common condition that causes heel pain and sometimes bony spur may be seen at the attachment of plantar fascia. Parshnishool can be correlate with Vatakantaka mentioned in ayurveda as one of the symptoms of vatavyadhi. Vata gets aggravated and localised in Khudda-pradesha when person walks on irregular surface. Now a days it can be managed by Physiotherapy, NSAID'S, Steroids etc. But this conservative management give short term relief with certain drawbacks and surgically it can be managed by Plantar fascia release which increase hospital stay and high economical expenses. Acharya Sushruta described Agnikarma for painful condition of Twak, Mamsa, Sira, Snayu, Asthi and Sandhi. Acharya also mentioned in Sushrut Samhita that Raktamokshana / Siravedha of vein situated two Angulas (4cm) above the Kshipramarma in Vatakantaka gives better relief. So, the study is conducted into two groups which includes group A – were treated with Agnikarma with lauha shalaka and group B- treated with Raktamokshana / Siravedh which gives equally satisfied results

**Index Terms-** Agnikarma, Kshipramarma, Prashnishool, Raktamokshan

## I. INTRODUCTION

Vatakantaka is one of the diseases of Vatavyadhi. It is a disease which gives thorny pain in the foot associated with Vata Kapha Dhusti which interferes in doing day to day activities. Acharya "Sushruta Mentioned, Vatakantaka in Vatavyadhi Nidhana. In classics it has been said that when the foot is kept on the uneven ground or placing the foot improperly

(while walking) or by over exertion of the foot, Vata localized in the Khudaka gets aggravated and produces pain known as vatakantaka<sup>[1]</sup>. also, Acharya Vaghbata described that severe aching pain is perceived when, the foot is kept in unusual posture or when the local area is fatigued due to excess function, Vatadosa take chance and occupies the ankle joint and heel. It is called as Vatakantaka<sup>[2]</sup>. The factors which are responsible for Vatakantaka are excessive use of Ruksha, Sheeta, Laghuahara and Excessive Walk in bare foot. Acharya Sushruta mentioned Agnikarma in condition like, very severe pain in Twak, Mamsa, Sira, Snayu, Asthi Sandhi<sup>[3]</sup> and in Vatakantaka<sup>[4]</sup>. Acharya Sushruta also mentioned Siravedha in Vatakantaka, vein situated two Angulas (4cm) above the Kshipramarma (between big toe and next toe). Siravedha should done with Vrihimukhasastra (trocar, thick needle)<sup>[5]</sup>

In Modern Science Vatakantaka is correlated with Plantar Fasciitis. It is also called as police man's heel. Plantar fascia is a fibrous Aponeurosis origin from calcaneus and divides into 5 digital bands and attaches to toes. Plantar fasciitis presents with pain while walking after prolonged period of rest usually after prolonged sitting or awaking from sleep<sup>[6]</sup>.

The treatment in modern science is both conservative and as well as surgical, by use of NSAID's, pain will be relieved temporarily but treatment is expensive and having the chance of complications and re-occurrence also. It can be managed with treatment like Physiotherapy, stretching exercises, Shoe inserts, surgically it can be managed by plantar fascia release

based on requirement. But still gives the limited remedial measures<sup>[7]</sup> So, there is need of an economic, safe and effective treatment for this disease. Hence an attempt was made to evaluate the efficacy of *Siravyadha* in *Vatakantaka* and compare the same with the efficacy of *Agni karma* with *Lauhshalaka* which has been proved as efficacious by the previous work do.

**Inclusive Criteria**

- Patients with age group of 20-60 years of both sexes.
- Patients with classical signs and symptoms of Vatakantaka like Tenderness and swelling. (Plantar Fasciitis).

**Exclusive Criteria**

- Patients on anticoagulant therapy and bleeding disorders.
- Pregnant Women.
- Patients Suffering from systemic disorders like – DM, Hypertension and other systemic diseases.
- Pt suffering from infectious diseases like-HIV, HbSAg, and other infectious disease.

**Assessment Criteria**

- The assessment of relief of sign and symptoms was after completion of treatment by following
- Pain
- Tenderness
- Windlass test
- Local swelling

**Grades**

**Pain:**

|  |    |
|--|----|
| No pain  | 0  |
| • Mild pain - Can be ignored –                     | 2  |
| • Moderate pain - Interfere with tasks -           | 4  |
| • Severe pain - Interferes with concentration      | 6  |
| • Very severe pain - Interferes with basic needs - | 8  |
| • Worst pain possible - Bed rest required -        | 10 |

**Tenderness: Based on VAS<sup>[8]</sup>**

- No tenderness - Says palpation is not painful even when asked about it -0

- Mild Tenderness - Says palpation is painful only when asked about it- 1
- Moderate tenderness - Indicates palpation is painful by wincing during palpation -2
- Severe tenderness - On palpation, tries to withdrawal the limb -3

**Windlass test** Patient is made to stand on stool with toes of foot just off the edge of stool. The patient is instructed to place equal weight on both feet. By passive extension of great toe was done until complaints pain or to its end range. It causes the stretch of plantar fascia and reproduces pain.[15]

Negative windlass test: No pain- Alert & smiling 0

Positive windlass test: Heel pain reproduced with passive dorsiflexion of the toes.

