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Ayurvedic management of Vatakantaka (Plantar Fasciitis)

Research Article

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Abstract

Background: *Vatakantaka*/plantar fasciitis is a common cause of heel pain with peak incidence between 40 to 60 yrs of age. Though NSAID's pain will be relieved temporarily, hence promising curative treatment for the condition is highly essential.

Objectives: To Evaluate the Efficacy of *Eranda Taila Nitya Virechana* and *Sthanika Kolakulathadi Upanaha* In *Vatakantaka*/Plantar fasciitis .

Methods: 20 patients with confirmed clinical diagnosis of *vatakantaka/*plantar fasciitis were administered *Eranda taila nitya virechana* and *kolakulathadi upanaha* over affected heels for 15 days.

Results: From the statistical analysis of the recorded data it is evident that in 70% of patients heel pain & swelling relieved completely within 15 days of treatment. So, this treatment can be effectively adopted in patients of *vatakantaka.*

Keywords: *Eranda taila, vatakantaka*, plantar fasciitis, *kolakulathadi upanaha*.

Introduction

Plantar fasciitis is a common cause of heel pain in adults with the peak incidence occurring in people between the ages of 40 – 60yrs as stated by Harrison. 70% of patients presents with unilateral heel pain.

It is seen more frequently in a younger population consisting of runners, aerobic exercise dancers and ballet dancers.

Vatakantaka is painful disorder of ankle joint. Aggravated *vata,* because of exertion(1) & walking on uneven surface takes *ashraya* in *gulfa sandhi* and produces pain(2). As the pain is seen more during morning and after a period of inactivity in patients, it indicates the *samsarga* of *kapha* or presence of *ama* with the *vata.* Here production of *ama* is expected from the *avarana* of *koshtagni* by aggravated *vata* as explained by *charaka* in *nidanashana*(3). Here *dushyas* are *snayu & sandhi* and *rogamarga* is *madhyama.*

With this pathology and clinical presentation *vatakantaka* can be effectively paralleled with plantar fasciitis. Pathology reveals chronic inflammation of plantar fascia and degeneration of fibrous tissue with or without fibroblast proliferation.

Several factors that increase the risk of developing plantar fasciitis include obesity, pes planus (excessive pronation of the foot), pes cavus (high arched foot), and limited dorsiflexion of the ankle, walking on hard surface and faulty shoes. In runners, excessive running and a change to

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a harder running surface may precipitate plantar fasciitis.

Patients presents with severe pain at plantar region of heel. Pain will be severe with the first steps on rising in the morning or following inactivity during the day. It also worsens with continued weight bearing activity, on walking barefoot or upstairs. Medical arch support, foot strapping, or taping, night splint is employed as a part of treatment. Short course of NSAID's provide temporary relief from pain. Local glucocorticoid injections though efficacious, may carry an increased risk for plantar fascia rupture. Plantar fasciotomy surgery is reserved for chronic sufferers (4).

With the intention to provide a better promising treatment for the absolute relief of pain through Ayurveda, this study is undertaken.

Diagnosis of plantar fasciitis is purely clinical. However imaging studies may be indicated when the diagnosis is not clear(5).

Plain radiograph may show heel spur in 50% of cases. Bone scan demonstrates increased uptake at the attachment of the planter fascia to the calcaneus.

USG demonstrates thickening of fascia and diffuse hypo echogenicity. MRI is sensitive but not required for establishing the diagnosis.

Classical line of treatment for *vatakantaka:*

Raktavasechanam kuryat abheekshnam Vatakantake I

Pibederandatailam va dahet soochibhireva cha II(6)

(Bhi.Rat.26/48)

Snehopanaha agnikarma bandhana unmardanani cha I

Snayu sandhyasti samprapte kuryat vayaavatandritaha II(7)

(Su. Chi. 4/8)

Local *snehana, upanahaa, agnikarma, raktamokshana, bandhana, unmardana* and oral administration of *eranda taila* are the classical line of treatment for *vatakantaka.*

Aims and objectives:

To evaluate the efficacy of *eranda taila nityavirechana* and *sthanika kolakulathadi upanaha* in *vatakantaka* w.s.r. to plantar fasciitis.

Materials and methods:

20 patients with confirmed clinical diagnosis of *vatakantaka*/plantar fasciitis were taken for the study.

