

“A Clinical Study To Evaluate The Effect Of Gandhaka Rasayana With Arka Taila External Application And Ivermectin With Benzyl Benzoate In The Pama Kushtha (Scabies)”

Dr. sharathkumar Reddy.I , 2. Dr.suryanarayana, 3.Dr. Rashmi.V.Shettar .M.D.

P.G. Scholar , Dept. of kaumarabhritya , SJGAMC , Koppal.

M. M.D. ,Assistant professor , Dept . of Kaumarabhritya , SJGAMC , Koppal.

Associate professor , Dept .of Kaumarabhritya , SJGAMC , Koppal.

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ABSTRACT: Background of the study: The Pama is Kapha-Pittaja disorder and it is very common in Paediatrics age groups. This may be considered as Scabies in contemporary science. Scabies is infectious disease and spreads in group of population within a small period. Scabies is extremely common in children and young adult age groups. This disease is caused by the itch mite “Sarcoptes Scabiei”.

The ingredients of Arka Taila are having Kushtaghna, Kandughna and Krimighna properties; hence in sharangadharasamhita it is indicated for the management of Pama as external application. The ingredients of Gandhaka Rasayana are having kandughna, krimighna, kustanashaka properties; hence in yogaratnakara it is indicated for the management of Pama as internal medication.

Objectives:

- To study the effect of Tab. Gandhaka Rasayana internally in the management of the pamakushta.
- To study the effect of Arka Taila externally in the management of the Pama Kushta.

Methods:

Minimum 40 diagnosed children of Pama Kushtha which fulfilling the inclusion criteria were selected and Gandhaka Rasayana tablet internally and Arka Taila was applied over the affected area twice daily as per classics.

Results:

The results of application of Arka Taila and Tab. Gandhaka Rasayana internally, Tab. Ivermectin internally and Benzyl benzoate external application were analyzed statistically and all the observations were subjected to creative discussions. Overall assessment of the therapy was assessed based on the significance of the statistical test values both subjective and objective parameters. In this study out of 40 children, marked improvement

were seen in 65% in group A and in 80% in group B children, followed by moderate improvement were seen in 25% in group A and in 20% in group B children, 5% children in group A and 0% children in group B shows mild improvement and 5% children in group A and 0% children in group B were found unchanged after treatment.

Conclusion:

The effect of Tab. Gandhaka Rasayana internally and Arka Taila external application on Pama was highly significant. It showed that it is quite suitable therapy for Pama which is also cost effective one.

Key words : scabies , pama , Arkataila , Gandhaka Rasayana , Ivermectin , Benzyl Benzoate.

I. INTRODUCTION:

Ayurveda is a medical science which deals about all aspects of life in health, diseases and its prevention that is “Swasthasya Swasthya Rakshanam” and then eradication of disease that is “Aaturasya Vikara Prashanam Cha”. 1. The beauty and attraction of an individual lies in the healthy skin and along with his or her general health.

Ayurveda has given importance to skin diseases since the Vedic eras and later on Samhita kala. For the skin disorder external medicaments are mostly useful for the treatment hence the present study “A CLINICAL STUDY TO EVALUATE THE EFFECT OF GANDHAKA RASAYANA WITH ARKA TAILA EXTERNAL APPLICATION AND IVERMECTIN WITH BENZYL BENZOATE IN THE PAMA KUSHTHA (SCABIES) in the management of Pama by applying this medication externally, has been taken.

II. AIMS AND OBJECTIVES OF THE STUDY

- To study the effect of Tab.GandhakaRasayana internally and ArkaTaila externally in the management of pamakushtha.
- To study the effect of Tab. Ivermectin internally and Benzyl benzoate externally in the management of Pama Kushtha.
- To compare the efficacy.

III. MATERIAL AND METHODOLOGY

Clinical study:

The present study “A clinical study to evaluate the effect of GandhakaRasayana with ArkaTaila external application and ivermectin with benzyl benzoate in the management of scabies (Pama)” has been designed with following aims & objective.

Source of Data:

- 2000 boys hostel of gavimath ,koppal.