Pain during examination will be recorded based on VAS [8] scale in standing position in following grading:

- Mild pain – No humour, serious -2
- Moderate pain – Furrowed brows, breath holding, pursed lips -4
- Severe pain – Wrinkled nose, raised upper lip, rapid breathing- 6
- Very severe pain – Slow blink, open mouth- 8
- Worst pain - Eyes closed, crying- 10

**Local Swelling**

- No swelling – 0
- Mild swelling – 1
- Moderate swelling – 2
- Profuse swelling -3

**Treatment plan.**

A total 10 patients were selected randomly for study. They were divided into two Groups of 05 patients each

- Group A: Selected patients were treated with Agnikarma. 04 sittings were done 1st, 4th, 7th, and 10th day.
- Group B: Selected patients were treated with Siravedha. 04 sittings were 1st, 4th, 7th, and 10th day
- Follow up: active follow up after 10 days of treatment and general follow up to 1 month. Before treatment and after treatment parameters assessed. The procedures in both groups were conducted at minor OT of department of PG studies in Shalyatantra

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**Materials and Methods-**

**Agnikarma:**

Gas stove,Lauh Shalaka,Aloe vera pulp , Ghrita (ghee), haridra churna , and kidney tray.

**Siravedha:**

kidney trays, scalp vein (no. 20), 20ml syringe, spirit, betadine solution. Gauze piece,Bandages,tourniquet.

**Procedure of Agnikarma**

Required materials for procedure of Agnikarma were collected. The procedure was explained in detail and taken consent from the patient. Shalaka is placed on the gas stove to become red hot. The selected part is cleaned. 5 to 6 points will be marked at a distance of 1 to 2cm superiorly along and around the ankle joint and planter surface where ever patient got more tenderness during examination. Agnikarma was done at 5 to 6 consecutive points around the ankle joint and Planter surface where there is more tenderness with minimum distance of 1 to 2cm. Kumari pulp was applied over the marked area for 2 to 3 minutes for soothing effect,then applied mixture of haridra and ghee over burnt part. Then it is covered with sterile gauze. Patients are advised to avoid contact with water over the burnt part. Active follow up after 10 days of treatment and general follow up to 1 months.



**Procedure of Siravedha**

Required materials for procedure of Siravedha were collected. Informed written consent of the patient before going to Siravedha was taken. Temperature – Pulse – Respiration and Blood pressure were normal. Then He was asked to sit nearby in erect posture; the

part proximal to the puncture site was tied with tourniquet. Scalp vein (20 No) is taken. Then the scalp vein properly placed into the prominent vein around and below the ankle joint and connected the syringe. Slowly withdrawn the blood into syringe; amount of blood withdrawn was 20ml in each sitting. After completion of withdrawal of the blood, the Scalp vein was removed from the vein and placed a cotton ball over the punctured site with pressure to arrest the bleeding. After Samyak Raktamokshana, the blood on surrounding area was cleaned with betadine and normal saline. Tight dressing was applied on the wound to arrest the further bleeding. Patient advised to take rest on the bed with foot end elevatio



**II. OBSERVATION AND RESULTS**

In this study total 10 patients of Vatakantaka were selected and randomly assigned in two groups namely Group A and Group B with 05 patients each. Each patient was observed thoroughly and noted. The observations were recorded and necessary charts were made.

**AGNIKARMA WITH LOH SHALAKA**

|      | Pain   |       | Tenderness |       | Windlass Test |       | Local Swelling |       |
|------|--------|-------|------------|-------|---------------|-------|----------------|-------|
|      | Before | After | Before     | After | Before        | After | Before         | After |
| Pt 1 | 8      | 2     | 2          | 0     | +             | -     | 2              | 1     |
| Pt2  | 6      | 4     | 3          | 1     | +             | +     | 3              | 1     |
| Pt3  | 10     | 4     | 2          | 0     | -             | -     | 1              | 0     |
| Pt4  | 8      | 2     | 1          | 0     | +             | -     | 2              | 0     |
| Pt5  | 6      | 0     | 3          | 1     | +             | -     | 1              | 0     |