Inclusion criteria:

a) Patients with *pratyatma lakshanas* of *vatakantaka* i.e, pain in the plantar aspect of heel, pain on keeping the first step in the morning with or without local swelling, stiffness and tenderness.
b) Irrespective of sex.
c) Age group between 20-60yrs.

Exclusion criteria:

a) Calcaneal stress fracture, RA, gout, neoplastic condition, nerve entrapment syndromes.
b) Subjects with impaired circulation to lower extremities.
c) Subjects with referred pain due to sciatica & other neurological disorders.
d) Corticosteroid injections to heel, preceding 3 months.

Investigation: X-ray of affected heel.

Diagnostic criteria: Purely clinical. Based on

a) Heel pain & stiffness as subjective parameter
b) Heel tenderness & swelling as objective parameter.

Materials & methods:

Materials taken for the study are

a) Eranda taila

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b) Shunti kashaya (5g of shunti churna added with 80ml of water, boiled and reduced to 20ml and filtered) (7).

c). Kolakulathadi churna (8):

Ingredients are fine powders of *Atasi beeja, Kushta, Shatapushpa, Vacha*, *Yava, Kola, Kulatha, Devadaru, Rasna, Masha* in equal quantity. Rationality behind selection of these drugs for the study is explained under discussion.

Table 1: Showing ingrediants & their actions of *kolakulathadi churna*

Sl. No	Drug name	Latin name	Parts used	Action
1	*Kola*	Zizyphus jujuba Lam.	*Beeja*	*Kapha Pittahara*
2	*Kulattha*	Macrotyloma uniflorum Linn.	*Seeds*	*Shothahara vatahara*
3	*Devadaru*	Cedrusdeodara Loud.	*Khadha*	*Vedana Sthapana*
4	*Rasna*	Pluchea lanceolata C.B.Clarke.	*Patra*	*Shothahara Vedanashamaka*
5	*Maasha*	Phaseolus Mungo Linn.	*beeja*	*Vedanashamaka Vatashamaka*
6	*Atasi*	Linun usitatissimum Linn.	*Beeja*	*Vatashamaka shothahara*
7	*Kusta*	Saussurea lappa C.B.Clarke.	*Moola*	*Vedanashamaka vatashamaka*
8	*Shatapushpa*	Anathum sowa Kurz.	*Beeja*	*Vedanashamaka*
9	*Vacha*	Acorus calamus Linn.	*Mula*	*Vedanashamaka shothahara*
10	*Yava*	Hordeum vulgare Linn.	*Fruit, whole plant*	*Kaphavata Shamaka*

Study design:

All selected patients were given *Eranda taila* 10-30 ml with 20ml of *shunti kashaya* orally at 8.00 a.m. in empty stomach depending on the *koshta* expecting not more than 3-4 *virechana vegas*. Patients were advised to avoid sweets, fried food, peas, potato, curds during the treatment.

A paste is prepared by adding required quantity of water to 15 to 20g of *kolakulatthadi churna*. In the morning, it is applied warm to the affected heel, covered with *eranda* leaves, tied with a thin cloth(10) and advised to retain for 4hrs. As drugs of *kolakulatthadi churna* are *ushna & teekshna* (leads to local skin irritation), this *upanaha* is advised to retain only for 4 hrs, though there is classical reference of *upanahas* keeping for 12hrs(11). Chakrapani opines that the lepa should be thick in upanaha(12) but he has not mentioned the exact thickness. Here the thickness of 5mm is maintained, so that it should not be thin.This *Eranda taila nityavirechana* and *sthanika Kolakulathadi upanaha* were carried out continuously for 15 days.

Assessment criteria:

Signs and symptoms were scored 0,1,2,3.

a) Heel pain:
   No pain – 0
   Mild discomfort – 1
   Distressing pain – 2
   Severe excruciating pain – 3
b) Local tenderness:
   No tenderness – 0
   Mild tenderness – 1
   Moderate tenderness -2

Severe tenderness – 3

c) Local swelling:
No swelling – 0
Mild swelling – 1
Moderate swelling – 2
Profuse swelling – 3

d) Local stiffness:
No stiffness – 0
Mild stiffness – 1
Moderate stiffness – 2
Severe stiffness – 3

Data's regarding above said features were collected on 1st 7th and 15th day. Two follow-ups were done on 30th and 45th day after commencement of treatment. These data was subjected to statistical analysis by applying students unpaired t test. P value was calculated by referring to Fischer's table at corresponding level of degree of freedom.

