

## CLINICAL EVALUATION OF PANCHTIKTA GHRITA ON ECZEMA

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### ABSTRACT

**Background:** The study was carried out to evaluate the efficacy of *Panchtikta Ghrita* (PTG) an herbal fat preparation, prepared according to classical Text which is used in the treatment of eczema. This PTG was used as internal therapy.

**Methods:** PTG was prepared according to *Sharagdhar smahita madhyama khanda*. It is prepared by cow ghee boiled with paste of *panchtikta* herbs (equal quantity of *Adhatoda vasica*, *Azardirachta indica*, *Tinospora cordifolia*, *Solanum xanthocarpum*, *Tricosanthes cucumerina*) along with decoction of *panchtikta* herbs. PTG was administered to selected patients as oral treatment in 6 gm twice a day with lukewarm water or milk.

**Results:** The relief obtained in subjective and objective symptoms are decrease in pain, itching, burning sensation, discoloration and cracking of skin, which is statistically significant.

**Conclusion:** The *panchtikta ghrita* is advised for treatment of various skin disorders according to classical text. The present research study concluded that this medicine could be effectively used as oral therapy for the treatment of eczema.

**Keywords:** *Panchtikta ghrita*, fatty material, eczema, herbal.

### INTRODUCTION

Herbal medicine, as a major part of traditional medicine has been used in medical practice since antiquity. *Ayurveda* is the ancient medical system of India mainly based on herbal preparations. World health organization (WHO) notes that 74% of the plant derived medicines are used in modern medicine, in a way that their modern application directly correlates with their traditional use as herbal medicines by native cultures<sup>1</sup>. Dermatology is an essential part of general medicine, since the skin is not by any means foreign to the body which it covers. Diseases of the skin are a common occurrence. The skin is a protective covering of the body. On average, it covers a surface area of 2 square meters. In its intact state, the skin is a strong barrier, impenetrable to life threatening microorganisms and resistant to chemicals and harm-

ful UV rays<sup>2,3,4</sup>. Drugs are applied topically to the skin mainly for their local action. Although, the topical route can also be used for systemic drug delivery, percutaneous or transdermal absorption of drug is generally poor and erratic. Whereas best and most effective route of administration of drug is oral because through this way medicine absorbed through gut is distributed to all over body equally. Eczema is a chronic disorder which could not be cured completely through topical application, therefore oral therapy is essential. *Panch tikta ghrita* is a unique preparation for skin disorder used as oral therapy for various skin disorders. It is a fat preparation made through *go-ghrita* boiled with paste of *panch tikta* herbs (*Adhatoda vasica*, *Azardirachta indica*, *Tinospora cordifolia*, *Solanum xanthocarpum*, *Tricosanthes cucumerina*). These herbs possess the good antibacterial

and anti-inflammatory activity leading to elimination of eczematous patches from body.

## **MATERIAL & METHODS –**

Clinical evaluation of *Panchtikta Ghrita* on Eczema” is divided into two parts, Pharmaceutical Study and Clinical Study.

### **Pharmaceutical Study:**

#### **Preparation of Panchtikta Ghrita –**

*Panchtikta Ghrita* has been prepared according to *Sneha kalpanaa*<sup>5</sup> procedure as per *Sharangadhara samhita madhyama khanda*.

*Vrushanimbamrutavyaghrapatolanam srutena cha / Kalkena pakwa sarpistu nihinyadivisamajwaran/ Pandum kustham visarpa cha kruminarshasi nashayet*<sup>6</sup> *Sar.sam.Mad.9 / 89-90*

*Kalka* (Paste of Herbal drugs), *panchtikta* 1.850Kg [*Vasa* (*Adhatoda vasica*), *Nimba* (*Azadirachta indica*), *Guduchi* (*Tinospora Cordifolia*), *Kantakari* (*Solanum surattense*), *Patola* (*Tricosanthes dioica*) each 370 gms], *Go-Ghrita* (cow’s ghee) 11Kg was purchased [from the local market of Indore and has been authenticated by Quality Control Laboratory] and 44Liters decoction of *panch tikta* was taken. The *ghrita* with paste of *Panch tikta* was then added to this decoction and boiled over medium flame till complete evaporation of water content. After cooling, PTG was filtered with double layer fine cotton cloth and packed in air tight jar. The process was repeated three times and three batches of samples were prepared. Each time the loss in the end product and the duration of process were observed.

### **Clinical Study:**

Prepared PTG was given to selected patients of eczema of Shubhdeep Ayurved Medical College, Indore. Total 50 patients were registered for the study.