|  | Pain    |        | Tenderness |        | Windlass Test |        | Local Swelling |        |
|--|---------|--------|------------|--------|---------------|--------|----------------|--------|
|  | Bef ore | Aft er | Befo re    | Aft er | Befo re       | Aft er | Befo re        | Aft er |

|      |    |   |   |   |   |   |   |   |
|------|----|---|---|---|---|---|---|---|
| Pt 1 | 8  | 2 | 2 | 1 | + | - | 3 | 1 |
| Pt 2 | 6  | 0 | 2 | 0 | + | + | 2 | 0 |
| Pt 3 | 10 | 4 | 3 | 1 | - | - | 2 | 1 |
| Pt 4 | 6  | 2 | 1 | 0 | + | + | 3 | 0 |
| Pt 5 | 8  | 2 | 3 | 1 | + | + | 2 | 0 |

### III. DISCUSSION

Discussion on Disease Vatakantaka is predominantly caused by vitiation of Vata associated with Kapha in heel and cause pain, stiffness, and Shotha. In both the sciences, the commonly seen factor causing the disease is more pressure over the arch of the foot leading to the stretching and inflammation of plantar fascia. The main symptom it is defined as sharp pain on the plantar surface of the heel. Sharp pain in the heel is something like pin pricking. The word Kantaka correlates with thorn, and in Vatakantaka there is thorny pain in the heel. So, based on above factors it is appropriate to correlate Vatakantaka to Plantar fasciitis

#### Discussion on Agnikarma

Agnikarma is an important Anushastra karma (para surgical procedure) mentioned in the Sushruta samhita. While elaborating the benefits of this procedure, Sushruta mentioned that it is easy to perform, effective in many incurable diseases and which has no reoccurrence of the diseases, including severe pain in Asthi (bones) and Sandhi (joints) Pradesh<sup>[9]</sup>

#### Discussion on Siravedha

Siravedha is a type of Raktamokshana elaborately described in the Sushruta samhita. While elaborating the benefits of this procedure, Acharya Sushruta explained Siravedha as, a half treatment just like Vasti in the Kayachikitsa. Acharya Sushruta also mentioned that in disease such as Vatakantaka, Padadaha, Padaharsha, Vatasonita, Chippa, Visarpa, vein situated two Angulas (4cm) above the Kshipramarma

(between big toe and next toe). Siravedha should done with Vrihimukhasastra .

#### Probable mode of action of Agnikarma

- Shalaka made into red hot and placed on the skin to made Samyak Dagdha Bindhuvat Vrana by which heat transferred to local site. The Ushna, Laghu, Tikshna, Sukshma, Vyavayi, Vikashi and Ashukari properties of Agni helps to remove the Srotavarodha (obstruction of channels),also helpful to pacifies the vitiated Vata Kapha Dosha and ultimately helpful into break the Samprapti (pathology).
- By inducing heat to ankle joint causes vasodilatation which increases blood circulation, leading to increased blood flow to the ankle and also increase the venous return which flush away the metabolic waste from ankle. It will decrease pressure on nerve ending and there by decrease the pain and also enhances the natural process of repair.
- Lateral spinothalamic tract (ascending neurons)<sup>[10]</sup> are the pathway for conduction of pain and temperature, pressure by ventral spinothalamic tract. When perception of pressure and temperature factors is increased, pain perception is reduced because only stronger sensation one can felt by brain.

#### Probable Mode of Action of Siravedha

- By removing vitiated blood, fresh blood will rich the area with rich nutrients which will enhances the process of healing.
- Vatakantaka is caused by obstruction to Vata and Kapha in ankle joint and get vitiated causes severe pain in foot. By doing Raktamokshana, Vata, Pitta, Kapha comes out from the site along with Rakta. Thus relives the obstruction by removing vitiated Vata and Kapha occurs. Normal circulation will be restored and thus pain will relived.

### CONCLUSION

- Results of Agnikarma were highly significant in relieving pain and tenderness.
- Results of Siravedha also were highly significant in relieving pain, tenderness, and pain from above observation.

- Both the methods of treatment proved to be effective in the management of Vatakantaka. But comparatively Agnikarma had slight better results.
- As both Agnikarma and Siravedha were showing the significant results, the difference of process of healing.
- Vatakantaka is caused by obstruction (Avarana) to Vata and Kapha in ankle joint and get vitiated causes severe pain in foot. By doing Raktamokshana, Vata, Pitta, Kapha comes out from the site along with Rakta. Thus relieves the obstruction by removing vitiated Vata and Kapha occurs. Normal circulation will be restored and effectiveness between these groups was not significant.
- The procedures in both the groups i.e., “Agnikarma” and “Siravedha” which was simple, economical, and did not require hospitalization.

- [8] <https://www.researchgate.net/figure/visualanalogscale-vas-for-assessment-of-pain>.
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