

A COMPARATIVE CLINICAL STUDY OF ISHTIKA SWEDA AND NADI SWEDA ALONG WITH RASNADI GUGGULU IN THE MANAGEMENT OF VATAKANTAKA

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ABSTRACT

Vatakantaka is one of the *Vata Vyadhi* which gives pricking pain in the heels and causes discomfort in the day-to-day activities. It can be co-related with Calcaneal Spur. It is caused due to wearing high heels and walking with bare feet. Among the various treatment modalities, *Abhyanga* and *Sweda* is the best treatment for *Vata vyadhi*. Hence the present study brings to light the role of *Swedana* along with *Rasnadi Guggulu* in the management of *Vatakantaka*. To evaluate the effect of *Istika sweda* over *Nadi Sweda* along with *Rasnadi guggulu* in management of *Vatakantaka*. In the present study, 40 patients of *vatakantaka* were selected incidentally and placed randomly into two groups A and B, with 20 subjects in each group. Group A was treated with *Istika Sweda*, and Group B were treated with *Nadi Sweda* along with *Rasanadi Guggulu* as *shamanoushadi* for both groups. The effects of treatment provided to the subjects of both groups were significant. Both the treatment methods of *Ishtika Sweda* and *Nadi Sweda* showed equally significant effects in the subjects involved in a clinical study.

Keywords: *Vatakantaka*, *Calcaneal Spur*, *Ishtika sweda*, *Nadi sweda*, *Rasnadi guggulu*.

INTRODUCTION

Ayurveda, the Indian science of medicine has been a very ancient medical practice. It relies on the natural ways of treating the ailments of human beings with the help of medicinal herbs and different procedures which help in healing and recuperation of the body without any altered effects. The world as of now looks towards Ayurveda for unanswered questions in the medical field for solutions.

Here, my work would involve studying a disease called 'VATAKANTAKA^[1-3]' and how to treat the disease with the help of Ayurvedic procedures and 'SHAMANUSHADHI'. According to Sushruta acharya, when the foot is kept on the ground irregularly *vata* localized in the *khuda*(ankle) gets aggravated and produces pain. This condition is known as *vatakantaka*. It causes severe pain in the feet and heel which is intolerable for the patients in some cases. The heel pain occurs due to various reasons like Plantar fasciitis, atrophy of heel pad and calcaneal spur etc. Most of these heel pain cases will be associated with Calcaneal spurs. The signs and symptoms of *Vatakantaka* resemble the condition of Calcaneal spur described by the modern texts. Calcaneal Spur⁽⁴⁾ – is additionally called a heel spur. it's a bony outgrowth or bony projection from the under-surface of calcaneal tuberosity.

Vatakantaka is seen as a high prevalence disease these days. The incidence of Calcaneal spur in the normal population is about 32.2%^[5-6]. The people in the age group of 20-70 years are the most affected by this condition. It is caused due to wearing high heels and walking with bare feet. Hence, it becomes very much necessary to identify the reasons behind this disease and treat the cause with utmost care to provide relief to the patients.

The Calcaneal spur requires continuous administration of drugs like analgesics, anti-inflammatory drugs and surgical methods if treated with allopathic science. In Ayurveda, the same condition can be treated through non-invasive procedures and economical practices with effective results. Different modalities are explained for the treatment of *Vatakantaka* along with *Shamanushadhi*. In the present study two methods of

swedana namely- *Ishtika Swedana* with *khanji* as *aa-vapa dravya* along with *Rasanadi guggulu* as *Shamanushadhi* and *Nadi Swedana* along with *Rasnadi guggulu* as *Shamanushadhi* are taken. *Rasnadi guggulu* consists of *Rasna*, *Guduchi*, *Eranda moola*, *Devadaru*, *Sunti*, *Shuddha guggulu* all of which act as *vaatahara*.

Vatakantaka is one among the *Vata Vyadhi*. General line of treatment of *Vata vyadhi* is *Snehana* (*Abhyanga*) and *Swedana*. *Rasnadi Guggulu* is best *Shoolahara* and *Sthambahara*. *Nirgundi Taila* is *Vatahara*. Hence, considering all these factors, the following study is undertaken to evaluate the comparative study of *Ishtika Sweda* and *Nadi Sweda* along with *Rasnadi Guggulu* in the management of *vatakantak*.