### **Study Design:**

It was a single blind randomized clinical study with pre and post test design where minimum 30 Patients of eczema were selected. The patients

were selected irrespective of their age, sex, religion, socio economic status etc. The patients who were suffering from Eczema with inclusion criteria were included in the study and patients having tuberculosis, malignancy, diabetes mellitus & age less than 16yrs and more than 60 yrs. were excluded from the study. Patients suffering with skin disorders other than Eczema & patients on corticosteriod treatment were also excluded.

PTG was prescribed to patients at Shubhdeep Ayurved Medical College and Hospital, Indore. In present study dose of PTG was 6 gm twice a day empty stomach. *Swadisht virechan* powder 6 gms a day with warm water was given for *koshta shuddhi* at night before starting PTG. PTG was administered internally as *shamana sneha chikitsa* for the period of 3 months. In this study *usna jala* (Luke warm water ) and *usna dugdha* (Luke warm milk) was administered as *Anupana* with *Panchtikta ghrita* as per classics.

### **Management of eczema:**

The patients were given powder of *swadisht virechana* one teaspoon at night for 3 consecutive days with hot water after food for bowel clearance followed by *Panchtikta ghrita* 6 gm twice a day with warm water as *anupana* for three months. Follow-up was taken at end of every month. Patients were advised to avoid all aggravating factors and also to reduce intake of spicy food, fish and milk together, *masha* (pigeon gram), *mamsa* (meat) etc. and among the *viharaja apathyas* like exposure to cold wind, mental tension, stress etc. Patients were instructed to use gram flour (*besan*) powder for bath and avoid soaps.

### **Assessment Criteria:**

Criteria for assessment of results were based on the score of signs and symptoms before and after the treatment. Itching, pain, burning sensation were included under subjective symptoms and discoloration, papules, pustules, discharge,

dryness, roughness, cracking of affected part of skin were included under objective signs. The signs and symptoms were noted before and after treatment, recurrences were inquired and scored according to the grading system.

**OBSERVATIONS:**

**Clinical work:** The registered patients were assessed according to standard parameters described in the *Ayurvedic* texts.

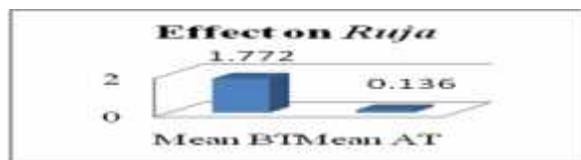
Total number of Patients registered – 50. Number of Dropout patients – 10, Number of patients discontinued during treatment – 10, Number of patients completed the study – 30.

**RESULT:**

The efficacy of *Panchtikta Ghrita* was determined from a statistical analysis of the pre and post symptom scoring statistical analysis by Sigma 3 Stat.

**Effect on Ruja : Graph No. 1**

The mean score of *Ruja* prior to treatment was



1.772±0.112. It reduced to 0.1363±0.351 after the treatment. The change that occurred with the treatment is statistically significant.(p = < 0.001).

**Effect on Kandu : Graph No. 2**



The mean score of

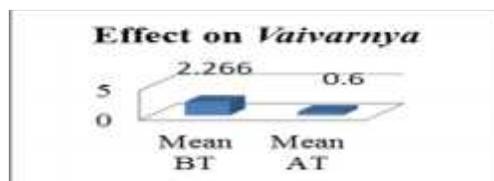
*Kandu* Prior to treatment is 2.066±0.095. It reduced to 0.033±0.033. The change that occurred with the treatment is statistically significant. ( p= < 0.001)

**Effect on Daha :**

The Mean score of *Daha* prior to treatment was. 1.888±0.111.It reduced to 0.185±0.076. The change that occurred with the treatment is statistically significant. (p = < 0.001)

**Effect on Vaivarnya : Graph No. 3**

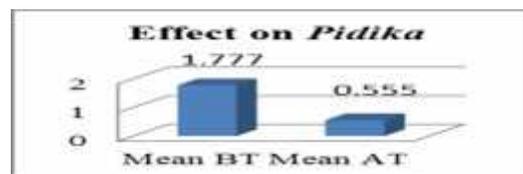
The Mean score of *Vaivarnya* prior to treatment was 2.266±0.095. It is reduced to 0.6±0.102 after Change that occurred with the treatment is statisti-



cally significant. (p = < 0.001).

