A COMPARATIVE CLINICAL STUDY ON *SHALA NIRYASA* AND *MADHUCHISHTHA* IN THE MANAGEMENT OF *PADADARI*

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ABSTRACT

One of the neglected parts of our body is foot, the result of which is crack foot which is predominantly seen in winter season. For most people this is a nuisance and a cosmetic problem but when the fissures or cracks are deep, they are painful to stand on and the skin can bleed and in severe cases this can become infected. These cracks though not deleterious in nature can be extremely painful and unsightly. They can even bleed when the person stands and can become infected. *Ayurvedacharyas* have emphasized on health of foot and advised to wear proper footwear, oil massage daily especially during winter, Common causes for crack foot include age, fashionable high healed and improper fitting shoes, excessive walking, involving in athletics, psoriasis, thyroid disease, diabetes, skin allergies and house hold heat specially in kitchen. Dust also plays a role and reduces humidity and dries out the skin. In *Ayurveda* crack foot is called as *Padadari* explained under *Kshudraroga* and *Madhuchishtha* (Bee's wax) and *Sarjarasa* (oleogum resin of *Shorea robusta* Gaertn. F.) are considered effective when applied externally.

Keywords: *Padadari, Kshudraroga, Madhuchishtha, Sarjarasa*

INTRODUCTION

Ayurveda is the science of life, which always emphasizes on maintenance of healthy body, in fact its first aim itself, is preservation and protection of normal health. To fulfill its aim, the science has explained many protective measures in certain regimens such as *Dinacharya*[1] and *Rutucharya*. For skin *Abhyanga*[1] i.e. oil massage is explained, to follow daily, in which special attention is given for *Netra* (eyes), *Shiras* (head), *Karna* (ear) and *Pada* (foot). In certain *Rutucharya, Abhyanga* is specially indicated such as during *Shitarutu* i.e. *Hemanta* and *Shishira* (winter). In these seasons there is increased dryness due to excess dry air and loss of *Snigdhata* because of which people suffer from skin crack especially of *Pada*.

Common causes for crack foot include age, fashionable high healed and improper fitting shoes, excessive walking, involving in athletics, psoriasis, thyroid disease, diabetes, skin allergies and house hold heat specially in kitchen. Dust also plays a role, which reduces humidity and dries out the skin.

The disease is characterized by mild to severe forms of cracks, which are seen in the foot, more common on the heel. *Sushruta* has explained it under *Kshudraroga*.[2] In the modern science, it is not considered as a disease entity but one as a symptom. Still we have got the distinct branch dealing with signs and symptoms along with treatment called as Podiatry.

The disease involves the *Vruddha-Vata dosha* leading to dryness, cracks, and

fissures. The symptoms may include *Vedana, Kandu, Daha, Rakta Srava.*[2] So the line of treatment is controlling *Vata,* overwhelming dryness and healing the cracks, which is possible by cleaning, drying, and applying *Snehadravya* (lubricants) to the affected area. Modern science also tells to treat the dry cracked feet with proper moisturizers.

In *Sushruta samhita* the line of treatment for *Padadari* is *Siravyadha* followed by *Svedana, Abhyanga* and application of *Padalepa* prepared out of *Madhuchishtha, Vasa, Majja, Sarjarasa* with *Ghrita.*[3]

Madhuchishtha and *Shala niryasa* are the best bases for many of classical lepas.[4] When these substances are applied to the skin, they spread easily and leave a hydrophobic film; they also have emollient properties, that is to say, softening, lubricating and nourishing properties so as to maintain the suppleness of the skin and to protect the skin from atmospheric aggressions. Its main function is to arrest discharges, promote healing of wounds and tissue regeneration (*Vranaropana*), and alleviate pain so is used in simple to fissured bleeding cracks.

Thus in the present study the efficacy of healing property of *Madhuchishtha* and *Shala niryasa* with respect to the disease *Padadari* is evaluated and compared clinically.

AIMS AND OBJECTIVES

- To compare efficacy of *Madhuchishtha* and *Sarjarasa* in *Padadari* in different groups.

MATERIALS AND METHODS

Source of Subjects

60 patients of either sex were selected from OPD of Shri JGCH Ayurvedic Medical College Ghataprabha. Patients were thoroughly examined as per the case sheet prepared for the study.

Inclusive criteria

- Patients who have cracks on the foot (single or both).
- Age between 20 to 60 yrs
- Having good orientation and ability to communicate orally.

Exclusive criteria

- Suffering from any systemic and dreadful diseases.
- Suffering with diabetes mellitus, psoriasis, athlete's foot and thyroid disease.

Study design

Patients were divided into 2 groups 30 patients for each.