MATERIALS AND METHODS

Source of Materials:

The following materials were utilized for the clinical trial:

Nirgundi Taila⁽⁷⁾, *Kanji*⁽⁸⁾, *Rasnadi Guggulu*⁽⁹⁾

Methods:

Source of Data: It is a clinical study on the management of *Vatakantak* and the patients attending the OPD and IPD of B.L.D.E. A's AVS Ayurveda Mahavidyalaya Hospital and Research Center, Vijayapura were taken for the study.

Methods of Data Collection:

1. Literary Source:

This source was collected from Classical texts, Modern texts, and Published articles in reputed journals and Websites.

2. Clinical Source:

- Patients suffering from *Vatakantaka* were randomly selected from OPD and IPD of B.L.D.E. A's AVS Ayurveda Mahavidyalaya Hospital and Research Center, Vijayapura
- Special camps were conducted, and patients were registered for the study.

3. Drug Source:

Raw drugs were collected from the market and authenticated by the Department of Dravyaguna, and the formulations were prepared in the department of Rasashastra and Bhaisajya Kalpana, B.L.D.E.A's AVS

Ayurveda Mahavidyalaya Hospital and Research Center, Vijayapura

Sample Size: A total of 40 patients were subjected to the present clinical study.

Study Design:

It is an Open, Random Sampling, and Comparative Clinical Trial. Total 40 patients were divided into two groups A & B having 20 patients in each group

Inclusion Criteria:

- Patients with classical signs and symptoms of *Vatakantaka*
- Patients of either sex between 20 to 70yrs.

Exclusion Criteria:

1. Patient suffering from a fracture, dislocation of ankle joint.
2. Pregnant women and Lactating mothers.
3. Patients suffering from chronic systemic diseases.

Diagnostic Criteria:

Patients presenting with the classical signs and symptoms of *Vatakantaka* such as *Ruk pade*

In this study, the data was collected from the patients with the help of interviews. The detailed data related to general history, history of past illness, present illness, family history, food habits, history of treatment taken so far etc, were recorded in the proforma of the case sheet. The systemic examination of the patients was also done and findings were recorded as per the proforma.

Laboratory Investigations:

- X-Ray of foot - Lateral View

Interventions:

Group- A : *Ishtika Sweda*

Duration : 7 days

Follow up : 7th day

Total duration : 30 days

Group- B : *Nadi Sweda*

Duration : 7 days

Follow up : 7th day

Total duration : 30 days

FOR BOTH THE GROUPS: RASNADI GUGGULU

Dosage : 500 mg twice daily

Aushada sevana kala : After Food

Route : Oral

Anupana : *Ushnodaka*

Duration : 30 days

Follow up : 30th day

METHOD OF TREATMENT:

Swedana Karma:

Poorva Karma: *Pada Abhyanga* with *Nirgundi Taila*

Pradhana Karma: *Ishtika Sweda* were performed till *Samyak Lakshanas* were seen in group A and Group B *Nadi Sweda* were performed till *Samyak Lakshanas* were seen

Paschat Karma: the patient was advised to take a rest.

Shamana: *Rasnadi Guggulu* 500 mg twice daily with *Ushnodaka*

Assessment criteria:

Grading for Assessing Subjective and Objective Parameters:

The improvement of patients was assessed based on relief in the signs and symptoms of the disease. To analyze the efficacy of the drug, marks were given statistically to each symptom. According to the severity of the symptoms, the grading was given as below.

Scores of Specific Symptoms:

Subjective Parameters:

Pain Grading:

- | | |
|---|---|
| a. No pain | 0 |
| b. Pain while walking a few steps after rest | 1 |
| c. Pain while walking for longer period of time | 2 |
| d. Continuous unrelenting pain while walking | 3 |
| e. Unrelenting pain while walking and during rest 4 | |

OBJECTIVE PARAMETERS:

- | | |
|---|---|
| a. Tenderness with no physical response | 1 |
| b. Tenderness with grimace, vince or flinch | 2 |
| c. Tenderness with withdrawal (positive jump sign) | 3 |
| d. Non – noxious stimuli | 4 |
| e. (example: superficial palpation, gentle percussion) | |
| f. results in patient withdrawal or patient refusal to be palpated due to pain. | |

OBSERVATIONS AND RESULTS

Effect of therapy on the subjective parameter – Pain and Objective parameter – Tenderness was examined and recorded before treatment, after 7th day and after treatment. The analysis of the effects of therapy are as follows:

Table 1: Effect of treatment within the groups based on pain

Table: Effect of Treatment within the Groups on Pain								
Assessment Observations Recorded on	Descriptives			Repeated Measures of ANOVA test				
	N	Mean (Median)	(Me- ±SD)	Change in %	Friedman statistics	P		
Ishtika Sweda								
BT	20	2.35	0.81		F=36.369	<0.0001*		
After 7 days	20	1.10	0.55	1.25(53)				
AT	20	0.65	0.59	1.7(72)				
Nadi Sweda								
BT	20	2.15	0.81		F=33.818	<0.0001*		
After 7 days	20	1.2	0.62	1.0(47)				
AT	20	0.70	0.66	1.5(72)				
HS - Highly significant								

Effect of Treatment within the Group on Pain in Group A: the mean before treatment is 2.35 and it has reduced to 1.10 after the 7th day and after treatment, it was found to reduce to 0.65. It was found a highly significant difference between before, after the 7th day and at the end of treatment (p= <0.0001). It implied the effect of treatment was found in Pain.

Effect of Treatment within the Group on Pain in Group B: It was observed that the mean was 2.15 and has reduced to 1.2 after the 7th day and after treatment, it was found to be reduced to 0.70. It was found a highly significant difference between before, after the 7th day and at the end of treatment (p=<0.0001). it implied the effect of treatment was found in Pain

Graph 1: Effect of treatment within the groups based on pain

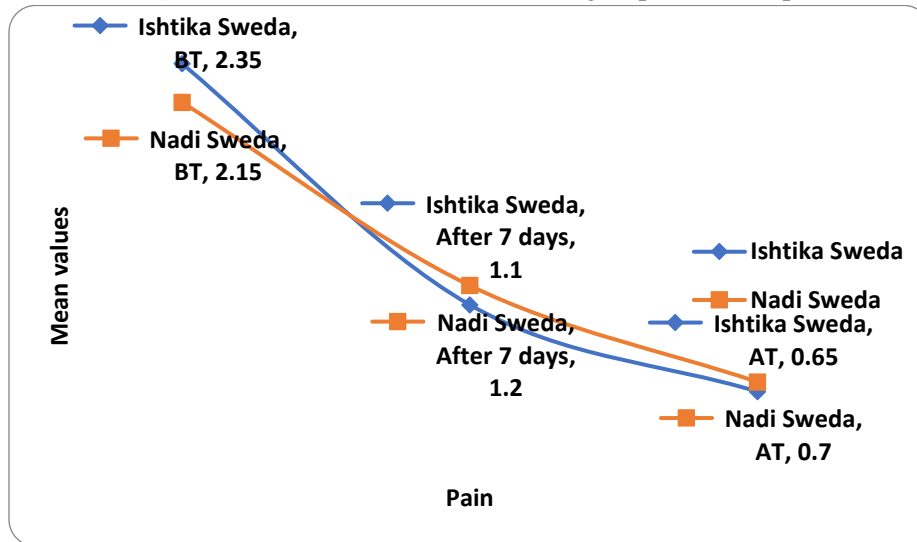


Table 2: Multiple Comparisons of pain

Table: Multiple Comparisons of Pain				
Dunn's Post hoc test				
Group	Comparison between		Sig.	Remarks
Ishtika Sweda	BT	After 7 days	<0.001	HS
		AT	<0.001	HS

	After 7 days	AT	>0.05	NS
Nadi Sweda	BT	After 7 days	<0.001	HS
		AT	<0.01	HS
	After 7 days	AT	>0.05	NS
NS-No Significant HS-Highly significant				

Table 3: Effect of treatment within the groups on tenderness

Table: Effect of Treatment within the Groups on Tenderness						
Assessment Observations Recorded on	Descriptives			Repeated Measures of ANOVA test		
	N	Mean (Median)	±SD	Change in %	Friedman statistics	P
Ishtika Sweda						
BT	20	1.25	1.099		F=22.400	<0.0001*
After 7 days	20	0.30	0.470	0.75(71.4)		
AT	20	0.10	0.308	0.95(90.4)		
Nadi Sweda						
BT	20	1.05	0.76		F=31.388	<0.0001*
After 7 days	20	0.40	0.68	0.85(81)		
AT	20	0.2	0.523	0.9(86)		
HS - Highly significant						

Effect of Treatment within the Group on Tenderness in Group A: The mean before treatment is 1.25 and it has reduced to 0.30 and then 0.10 after the 7th day and after treatment respectively. It was found a highly significant difference between before after the 7th day and at the end of the treatment (p = 0.0001), it implied the effect of treatment was found in tenderness.