**Effect on Pidika : Graph No. 4**

The Mean score of *Pidika* prior treatment was



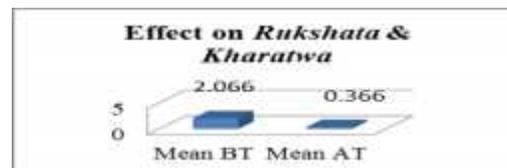
1.777±0.081. It reduced to

0.555±0.097 after the treatment. The change that occurred with the treatment is statistically significant. (p = < 0.001)

**Effect on Srava :**

The Mean score of *Srava* prior treatment was 1.458±0.120. It reduced to 0.041±0.041 after treatment. The change that occurred with the treatment is statistically significant. (p = < 0.001).

**Effect on Rookshata and Kharatwa : Graph No. 5**

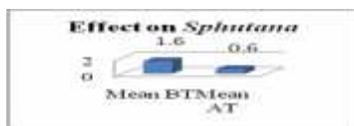


The Mean score of *Rukshata* and *Kharatwa* prior to treatment was

2.066±0.106. It reduced to 0.366±0.089 after treatment. The change that occurred with the treatment is statistically significant. (p = < 0.001).

**Effect on Sphutana : Graph No. 6**

The mean score of *Sputana* prior to treatment was



1.6±0.123. It reduced to 0.6±0.090 after treatment. The change that occurred with the treatment is statistically significant. (p = < 0.001).

## DISCUSSION

In *Ayurveda*, skin disorders are considered under *kushtha roga*. Various types of *kushtha rogas* are described in texts, one of them is *vicharchika*. A modern term which is symptomatically closer to *vicharchika* is *eczema*. *Vicharchika* can be compared with *Eczema* based on 1. *Pidika* (Papules) 2. *Sasopha* (Inflammation with redness) 3. *Kandu* (Itching) 4. *Srava Lasikadya* (oozing serum) 5. *Rukshata* (Dryness) 6. *Raji* (Linear markings) 7. *Paka* (Pustules) 8. *Vrana* (Ulcers) 9. *Ruja* (Irritating Pain) 10. *Lohitavarna* (Redness) 11. *Shyava* (Hyper pigmentation). *Vicharchika* has the involvement of *tridoshas* and four or more *dhatu*s depending on the chronicity and severity. *Vicharchika* is considered as a *rakta pradoshaja vyadhi*. *Panchtikta* is a drug with *tridoshahara*, *kushtha rogahara* and *rakta doshahara* properties. Hence *Panchtikta* in suitable form & dose can be effectively used in the treatment of *kushtha*. *Vicharchika* is said to be *kapha pradhana* according to *Charaka* and *vata pradhana* according to *Sushruta*. *Ghrita kalpana*, one of important pharmaceutical preparations mentioned in *Ayurvedic* pharmaceutical sciences involves the mechanism of complex interaction of water soluble active compounds of *kalka* and *kwatha* drugs with lipids present in ghee. Basically, ghee is made up of esters of fatty acids and alcohol or polyols and its physical character is very much affected by its molecular composition. Actually triacylglycerols (TAGs) constitute the bulk of the lipid mass in fats along with other minor lipids and lipid-soluble

components. They altogether determine the behavior of fat<sup>7-9</sup>. Over 400 different fatty acids have been identified in milk fat<sup>10</sup> which may be saturated or unsaturated, branched or linear and short or long-chained.

PTG has been selected for the study according to principles of *Ayurveda*, which are –

In *Astanga hridaya*, first preference is given to *sneha pana* initially for all the varieties of *kushtha*.

1. As *Kushtha* is *Tridoshaja vyadhi*, PTG acts best as *tridosha shamaka*.
  - *Ghrita* by its inherent property has the quality of *Vata pitta shamana*.
  - By *sneha guna* alleviates *Vata*.
  - By *Madhura* and *sheeta guna* alleviates *Pitta*.
2. By *samskara* with the *tikta kashaya dravyas* also, it acts as *Kaphagna*.
3. As *Eczema* is *Vata pradhana kapha anubandha vyadhi*, *sarpi* is considered as best, as told by *Charakacharya* i.e. ‘*Vatottare-shu sarpi*’

## Mechanism of Processes involved with PTG:

*Ghrita*, which is basically glycerides of fatty acid interacts with liquids of ingredients and undergoes hydrolysis resulting in the formation of fatty acid and glycerol. So formed fatty acids are amphipathic in nature which comprises of a hydrophobic exterior and hydrophilic interior. During the manufacturing of PTG, temperature was constantly below 100°C. No change in biologically active components of herbs were found. The active ingredients which are water as well as fat soluble are therefore completely extracted without change in their properties. The absorption of PTG is fast because of its amphipathic nature and reaches to integumentary level during its assimilation.