Overall assessment:

1. Major improvement:- reduction in more than 80% of initial score after treatment
2. Moderate improvement: - reduction in more than 50% to 80% of initial score after treatment
3. Minor improvement:- reduction in more than 25% to 50% of initial score after treatment.
4. No improvement: - reduction less than 25% of initial score treatment.

Observations:-

It is observed that in the random selection of 20 patients 40% were housewives, 40% were businessmen, 20% were having sedentary life style. 20% were males & 80% were females. 60% were non-vegetarians & 40% vegetarians. 10% with 10-12 months of chronicity, 20% with 6 to 10 months of chronicity, 50% with 3 to 6 months of chronicity and another 20% with 1 to 3 months of chronicity. 70% with treatment history of NSAIDs and 30% with no treatment history. 70% with *mandagni* & 30% with *vishamagni*. 75% with *krura koshta* 10% with *mrudu koshta* & 15% with *madhyama koshta*. 70% had heel tenderness, 50% had stiffness, 50% had local swelling & 65% had spur. In 75% it was bilateral and in 25% unilateral heel involvement was seen.

Results:

Table 2: Showing the statistical analysis of mean clinical feature score before & after 7 days of treatment

Clinical features	B.T +/-SD	A.T +/-SD	S.Eof difference	Mean difference	Tvalue	Pvalue
pain	2.15+/-0.75	1.20+/-0.70	0.050	0.95	19.00	<0.0001
swelling	0.75+/-0.85	0.25+/-0.55	0.227	0.50	2.2072	<0.0334
stiffness	1.75+/-0.72	0.55+/-0.69	0.222	1.20	5.4094	<0.0001
tenderness	2.10+/-0.72	1.00+/-0.79	0.240	1.10	4.5926	<0.0001

Table 3: Showing the statistical analysis of mean clinical feature score before & after 15 days of treatment

Clinical features	B.T M+/-SD	A.T M+/-SD	S.Eof difference	Mean difference	T value	Pvalue
Pain	2.15+/-0.75	0.35+/-0.49	0.199	1.80	9.0298	<0.0001
swelling	0.75+/-	0.00+/-	0.190	0.75	3.9428	<0.0003

	0.85	0.00				
stiffness	1.75+/- 0.72	0.25+/- 0.44	0.188	1.50	7.9582	<0.0001
tenderness	2.10+/- 0.72	0.35+/- 0.49	0.194	1.75	9.0054	<o.ooo1

The objective and subjective criteria when assessed before and after 15 days of treatment showed improvement which was statistically highly significant with P value < 0.001 for all the symptoms. Complete relief from pain, tenderness, swelling was observed in 14 patients and moderate improvement in 4 patients and mild improvement in 2 patients. So this combination of *eranda taila nityavirechana* and *kolakulathadi sthanika upanaha* can be effectively adopted in patients of *vatakantaka.*

Table 4: showing the overall result

Results	No. of patients	In percentage
Major improvement	14	70%
Moderate improvement	4	20%
Minor improvement	2	10%
No improvement	0	0%

Discussion:

Clinical presentation of patients of *vatakantaka* reveals that it is a *saamaja vata vyadhi* because peak of pain is observed in the early morning. *Ruksha ushna upanaha* with *kolakulatthadi churna* is preferred here because its ingredients are *vedana sthapana, shothahara, vata-kaphahara & amahara*. So, this proved very effective in relieving local pain & swelling. As per the observations *krura koshta* needs *anulomana* of *apana vata* and oral administration of *eranda taila* is considered to be the line of treatment of *vatakantaka*. As this *vatavyadhi* is associated with *aama, shunti kashaya* is selected as *anupana* for *eranda taila*. Maximum of 1 month administration of *eranda taila* is permitted in classics in the treatment of other vatavyadhis(13). So, it was administered for 15 days as per the *koshta* expecting not more than 3 to 4 *virechana vegas*. As this combination of treatment target towards *samprapti vighatana*, it proved to be very effective in *vatakantaka.*