Effect of Treatment within the Group on Tenderness in Group B: The mean before treatment is 1.05 and it has reduced to 0.40 and then 0.2 after the 7th day and after treatment respectively. It was found a highly significant difference between before after the 7th day and at the end of the treatment (p = 0.0001), it implied the effect of treatment was found in tenderness.

Graph 2: Effect of treatment within the groups on tenderness

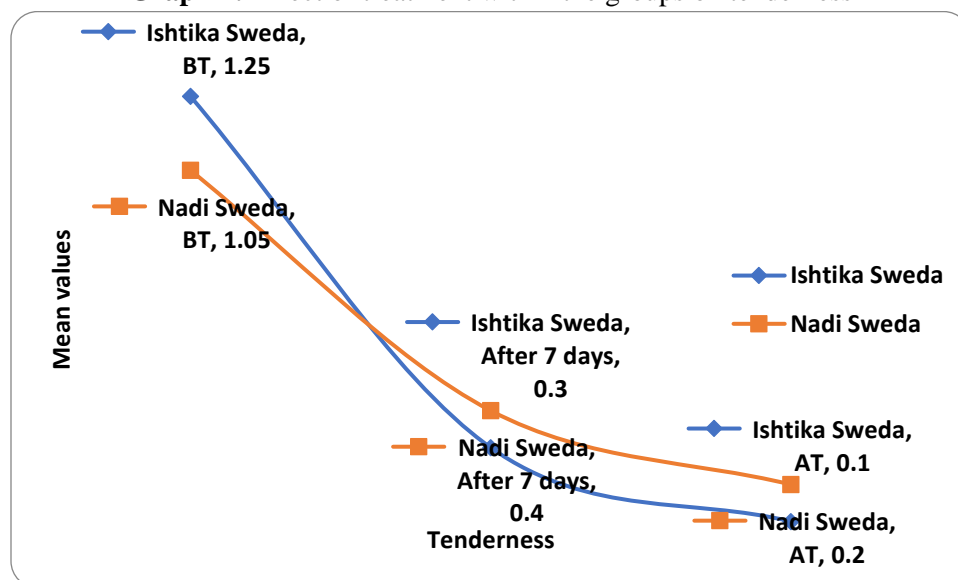


Table 4: Multiple Comparisons of Tenderness

Table: Multiple Comparisons of Tenderness				
Dunn's Post hoc test				
Group	Comparison between		Sig.	Remarks
Ishtika Sweda	BT	After 7 days	<0.05	Sign
		AT	<0.01	HS
	After 7 days	AT	>0.05	NS
Nadi Sweda	BT	After 7 days	<0.001	HS
		AT	<0.001	HS
	After 7 days	AT	>0.05	NS
NS-No Significant HS-Highly significant				

From the above results, it was found that both *Nadi Sweda* and *Ishtika Sweda* were equally effective in the treatment of *Vatakantaka*.

DISCUSSION

Vatakantaka is the disease affecting the *vata* and *asthi dhatu*, thus affecting the heel region of the foot characterized by very special symptom that is pricking pain in the heel which is very intense in the first few steps after getting up and relieve after a time duration which is more severe in the early morning. We can correlate the symptom with the disease calcaneal spur.

The exact aetiology is not known but, as our country is not socially economically completely developed, the majority of our people are travelling through public transport or pedestal walking or under physical exertion like walking barefoot, long-standing will lead to a tremendous amount of strain on foot leading to *Khavaigunya* in the heel leading to the disease *Vatakantaka*. Hence to solve this social and painful condition and in a way treat it with ease, simple and cost-effective management of the disease has been selected for the study.

Vatakantaka is one among the *vatavyadhi* according to different classics except *Charakacharya* included it under *Swedana Saadhya vyadhis*. Many of the treatment modalities have been explained by different Acharyas like *Dahana*, *Snehana*, *Raktavasechana*, *swedana* etc. Among them, *Abhyanga* followed by *Swedana* by *Ishtika* or *Nadi sweda* are most convenient, easy and cost-effective. Hence, they are taken for the study to evaluate their comparative effectiveness. Our Acharyas have mentioned the *Nidan* for

Vatakantaka as *Vishama* and *Shrama* which remain true till today. It can be seen that activities like walking long distances, standing for a longer duration of time, barefoot walk etc lead to *vatavyadhi* and *khavaigunya* of *asti*.

