



## Research Article

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### TREATING PUNDAREEGA KUTTAM (DERMATOPHYTOSIS) WITH A SIDDHA HERBO MINERAL FORMULATION: A SINGLE CASE STUDY

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#### ABSTRACT

Tinea infection of skin is analogous with Padarthamarai kuttam in Siddha system of medicine, which is one among the AYUSH systems of medicine. The conventional treatment available is topical antifungal creams and oral antifungal drugs. The Siddha medicine being safe and cost effective was used to treat a patient diagnosed as Padarthamarai. A 47 year old male was treated with Kandhaga Rasayanam, a Siddha herbo-mineral formulation having Sulphur as the sole mineral ingredient. The response was very good in terms of itching and erythema. The newly appeared lesions of *Tinea corporis* vanished and the hyperpigmentation in two lesions remained as such. The skin scrapings were negative after treatment. The response was good and there was no relapse in the follow up period. Since there was no external medicines prescribed, a treatment package with an external drug with larger number of population in a controlled environment will help in further validating the treatment.

**Key words:** Padarthamarai, Siddha, Kandhaga Rasayanam, *Tinea corporis*, skin scraping, dermatophytes.

#### INTRODUCTION

Siddha system of medicine one of the AYUSH stream of medicine is considered to be effective in treating skin diseases. Siddhars with their supernatural powers have mentioned a lot of medicines in their literatures.

Dermatophytosis is an infection caused by dermatophytes that are fungi which infect keratinized tissues such as skin epidermis, hair and nails. Dermatophytosis is otherwise called as ring worm or tinea infection. The three major genera causing the infection are *Epidermophyton*, *Microsporum* and *Trichophyton*<sup>1</sup>. It is very common in tropical countries. Immunocompromised subjects are more prone to this infection. The conventional treatment for Tinea includes use of topical antifungal agents and in some cases oral antifungals are prescribed. The relapse is not very uncommon. Moreover some of the oral antifungal drugs may cause side effects<sup>2</sup>. In Siddha system of medicine symptoms of tinea / ring worm infection may be correlated to Padarthamarai kuttam, one of the eighteen kuttas mentioned by Sage Yugi in his text Yugi Vaidhya Chindhamani. Though this is a very common presentation, complete safe cure for the condition without relapse is not very common. In this condition the lesions would be like lotus petals, erythematous with itching<sup>3</sup>.

Herein details of treatment given to a patient diagnosed with Pundareega kuttam according to Siddha classics and diagnosed as *Tinea corporis*, *Tinea cruris* with *Trichophyton rubrum* and *Epidermophyton floccosum* infection have been described. A noticeable reduction in lesion size and substantial decrease in pruritus and burning sensation was noted. The patient was followed up to study the relapse.

#### CASE REPORT

##### Presenting concern

A 47-year-old male native of Kancheepuram district, Tamil Nadu presented to the Outpatient Department of Sirappu Maruthuvam at National Institute of Siddha, with chief complaints of a dry reddish lesion on his lower abdomen, groins for the past 6 months with remissions and relapses. The lesion in lower abdomen progressively increased to the present size of 5 cm × 3 cm and in groins it has become confluent lesions and was accompanied with itching and burning sensation which made him feel very uncomfortable in his work place. He had tried many over the counter allopathic treatments which gave temporary relief but on discontinuing the medications he had relapse. On further enquiry he revealed that his wife is also suffering from similar complaints since recent past. He is a house keeping staff and belongs to low socio economic group. He is a known hypertensive since 5 years and is on medication. He is also having symptoms of bleeding piles which is treated on and off. The case study was prepared adhering to CARE guidelines. Consent from the patient for publishing the scientific data was obtained.

##### Clinical findings

##### General examination

The patient was of normal built with no alterations in vital signs. His sleep pattern was normal and had habitual constipation. He belongs to Pitha kapha body constitution. He was psychologically disturbed due to his illness.

### Local examination

Naked eye examination of skin revealed dry erythematous skin lesion in lower abdomen measuring 5 cm × 3 cm and a big confluent lesion in groin measuring 10 cm × 4 cm. The new lesion had well demarcated margin and is almost circular with mild scaling. The skin showed thickening and hyperpigmentation in confluent lesions. No ooze or bleeding was found.

### Investigation

Previously no specific investigations were done. The case could be diagnosed clinically as tinea, to confirm the causative organism a KOH smear and subsequent culture was done. Skin scrapings were taken from the active margin of the lesion for examination. A direct potassium hydroxide (KOH) mount revealed thin hyaline septate hyphae. Fungal culture was performed on a Sabouraud's dextrose agar (SDA) with and without antibiotics and was incubated at 37°C and 25°C.