Group I- Given the *Shala niryasa lepa*

Group II- Given the *Madhuchishta lepa*

Duration of the treatment: 30 days

Criteria for assessment

Assessment was done on objective and subjective criteria before and after the treatment. They are analyzed on the basis of different degrees and scores are given such as severe: 3, moderate: 2, mild: 2 and cured: 0.

Subjective criteria:

a) *Vedana* (Pain)

b) *Rookshata* (dryness)

c) *Shotha* (swelling)

d) *Daha* (burning)

e) *Kandu* (Itching)

f) *Raktasrava* (Bleeding)

Objective criteria

a) Superficial and deep crack

b) Affected region of foot

c) Tenderness at the affected region

d) Surrounding area of the crack

e) Bleeding.

Result will be analyzed based on both paired and unpaired t test.[5]

RESULTS

Table 1: Tests of Significance for Group I

Group I	BT	AT	SD	't' value	P value	S
Padadari	2.80	00	0.76	16.5209	<0.0001	HS
Vedana	2.23	00	1.14	10.7763	<0.0001	HS
Rukshata	2.60	00	0.50	28.5803	<0.0001	HS
Shotha	0.47	00	1.07	2.3794	=0.0241	S
Daha	0.47	00	1.07	2.3794	=0.0241	S
Raktasrava	0.067	00	1.03	3.5509	=0.0013	S
Kandu	0.17	00	0.53	1.7202	=0.0960	NS

HS-Higly significant S- Significant NS- Not significant

Shala niryasa administered for first Group, is extremely statistically significant (P<0.0001) on *Padadari, Vedana, Rukshata* and statistically significant (P=0.0013) on *Raktasrava,* (P=0.0241) *Daha, Shotha* and not quietly significant (P =0.0960) on *Kandu*.
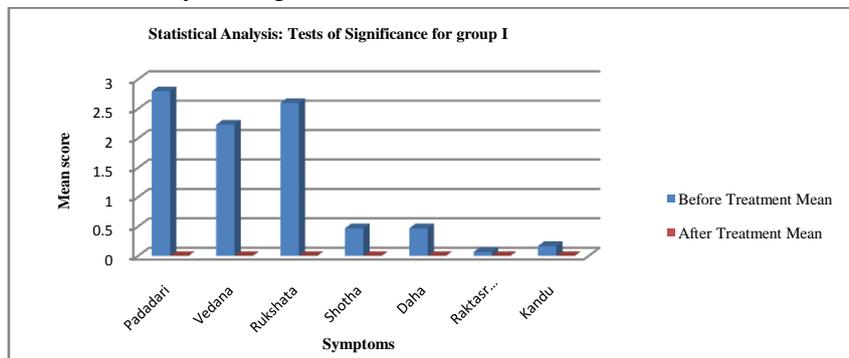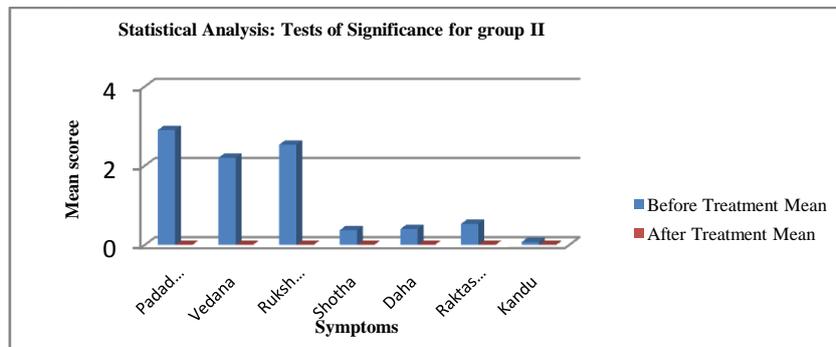

Table 2: Tests of Significance for Group II

Group II	BT	AT	SD	't' value	P value	S
Padadari	2.90	00	0.55	23.9592	<0.0001	HS
Vedana	2.20	00	1.19	10.1590	<0.0001	HS
Rukshata	2.53	00	0.51	27.3457	<0.0001	HS
Shotha	0.37	00	0.96	2.0827	=0.0462	S
Daha	0.40	00	0.93	2.3503	=0.0258	S
Raktasrava	0.53	00	0.97	3.0016	=0.0055	HS
Kandu	0.07	00	0.25	1.4392	=0.1608	NS

HS-Higly significant S- Significant NS- Not significant

Similarly *Madhuchishtha* administered for second Group is extremely statistically significant (P<0.0001) on *Padadari, Vedana, Rukshata* and statistically significant (P=0.0055) on *Raktasrava,* (P=0.0258) *Daha,* (P=0.0462) *Shotha* and not quietly significant (P=0.1608) on *Kandu.*