Sample size:

40 diagnosed children of PamaKushtha which fulfilling the inclusion criteria were selected.

Inclusion criteria:

1. Children of either sex diagnosed as the case of PamaKushtha (scabies).
2. Children between the age group of 5 to 15 years.

Exclusion criteria:

1. Kushtha other than Pama(scabies).
2. Children who suffering from any other systemic disorder.
3. Pama(scabies) associated with immunodeficiency disorder.
4. Scabies with complication of crust or hyperkeratosis.

Diagnostic Criteria:

The symptoms of Pama/scabies mentioned in classical texts, in addition to the signs and symptoms mentioned in contemporary texts.

Method of administration of drug:

BAHYA:ArkaTaila applied over the affected area for 7 days after hydration based on BSA as per classics.

ABHYANTARA: Tab.GandhakaRasayana in two divided doses along with sugar internally has been given.

Observation period:

Drug is applied for 7 days and then clinical response was assessed on 7th day and follow up was done on 21st day for assessing condition of Pama.

Instruction to the Parents / Guardian

- The sensitivity test of the Taila conducted before initiation of treatment with 0.5 ml test dose.
- Patients are advised to not wear any cloths for at least 30 min. over affected area after application of drugs for its better absorption.
- They were strictly advised, not to give any other medication during the trial except for most essential ones.
- For proper observation and evaluation, the patients is advised to come for follow up on 7th, 14th and 21st day of treatment to assess the recurrence of disease.

Investigations

Generally a clinical diagnosis is considered as sufficient.

Parameters of Assessment:

Symptoms Before treatment (1st day) After treatment (7th day) After Follow-up (21st day)

- 1.Kandu-itching
- 2.Toda-pain
- 3.Daha-burning
- 4.Pitika -eruption
- 5.Srava-discharge

1.KANDU -ITCHING (5D-ITCH SCALE)

1.Duration: During the last 2 weeks , how many hours a day have you been itching?

a.Less than 6hrs/day b. 6-12hrs/day c. 12-18 hrs/day d. 18-23 hrs/day e. All day

2.Degree: Please rate the intensity of your itching over the past 2 weeks

a. Not present b. Mild c.Moderate d. Severe e. Unbearable

3.Direction:Over the past 2 weeks has your itching gotten better or worse compared to the previous month?

a. Completely resolved b. Much better but still present c. Little bit better but still present d. Unchanged e. Getting worse

4.Disability:Rate the impact of your itching on the following activities over the last 2 weeks

A .Sleep -1. never affects sleep 2. occasionally delays falling asleep3.frequently delays falling asleep 4. delays falling asleep and occasionally

wakes me up at night 5. delays falling asleep and frequently wakes me up at night.

B. Leisure/Social , C. Housework/Errands , D. Work/School -1. N/A 2. never affects this activity 3. rarely affects this activity. 4. frequently affects this activity 5. always affects this activity.

5. Distribution: Mark whether itching has been present in the following parts of your body over the last 2 weeks . If a body part is not listed, choose the one that is closest anatomically.

A. Head /scalp B. face C. chest D. abdomen E. back F. buttocks G. thighs H. lower legs I. tops of feet /toes J. soles K. palms L. tops of hands/fingers M. forearms N. upper arms O. groins P. points of contact with clothing (e.g. waistband , undergarment).

Assessment of gradings:

1. Symptoms 0 1 2 3

2. Toda (Pain) No Toda Mild (Occasional pain) Moderate (Pain without disturbed sleep) Severe (Pain with disturbed sleep)

3. Daha (Burning) No Daha Mild (Occasionally burning) Moderate (Continuous burning without disturbed sleep) Severe (Continuous burning with disturbed sleep)

4. Pitika (Eruption) No Pitika Mild (10 or fewer lesion) Moderate (11-49 lesions) Severe (50 or more lesion)

5. Srava (Discharge) Absent Present

Observations:

It was observed that all 40 children (100%) were presented with Kandu and Pitika where as 25 children (62.5%) were presented with Toda and children having complained of Srava-19(47.5%) and Daha(45%).