### Case conception and selection of Siddha treatment

Since the patient had no permanent cure and as he had relapse he has opted for Siddha system of medicine for his condition. The patient was little bit uncomfortable and was hesitant to use external application. Kandhaga Rasayanam (KR) is a known drug for kuttam (all kind of skin disease) and so far there is no documented clinical evidence for the efficacy of KR for treatment of padarthamarai kuttam. So the author attempted to treat padarthamarai with this internal medicine. Moreover most of the ingredients of Kandhaga Rasayanam possess anti-fungal activity. As the patient was uncomfortable with external application it was not used. Padarthamarai is one of the variety of kuttam in which the patches are pale red in the centre and dark red on the edges resembling the petals of the lotus. It comes under the kuttam of incurable type. The symptoms of the disease are analogous to Tinea infection. According to Siddha, "Vathamalaadhu Meni ketadhu" ie, derangement of vazhi humour results in skin disease<sup>4</sup>. "Viresanathaal vatham thazhum"<sup>5</sup>. Intake of high fibre diet is the first and foremost step to relieve constipation. The disease may be due to poor personal hygiene associated with increased azhal humour and decreased vatha humour. In later stage Iyya thathu comes in to play, it is vitiated resulting in oozing, vesicles etc. The hyper pigmented eczematous lesion is due to affection of rasa and raktha thathu. Considering the affected thathus and also the cause for the disease. "Kirumiyaal vantha thodam perugavundu"—Gurunaadi, the drug Kandhaga Rasayanam from the classic Siddha text Siddha Vaithya Thirattu was chosen<sup>6</sup>. The patient was advised to take 2 gram twice a day after food and to report 5 days once for 45 days. He was also advised not to take any medications for the particular ailment. Moreover he was instructed to continue his routine anti hypertensive drugs as such. Since the cause of tinea is dermatophyte infection, the drug having ingredients with anti microbial property was chosen. Sulphur is well known broad spectrum antibiotic. The other herbal ingredients also combat against infection. Elam reduces pitham, Triphala relieves constipation and helps in maintaining vatha humour. The ingredients of Kandhaga Rasayanam are mentioned in Table 1.

### Preparation of drug

The mentioned ingredients in Table 2 were powdered separately and mixed together. Sufficient quantity of sugar, honey and ghee were then added. The dosage and indications of Kandhaga Rasayanam are given in Table 2.

The timeline of the case is described in Table 3.

### Detailed report of each visit

The patient's first visit to the hospital was on 3<sup>rd</sup> January 2010 and no Siddha drugs were prescribed on the first visit. He was advised to continue medicine for hypertension and bronchial asthma, as and when required. Skin scraping test and routine haematological investigations were carried out. After confirming the diagnosis as dermatophytosis, the patient was prescribed the drug Kandhaga rasayanam in a dose of 2 gram B.D. from the next day. He was instructed to visit the hospital every week. The clinical signs and symptoms were recorded on every visit and a separate grading for itching, inflammation was designed and recorded. (Grade=0 Nil, Grade 1= mild, Grade 2=moderate, Grade 3= severe) The size of various lesions, nature of clearance, colour of the lesions were recorded. Before treatment itching and inflammation was in grade 4 (severe). The colour of the lesion was pinkish (2 lesions), Hyperpigmented (2 lesions). The lesions were raised, irregular and circular with well demarcated margins. At the end of first week, the itching (grade 3) and erythema reduced but the hyperpigmentation remained the same. At the end of second week, the itching has come down to grade 2, the thickness of lesion was reduced. The pinkish coloured lesion vanished and the hyperpigmented lesion started turning to brown colour. At the end of third week itching was completely reduced. The lesion size was reduced to 2-3 cm. There was gradual reduction in hyperpigmentation on each visit and the confluent lesions were reduced in size. At the end of the treatment ie on 46<sup>th</sup> day there was no itching (grade 0), no erythema (grade 0), two brownish coloured lesions measuring 2-3 cm remained static in the groins. The skin scraping test and other hematological tests were repeated and the skin scraping was found to be negative and the hematological parameters were within the normal limit. The drug Kandhaga Rasayanam was stopped and the patient was advised to come for follow up.

### FOLLOW-UP AND OUTCOMES

The observations on each follow up visit were recorded. This shows that the drug was effective in treating padarthamarai. No adverse drug reaction/ event was reported during the course of the treatment. No new lesions developed further. The hyperpigmentation later disappeared on applying coconut oil externally during the follow up period.

### DISCUSSION

Padarthamarai is one of the 18 types of kuttam mentioned by Sage Yugi. It comes under kuttam of incurable type<sup>7</sup>. It is characterized by erythematous rounded skin lesion with well demarcated margin. It is contagious and usually attacks people who are under low socio economic group. Diet and maintenance of personal hygiene plays a very important role in the disease prognosis. The patient too hails from a low socio economic background. In this particular case he was the first family member to get infected and later it has spread to the family members too. However the disease diagnosis was diagnosed clinically it was confirmed by KOH smear and culture and the organism responsible was identified as *Trichophyton rubrum*. Azhal humour was increased which has resulted in derangement of vali and iyam humour. The family members suffering from similar lesions may be due to the fast spread of the disease in patients with poor personal hygiene. The current conventional treatment available for this disease is topical and oral antifungals and topical corticosteroids. There are also limitations for the use of topical steroids<sup>8</sup>. The traditional Siddha drug will prevent the remissions.