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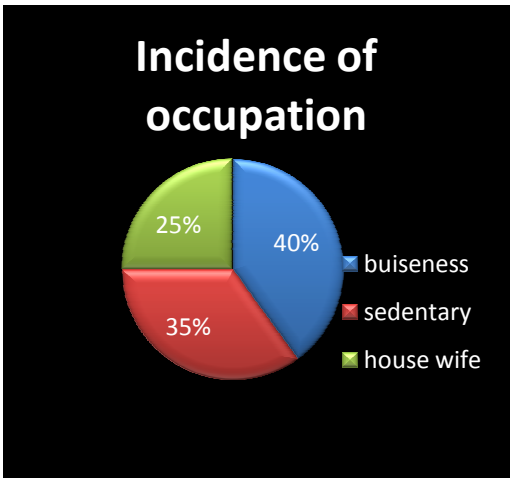

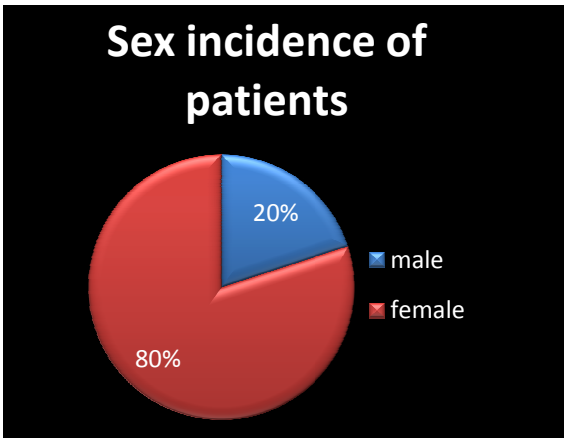

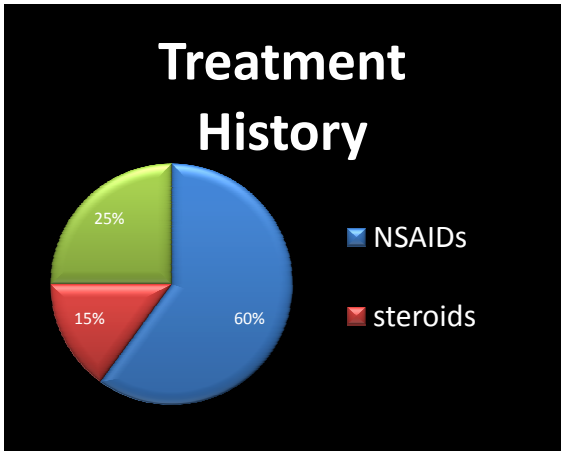

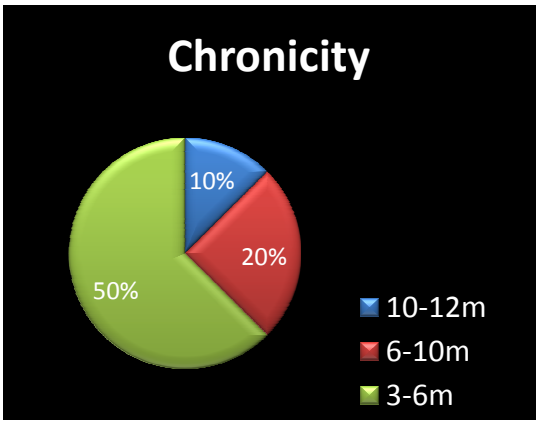

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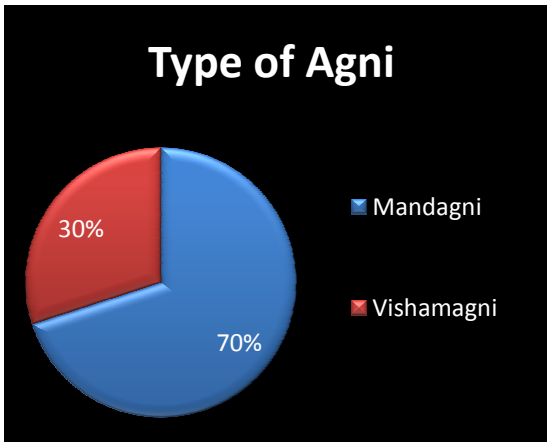