IV. Results:

Overall effect of therapies on Pama:

By comparing groups, after treatment the mean score for Kandu is 0.50 in group A and 0.50 in group B, Daha is 0.30 in group A and 0.25 in group B, Toda is 0.35 in group A and 0.25 in group B, Pitika is 0.45 in group A and 0.50 in group B, Srava is 0.20 in group A and 0.10 in group B.

By comparing groups, after treatment the mean score for Kandu is 0.35 in group A and 0.25 in group B, Daha is 0.15 in group A and 0.05 in group B, Toda is 0.15 in group A and 0.05 in group B, Pitika is 0.30 in group A and 0.25 in group B, Srava is 0.15 in group A and 0.05 in group B.

In this study out of 40 children, marked improvement were seen in 55% in group A and in 45% in group B children, followed by moderate improvement were seen in 20% in group A and in 40% in group B children, 20% children in group A and 15% children in group B shows mild improvement and 5% children in group A and 0% children in group B were found unchanged.

In this study out of 40 children, marked improvement were seen in 65% in group A and in 80% in group B children, followed by moderate improvement were seen in 25% in group A and in 20% in group B children, 5% children in group A and 0% children in group B shows mild improvement and 5% children in group A and 0% children in group B were found unchanged.

V. DISCUSSION:

Discussion on mode of action of drug:

Acharya Charaka states that, some drugs act through Rasa, some through Virya, some through their Gunas, some through their Vipaka and some through their Prabhava. Here these drugs may be act due to their Tikta and Katu Rasa predominant. They also have Laghu, Ruksha Guna and Kapha-Vata Shamaka properties which may helps to cure the Pama.

At the level of Dosha:

Because of its Laghu & Tikshna Guna, Tikta & Katu Rasa & Ushna Virya act as Kaphashamaka and by Tikta rasa act as Pitta shamak.

At the level of Agni:

By virtue of its Tikshna Guna which is predominant with Agni, Vayu and Akash Mahabhuta, Ushna Virya, Tikta and Katu Rasa it stimulates Agni which in turn stimulates all other Agni.

In Pama, there is mainly Rasa dhatwagnidushti (Twaka represents the Rasa dhatwagni) due to vitiation of Bhrajaka Pitta & Kledaka Kaphadosha. This ultimately results in Aama formation. This Aama obliterates the sukshama pores of Twacha and creates Klinnata which produces characteristic features of Pama. Arka Taila have properties like, Tikta, Katu Rasa, Katu Vipaka, Laghu, Tikshna Guna. It acts as Agni Dipaka & Amapa chaka. This results in to the proper functioning of Rasa-dhatwagni which helps to break the samprapti.

Tikta Rasa and Laghu, Ruksha Guna helps in distruction of Pitika by going in to sukshmasrotas of Twacha. Thus, the drug i.e. Arka Taila acts on

disease Pama and helps to overcome disease process and provides beneficial action.

The present work contains a clinical study to evaluate the effect of Gandhaka Rasayana with ArkaTaila external application and ivermectin with Benzyl Benzoate in the management of scabies (pama).

MODE OF ACTION OF IVERMECTIN

It is an extremely potent semisynthetic derivative of the antinematodal principle obtained from streptomyces avermetilis. Ivermectin is the drug of choice for single dose treatment of onchocerciasis and strongloidosis.

Ivermectin is well absorbed orally, widely distributed in the body, but does not enter CNS. Sequestered in the liver and fat and has a long terminal $1\frac{1}{2}$ of 48-60 hours. It is metabolized by CYP3A4, but no drug interaction related to this isoenzyme are known. Side effects have been mild giddiness, nausea, abdominal pain, lethargy and transient ECG changes but more important are the reactions due to degeneration products of the Mf, which are similar to those occurring after DEC. Safety of ivermectin in pregnant women and young children is not established.

Ivermectin is anti-helminthic drug has been found highly effective in scabies and pediculosis as well. It is the only orally administered drug used for ectoparasitosis. A single 0.2 mg/kg dose has cured upto 91 to 100% patients of scabies. AIDS patients with scabies also respond. Most cases of head/body lice have been successfully treated.