TABLE 1: INGREDIENTS OF KANDHAGA RASAYANAM

Tamil name	Botanical name/ Chemical name	Part used	Quantity
Kandhagam	Sulphur		350 grams
Amukkara kizhangu	<i>Withania somnifera</i> Dunal	Root tuber	175 grams
Parangi chakkai	<i>Smilax china</i> Linn.	Root	35grams
Kadukkai	<i>Terminalia chebula</i> Retz.	Fruit	35grams
Nellikai	<i>Phyllanthus emblica</i> Linn.	Fruit	35grams
Thandrikkai	<i>Terminalia bellerica</i> Roxb.	Fruit	35grams
Chukku	<i>Zingiber officinale</i> Roscoe	Rhizome	35grams
Thippili moolam	<i>Piper longum</i> Linn.	Root	35grams
Milagu	<i>Piper nigrum</i> Linn.	Fruit	35grams
Vaividangam	<i>Embelia ribes</i> Burm	Seed	35grams
Ealam	<i>Elettaria cardamomum</i> Linn.	Seed	35grams
Kirambu	<i>Cinnamomum zeylanicum</i> Breyn.	Inflorescence	35grams
Chandhanam	<i>Santalum album</i> Linn.	Wood	35grams
Kadalai	<i>Semecarpus anacardium</i> Linn.	Seed	35grams
Senkottai	<i>Plumbago zeylanica</i> Linn.	Nut	35grams
Chithiramoolam	<i>Plumbago zeylanica</i> Linn.	Root bark	35grams
Sugar	<i>Saccharam officinarum</i>		Sufficient quantity
Honey	<i>Apis indica</i> L.		Sufficient quantity
Ghee	<i>Bos indicus</i> L.		Sufficient quantity

TABLE 2: KANDHAGA RASAYANAM DOSAGE AND ITS INDICATIONS

Siddha drug chosen for Padarthamarai	Dosage	Indications mentioned in literatures
Kandhaga Rasayanam	2 g	Skin diseases, Urinary tract infections, Venereal diseases, Arthritis etc.

TABLE 3: TIMELINE OF THE CASE

Dates	Relevant medical history and intervention
2005	Hypertension and is on Tab Amlong
2006	Developed irregular bowel habits and constipation.
2007	Symptoms of bleeding piles stated treated on and off.
2008	Had allergic contact dermatitis. Treated with allopathy medications and cured.
Relevant personal, family, and psychosocial history	No history of photosensitivity, diabetes, loss of weight, and any other significant medical history. He had no known history of drug allergy. He has habitual constipation with adequate sleep.
Relevant family history	Suggestive of Tinea infection. Two more family members having similar complaints.
Relevant personal history	He was not a smoker or alcohol user. He had not any changed soap, detergent from the date of illness. He leads a stressful life

A few studies have been published related to antidermatophytic and antifungal activities of herbal formulations. Even the author have attempted to study the anti dermatophytic activity of Kandhaga Rasayanam in-vitro and the aqueous, methanol and ethanol extracts of the drug showed MIC for *T.rubra* at 10mg/ml, 50 mg/ml and 50mg/ml respectively<sup>9</sup>. Sulphur is generally excellent rejuvenator and along with other herbs incorporated; this drug serves as a potent antifungal agent especially against dermatophytes. Siddha literature also suggested various other herbal ingredients of the drug such as *Semecarpus anacardium*, *Santalum album*, *Plumbago zeylanica*, *Smilax china*, *Elettaria cardamomum*, *Piper nigrum* for fungal infections and other skin diseases and few studies have been carried out. *Sharma et al* has reported the antifungal activity of *Semecarpus anacardium* nuts<sup>10</sup>. *Plumbago zeylanica* possess anti-trichophyton activity<sup>11</sup>. Steroidal saponins from *Smilax china* possess anti fungal activity<sup>12</sup>. Extracts of *Piper longum* exhibited potent anti dermatophytic activity<sup>13</sup>. To mention about the limitations of this study, no external applications were used to satisfy the patient. The skin color would have come to normalcy a week earlier if an external medication was used. The strength of the study is complete recovery in newly formed lesions with no recurrence. Further to validate the use of Kandhaga Rasayanam in Padarthamarai, a trial with a greater number of patients have to be conducted.

## CONCLUSION

The single case study has proved the efficacy of Kandhaga Rasayanam, a Siddha herbomineral drug for Padarthamarai. Further a randomized controlled clinical trial is the need of the hour to validate the clinical efficacy of Kandhaga Rasayanam in Padarthamarai.

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