*Panchtikta ghrita* contains 5 ingredients viz. *vasa*, *nimba*, *guduchi*, *kantakari*, *patola* which are predominant with *katu*, *tikta*, *kasaya rasas*. Most

of the herbs are *tikta-kasaya rasa*, *laghu ruksa guna*, *samasitoshna veerya*, *katu vipaka* and *tridosha shamaka*. *Samprapti vighatanam* i.e breakdown of patho-physiology is the treatment of disease, which was achieved through PTG in this study.

The drug can be viewed to break the pathogenesis of *Vicharchika* in following manner -

- *Laghu guna* by its *kaphaghna* and *sroto sodhana* property helps in repairing all the

blocked channels and stimulates the proliferation of surrounding connective tissue and capillaries.

- *Ruksha guna* helps in drying of raw area and helps in skin contraction.
- *Sheeta guna* acts as a haemostatic.
- *Tikshna guna* helps the drug to act fast through increased penetrability in entire wound area.

**Table - 1 Probable mode of action of individual drugs:**

Drug	Rasa	Guna	Virya	Vipaka	Doshakarma
<i>Vasa(Adhatoda vasica)</i>	<i>Tikta, Katu</i>	<i>Rooksha ,Laghu</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Vataprakopa, Kaphapitta shamaka</i>
<i>Nimba(Azadirachta indica)</i>	<i>Tikta, Kasaya</i>	<i>Laghu, Ruksa</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kaphapitta Shamaka</i>
<i>Guduchi(Tinospora cordifolia)</i>	<i>Tikta, Katu, Kasaya</i>	<i>Laghu, Snigdha</i>	<i>Usna</i>	<i>Madhura</i>	<i>Tridosha shamaka</i>
<i>Kantakari(Solanum xanthocarpum)</i>	<i>Tikta, Katu</i>	<i>Rooksh, Laghu, Tikshna</i>	<i>Usna</i>	<i>Katu</i>	<i>Kaphavata shamaka</i>
<i>Patola(Tricosanthes cucumerina)</i>	<i>Tikta, Katu</i>	<i>Laghu, Ruksa</i>	<i>Usna</i>	<i>Katu</i>	<i>Tridosha shamaka</i>
<i>Ghrita</i>	<i>Madhura</i>	<i>Laghu, Tikshna</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Tridosha shamaka</i>

The relief obtained in subjective and objective symptom is as follows:

1. *Ruja*: Pain was reduced by 92.32% (  $p < 0.001$  ) which is statistically significant.
2. *Kandu*: *Kandu* was reduced by 98.40% (  $p < 0.001$  ), is statistically significant.
3. *Daha*: *Daha* was reduced by 90.20% (  $p < 0.001$  ) which is statistically significant.
4. *Vaivarnya*: *Vaivarnya* was reduced by 73.52% (  $p < 0.001$  ), is statistically significant.

5. *Pidika*: *Pidika* was reduced by 68.76% (  $p < 0.001$  ), is statistically significant.
6. *Srava*: *Srava* was reduced by 97.18% (  $p < 0.001$  ) which is statistically significant.
7. *Rookshatwa* and *Kharatwa*: *Rookshatwa* and *Kharatwa* were reduced by 82.28% (  $p < 0.001$  ) which is statistically significant.
8. *Sphutana*: 62.5% (  $p < 0.001$  ) relief was found in this symptoms.

**Table - 2 Summary of effect of the therapy:**

Sl.no.	Degree of Improvement	Relief in signs & Symptoms After treatment	No. of Patients
1.	Cured	100% relief	2
2.	Marked improvement	> 75% relief	20
3.	Moderate improvement	50 to 75% relief	8

4.	Mild improvement	25 to 50% relief	0
5.	No Change	< 25% relief	0

Two patients showed complete cure i.e. got 100% relief in signs and symptoms. 20 patients got marked improvement and 8 patients showed moderate improvement. On economical ground this study showed that the cost of medicine for per day dose of *Panchtikta ghrita* was about 10.00 rupee & therefore total cost for one month medicine was about 300.00 rupees, showed most economical and effective regime for management of eczema. Thus by considering all the above facts about the rasas, gunas and *karmas* it can be concluded that, the *ghrita* processed by these drugs promoted *snigdhatā* and *vata pitta samana* and this explains the probable mode of action of the drug. Hence *Panchtikta ghrita* explained under *kusthaadhikara* by all the classical references is an effective medicine in *Eczema*.

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