Table 3: Tests of Significance for Group I and Group II

| Symptoms	AT Mean		SD		't' Value	P value	Singnificance
	Group I	Group II	Group I	Group II			
Padadari	0.1300	0.0700	0.5100	0.3700	0.5216	=0.6040	NS
Vedana	2.2300	2.200	1.1400	1.1900	0.0997	=0.9209	NS
Rukshata	2.600	2.5300	0.5000	0.51000	0.5368	=0.5934	NS
Shotha	0.4700	0.3700	1.0700	0.9600	0.3810	=0.7046	NS
Daha	0.4700	0.4000	1.0700	0.9300	0.2704	=0.7878	NS
Raktasrava	0.6700	0.5300	1.0300	0.9700	0.5420	=0.5899	NS
Kandu	0.1700	0.0700	0.5300	0.2500	0.9347	=0.3538	NS

NS-Not significant

Comparison of efficacy of both the drugs

H_0 = Null hypothesis- efficacy of *Shala niryasa* = efficacy of *Madhuchchishta.*

H_1 = Alternative hypothesis- efficacy of *Shalaniryasa* $\neq$ efficacy of *Madhuchchishta.*

Since 't' test is statistically insignificant the H_0 i.e. Null Hypothesis is accepted. And the Alternate Hypothesis is rejected. Hence both the trail drugs are equally effective in curing the *Padadari* and its symptoms.
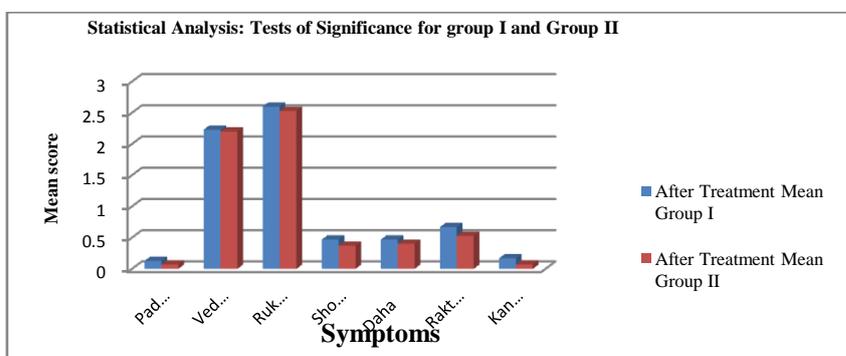
DISCUSSION

The discussion of research methodology and the study design:

The two different drugs were compared for their wound healing property in the disease *Padadari.* It is found that both the drugs are equally significant when compared with percentage of healing. Group I and Group II having 30 patients each were given *Shala niryasa* and *Madhuchishtha* respectively and found the following results.

Effect of therapy on *Gambhira Padadari*

In Group I, 10 patients had *Gambhira Padadari*, among them, no one got cured on 10th day, 6 (60%) got cured on 20th day, 2 (20%) got cured on 30th day. 2(20%) patients did not get cure within 30 days.

In Group II, 16 patients had *Gambhira Padadari*, among them, no one got cured on 10th day, 13 (81.25%) got cured on 20th day, 2 (12.5%) got cured on 30th day. 1(6.25%) patient did not get cure within 30 days.

Effect of therapy on *Uttana Padadari*

In Group I, 20 patients had *Uttana padadari,* among them, 4 (20%) got cured on 10th day, 12 (60%) on 20th day, 4 (20%) on 30th day. So all the 20, patients got cured within 30 days.

In Group II, 14 patients had *Uttana Padadari*, among them, 4 (28.57%) got cured on 10th day, 8 (57.14%) got cured on 20th day and rest 2 (14.28%) patients got cured on 30th day. So all the14, patients got cured within 30 days.

Effect of Therapy on *Vedana*

In both the Groups *Vedana* was the cardinal symptom as it is the *Pratyatma lakshana* of *Vata Dushthi.*

In Group I, among 30 patients, 18 patients were having severe pain on 1st day, after continuous application of *Shala niryasa*, on the 10th day severity reduced and was moderate, then on 30th day completely reduced. 6 patients had moderate pain on 1st day after applying medicine for 10 days it reduced to moderate and on 20th day mild pain was there which was completely relieved within 30 days. Only 1 patient had moderate pain on 1st day and persisted till 10th day then completely relieved within 20 days.

In Group II, among 30 patients, 18 patients were having severe pain on 1st day, after continuous application of *Madhuchishtha,* on 10th day severity reduced and were moderate then mild on 20th day and completely reduced within 30 days. 6 patients had moderate pain on 1st day after applying medicine for 10 days it reduced to mild and on 20th day was completely relieved.