In this clinical condition, we see that *astikshaya* is the main pathological entity although the development of extra bony projection seems to be *astivruddhi* it is not. *Acharya Chakrapani* and *Dalhana* classify such growth as *astikshaya*, as all *vatavyadhi* are difficult to treat, so as *Vatakantaka* as it is also *vatavyadhi*. In the context of *vatavyadhi* usage of *Ishtika Sweda*, *Nadi Sweda*, *Nirgundi taila* and *Rasnadi Guggulu* are clearly explained. In all the *Vatavyadhis*, *abhyanga* being the most important procedure acting as *vatahara*, *shotahara* and is thus it is done using *Nirgundi taila* which is having *katu tikta rasa*, having same properties will alleviate the disease.

Swedana: *Swedana* is an extensively used *panchakarma* procedure that does the vasodilation leading to increased blood flow to the tissue and improvises tissue healing. *Swedana* does the *srotoshuddhi* and *aamapachana* to relieve stiffness. In the first group, *swedana* is done using *Kanji* and it is having properties like *ushna guna* which will help to alleviate the symptoms in *Vatakantaka*. In group B the *swedana* is done by *nadi sweda* using *vatahara* drugs which help to relieve pain and stiffness.

Mode of action of Swedana:

- *Swedakaraktva:* As *Sweda* is type of *trimala* it helps to eliminate the *dushita dosha*. Since *Swedana* drugs have *ushna* and *tikshnaguna*, they are capable of penetrating the microcirculatory

channels, where they activate the sweat glands to produce more sweat. After dilatation of micro-channels, *laghu* and *saraguna* of these drugs enable them to act on the *snigdhadoshā*.

The physiological effect of Swedana Therapy⁽¹⁰⁾:

Increased vasodilatation:

In almost all areas of the body, the skin blood vessels become intensely dilated. This is caused by inhibition of the sympathetic centres in the posterior hypothalamus that causes vasoconstriction. Full vasodilatation can increase the rate of heat transfer to the skin by as much as eight-fold. So, it can be inferred that the *ushnaguna* of *swedana karma* leads to stimulation of the sympathetic nervous system and there is vasodilatation. *Ushnaguna* also increases the circulation of *Rasa* and *Rakta* in the body.

Changes in nerve conditions:

Increased temperature changes nerve conduction velocity and firing rate, it decreases the conduction latency of both sensory and motor nerves. Nerve conduction velocity has been reported to increase by approximately 2 metres/second for every 1°C increase in temperature. Elevation of muscle temperature has been shown to result in in-

- decreased firing rate of type II muscle spindle efferents and gamma efferents.
- an increased firing rate of type Ib fibers from Golgi tendon organs.
- a reduction in the firing rate of alpha motor neurons.
- decrease in gamma neuron activity which causes the stretch on the muscle spindles to decrease.
- decreased alpha motor neuron activity.

All these leads to relaxation of muscle contraction and thus to a reduction in muscle spasm.

• Increase in pain threshold:

- The vasodilatation and increased blood flow cause increased oxygen and nutrients supply to speed healing and relax muscles. This alters the perception of pain along with the inhibitory gating effect on the transmission of pain sensation to spinal cord level by cutaneous thermoreceptors. Thus, resulting in an increased pain threshold.

Rasnadi Guggulu: *Rasnadi Guggulu* has all properties like *vatakaphanashaka*, *deepana*, *pachana*, *shotaghna* and *vedanasthapana*. These properties are likely to break down the pathogenesis of *vatakantaka* and thus may arrest the progression of the disease.

CONCLUSION

The disease is mainly due to excessive stress on the heel which vitiates *vata* and *asti*. Many treatment modalities are explained in *Samhitas*. *Swedana* is one of such modalities of treatment of *vatakantaka*. The action of both the treatment is equivalent in this study. The combined effect of *swedana* along with *shamanoushadi* helps in relieving the disease. In both groups, the intensity of pain was reduced. Although *Ishtika swedana* is a standard procedure for *vatakantaka*, *Nadi swedana* also shows almost similar results while treating *vatakantaka*. *Swedana* with its *ushna guna* pacifies the *shoola* and *stambha*. *Nirgundi taila* as *snehana* does *vata shamana* and *rasnadi guggulu* as *shamanoushadhi* does *shoolahara*. Both the procedures of treatment not only proved significant but also easy, cost-effective and non-invasive. There were no side effects observed either during the treatment or after the treatment was completed. In chronic cases, once the symptoms subside after the treatment, there is a chance of re-occurrence.

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