Ivermectin is very well tolerated by scabies and pediculosis patients with few if any side effects. However it is not to be given to children less than 5 years, pregnant and lactating women. Only limited use of ivermectin has been made in scabies and pediculosis because of the availability of efficacious topical agents.

MODE OF ACTION OF BENZYL BENZOATE

It is an oily liquid with faint aromatic smell, has been popular for treatment of scabies. The emulsion is applied all over except face and neck after a cleansing bath.

It exerts toxic effects on the nervous system of the parasite, resulting in its death. It is also toxic to mite ova, though its mechanism of action is unknown. In vitro, benzyl benzoate has been found to kill the sarcoptes mite within 5 minutes. It penetrates and destroys the nervous system of the insect and produce insecticidal

action. This will produce distortion and consequent excitation of nerve impulse transmission in the insect. Only a minimum amount of Benzyl benzoate is absorbed after topical administration.

A second coat is applied next day which is washed after 24 hours. The treatment is convenient and does not interfere with routine activities. It has achieved 76 to 100% cure in scabies. Benzyl benzoate is minimally absorbed through the skin, systemic toxicity is low, but neurological symptoms have occurred in children.

For pediculosis, it can be applied to the scalp, taking care not to enter eyes, and is washed off after 24 hours. Benzyl benzoate is now a 2nd choice of drug for scabies and seldom used for pediculosis. Its combination with lindane is highly effective.

On Overall Effect of the Therapies:

In this study out of 40 children, marked improvement were seen in 65% in group A and 80% in group B children, followed by moderate improvement were seen in 25% in group A and 20% in group B children, 5% children in group A and 0% children in group B shows mild improvement and 5% children in group A and 0% children in group B were found unchanged.

On Re-occurrence Pama: In this study there was no re-occurrence of Pama on day 21. It indicates that there was no early recurrence of disease.

VI. CONCLUSION:

On the basis of the study following conclusion can be drawn out;

- Pama is a KshudraKushtha has Kapha-Pitta dominance according to Charaka and Vagbhata, Pittaja according to Susruta which was concluded based on the obtained signs and symptoms.
- Pama in modern science has been correlated with Scabies which is common skin disorder.
- In the present study majority of the children were found in the age group of 10-15 years which reflects the incidence of Pama comparatively more in this particular age range. Even though, studies of a large group of children were required for concrete conclusion.
- The incidence of 66.67% in males and 33.33% in females along with 96.67% in the Hindu community may not have any reasonable cause for the manifestation of disease.
- Majority of children i.e. 60% are having family history or contact history supporting Pama as an AoupsargikaRoga hence it is having the

- nature of spreading from one person to another person.
- Poor personal hygiene, poor residential hygiene, poor living standards, unawareness about the health are the important etiological factors for the infestation of Pama.
 - Involvements of KaphajaLakshana's were more prevalent in disease of Pama.
 - Distribution of the patients according to the manifested symptoms showed that Kandu and Pitika are the more predominant features of Pama as compared to Sravawhere as Toda and Daha are less commonly present.
 - The effect of Tab. Gandhaka Rasayana internally and Arka Taila external application on Pama is significant. Results showed that the reduction of Kandu is 69.92%, Pitika is 54.38% and Srava is 76.67%. Hence this therapy is quite suitable therapy for Pama which is also cost effective one.
 - In this study out of 40 students was having 65% of better results with the Tab.Gandhaka Rasayana internally and Arka Taila external application (Group A) on pama.
 - In this study out of 40 students was having 80% better results with the Tab. Ivermectin internally and Benzyl benzoate external application (Group B) on scabies.
 - As mentioned in above results , there is 15% of better results in Group B i.e. withthe Tab. Ivermectin internally and Benzyl benzoate external application than with the Tab. Gandhaka Rasayana internally and ArkaTaila external application
 - However, this is only preliminary study conducted as a part of educational research program in small number of patients and in fixed duration of time. Further multi-centered clinical and experimental studies are required with larger samples to establish the efficacy of this drug on Pama.

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