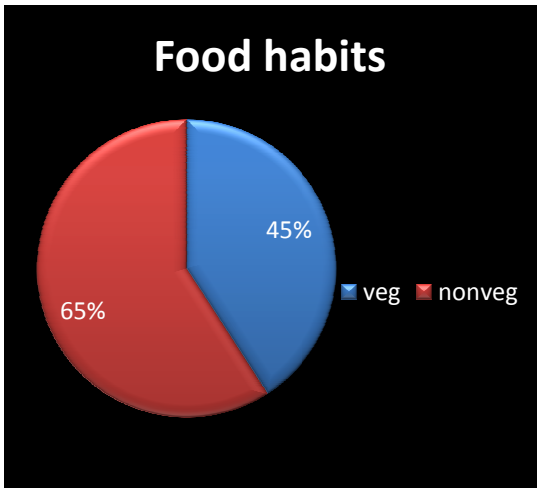

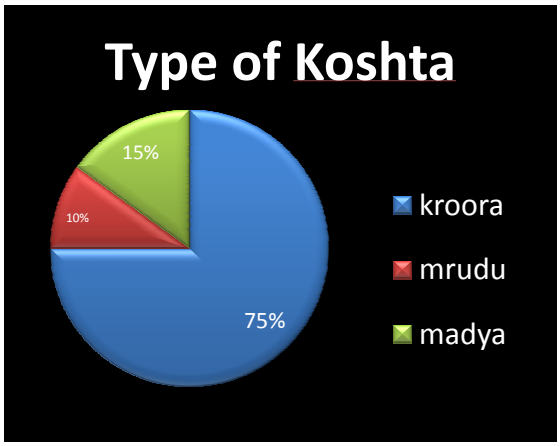

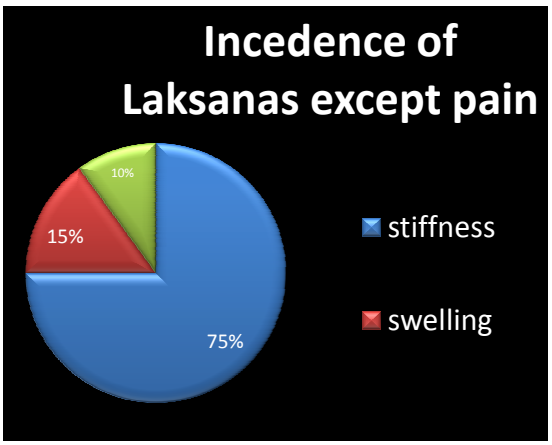

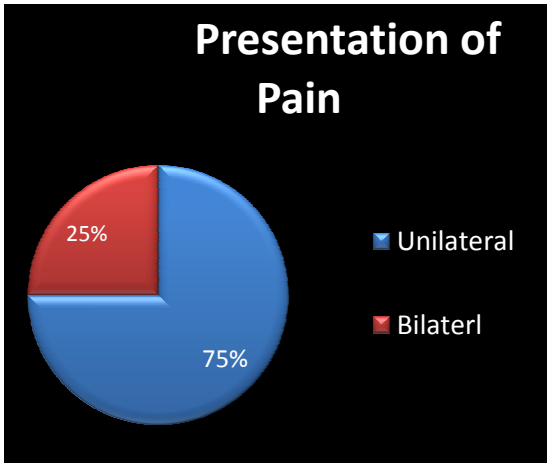

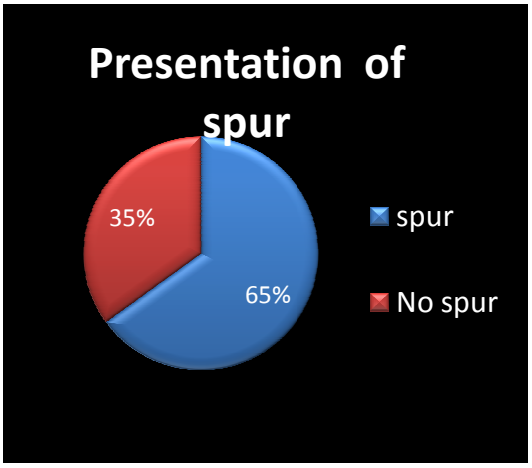

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