Effect of Therapy on *Rookshata*

In Group I, among 30 patients, 18 patients had severe *Rookshata,* skin peeling was present on 1st day, on application of medicine, it is reduced to moderate and skin became *Snigdha* on 20th day, and completely relieved within 30 days. 12 patients had moderate *Rooksha* on 1st day, which persisted till 10th day and completely relieved within 20 days.

In Group II, among 30 patients, 16 patients had severe *Rookshata*, skin peeling was present on 1st day, on application of medicine, it is reduced to moderate and skin became *Snigdha* on 20th day, and completely relieved within 30 days. 14 patients had moderate *Rooksha* on 1st day,

which persisted till 10th day and completely relieved within 20 days.

Effect of therapy on *Shotha*

In Group I, among 30 patients, 4 patients had severe *Shotha* on 1st day on application of medicine is reduced to mild on 20th day and completely relieved within 30 days. 1 patient had moderate *Shotha* on 1st day, which reduced to mild on 20th day and completely relieved within 30 days.

In Group II, among 30 patients, only 3 patients were having severe *Shotha* on 1st day, after continuous application of *Madhuchishtha,* on 10th day severity reduced and were moderate, then on 30th day completely reduced. One patient had moderate pain on 1st day after applying medicine for 10 days it reduced to mild, which was persisting till 20 days and completely relieved within 30 days.

Effect of therapy on *Daha*

In Group I, among 30 patients, 4 patients had severe *Daha* on 1st day, on application of medicine it is reduced to moderate on 10th day and completely relieved within 20 days. 1 patient had moderate *Daha* on 1st day, which reduced to mild on 20th day and completely relieved within 30 days.

In Group II, among 30 patients, only 3 patients were having moderate *Daha* on 1st day, after continuous application of *Madhuchishtha,* on 10th day severity reduced and were mild, then on 20th day completely reduced. 2 patients had severe pain on 1st day after applying medicine for 10 days it reduced to moderate, then after 20 days it reduced to mild which completely relieved within 30 days.

Effect of therapy on *Raktasrava*

In Group I, among 30 patients, 2 patients had severe *Raktasrava* on 1st day on application of medicine; it got reduced to moderate on 10th day and mild on 20th day and completely relieved within 30

days. 6 patients had moderate *Raktasrava* on 1ˢᵗ day, which reduced to mild on 10ᵗʰ day and completely relieved within 30 days. 2 patients had mild *Raktasrava* which cured within 10 days of application.

In Group II, among 30 patients, 3 patients had severe *Raktasrava* on 1ˢᵗ day on application of medicine; it got reduced to moderate on 10ᵗʰ day and mild on 20ᵗʰ day and completely relieved within 30 days. 5 patients had mild *Raktasrava* on 1ˢᵗ day, which completely relieved within 10 days only. 1 patient had moderate *Rakta-srava* which became mild on 10ᵗʰ day cured within 20 days of application.

Effect of therapy on *Kandu*

In Group I, among 30 patients, 2 patients had moderate *Kandu* on 1ˢᵗ day on application of medicine it is reduced to mild on 10ᵗʰ day, which persisted till 20ᵗʰ day and completely relieved within 30 days. 1 patient had mild *Kandu* on 1ˢᵗ day, which completely relieved within 10 days.

In Group II, among 30 patients, 2 patients had mild *Kandu*, which was completely reduced within 10 days.

Effect of therapy on *Padadari*

In Group I, among 30 patients, 28 got completely cured from *Padadari*, 2 got moderately cured, none of remained with mild or uncured. Similarly in Group II, among 30 patients, 29 got completely cured, 1 got moderate cure, none of remained with mild or uncured.

Discussion on statistical findings

Shalaniryasa administered for first Group, is statistically highly significant (P<0.0001) on *Padadari, Vedana, Ruk-shata* and statistically significant (P=0.0013) on *Raktasrava,* (P=0.0241) *Daha, Shotha* and not quietly significant (P =0.0960) on *Kandu*.

Similarly *Madhuchishtha* administered for second Group is statistically highly significant (P<0.0001) on *Pada-*dari, *Vedana, Rukshata* and statistically significant (P=0.0055) on *Raktasrava,* (P=0.0258) *Daha,* (P=0.0462) *Shotha* and not quietly significant (P=0.1608) on *Kandu.*

CONCLUSION

Both the drugs showed equal efficacy in healing the *Padadari* in each group which witnesses the properties mentioned by *Nighantukara*[6] such as *Vrana Shodhana*, *Ropana, Twak Sandhanakara* and *Vatahara*. Superior clinical efficacy is found by both the drugs with respect to *Pada-darana*, *Vedana, Shotha* and *Rakta-srava* and both rehydrated the skin without any sort of irritation.

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