



# EKAKUSTHA (PSORIASIS) AND EFFECT OF VIDANGADI LEPA AND TIKTAKA GHRITA

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## ABSTRACT

Eka Kustha, classified under Kshudra Kustha in Ayurveda, is a chronic skin disorder predominantly associated with Vata-Kapha Dosha vitiation and characterized by Aswedana, Mahavastu, and Matsyashakalopama, Auspitz's sign, Candlegrase sign, Pasi Score. These features closely correspond to psoriasis, a chronic immune-mediated inflammatory dermatosis with frequent relapse and limited curative options in conventional medicine. The present study aimed to evaluate the etiopathogenesis of Eka Kustha with special reference to psoriasis and to assess the therapeutic efficacy of Tiktaka Ghrita (internal administration) and Vidangadi Lepa (external application). Patients diagnosed with Eka Kustha were assessed using classical Ayurvedic parameters along with modern clinical indicators such as erythema, scaling, and pruritus. The combined intervention demonstrated significant improvement in both subjective and objective parameters. The observed therapeutic effect may be attributed to the anti-inflammatory, immunomodulatory, and Kusthaghna properties of the interventions, facilitating Samprapti Vighatana. The study concludes that Tiktaka Ghrita and Vidangadi Lepa are effective and safe therapeutic options for the management of Eka Kustha (psoriasis).

**KEYWORDS:** Ekakustha, Psoriasis, Asweda, Mahavastu, Matshyashakalopama, Auspitz's sign, Candlegrease sign, Pasi Score, Tiktaka Ghrita, Vidangadi Lepa

## 1. INTRODUCTION

All the skin diseases in Ayurveda are described under the broad heading of Kushtha, which are further classified into Mahakushtha and Kshudra Kushtha<sup>1</sup>. Ekakushtha is included under Kshudra Kushtha. According to Acharya Charaka, all types of Kushtha involve the vitiation of Tridosha, however the clinical manifestation depends upon the predominance of a particular Dosha. In Ekakushtha, Vata and Kapha Dosha<sup>2</sup> are predominantly involved along with Rakta, Twak, Mamsa, Ambu<sup>3</sup> and Tridosha as the chief Dushyas.

Ekakushtha can be clinically correlated with psoriasis on the basis of similarity in etiopathogenesis and symptomatology. Psoriasis is a chronic, non-infectious, inflammatory skin disorder characterized by well-defined erythematous plaques with silvery white scales, having a tendency for recurrent relapses and remissions. The disease mainly affects the extensor surfaces, scalp and trunk, significantly impairing the quality of life of the patient. The chronicity, dryness, scaling, itching and discoloration observed in psoriasis closely resemble the classical features of Ekakushtha described in Ayurvedic texts.

### Aim

The aim of the study was to study the effect of Vidangadi lepa<sup>4</sup> and Tiktaka Ghrita<sup>5</sup> in the management of Eka Kustha (Psoriasis).

## 2. MATERIALS AND METHODS

### 2.1. Ethical Clearance

The study was approved by the Institutional Ethics Committee, Government Ayurvedic College and Hospital, Balangir vide Letter No: 2519/G.A.C and H of dated October 14, 2023 and registered in Clinical Trial Registry of India (CTRI; [www.ctri.nic.in](http://www.ctri.nic.in)) vide Registration No: CTRI/2024/07/069774. The study has been conducted among the patients registered for the purpose. Written consent was obtained from each patient who participated in the study with prior proper information.

### 2.2 Source of Patient

Thirty patients were selected from the OPD and IPD of Government Ayurvedic Hospital, Balangir, and were enrolled for the clinical study.

### 2.3. Study Design and Grouping

#### 2.3.1. Method of collection of patients

Thirty patients suffering from Eka kustha were taken for the present study. They were screened by a special proforma which includes details history taking, physical signs and symptoms, and pathological investigations mentioned in classics and modern science.

### 2.4. Methodology

Clinicopathological study (Single-blind study)

### 2.5. Duration

The duration of the study was 30 days.



Comparison was two medicines with in one group to find out the effectiveness of the mentioned medicines.

## 2.6. Diagnostic Criteria

A special proforma has been prepared which includes all the etiological factors of Kushtha with Dushti lakshanas of Dosha, Dushya and Srotas, physical sign and symptoms, subjective and objective parameters. Symptoms are *Asweda, Mahavastu, Matshya Shakalopama*,<sup>6</sup> *Krishnavarna*, *Aruna varna*,<sup>7</sup> Erythematous plaques, Candle grease sign, Auspitz's sign, PASI Score With this proforma 30 patients were scrutinized and selected for clinical study. Patient were collected randomly.

## 2.7. Inclusion criteria

1. Patients of both sexes (male and female).
2. Patients in the age between 20- 50 years.
3. Patients who fulfill the diagnostic criteria of both Ekakustha and Psoriasis.
4. Psoriasis without secondary infection.

## 2.8. Exclusion criteria

1. Patients are less than 20 years and more than 50 years of age.
2. Patients with any systemic disease.
3. Patients having RA & ASO positive.
4. Patients having signs & symptoms of other skin diseases.

## 2.9. Assessment Criteria

For assessment of result, severity of the sign and symptom was graded as 0,1,2,3 grade for normal (0), mild (+), moderate (++), and

severe (+++) accordingly mentioned in Table 1.

The detail pathogenesis of clinical study was carried out based on Astavidha, and Dashavidha Parikshya as per Aayurvedic classics.

## 2.10. Dose and Administration Procedure

Dose- Tiktaka Ghrita was given 5gm twice daily with luke warm water before food.

Vidangadi lepa- As per requirement twice a day

## Duration- 30 days

### 2.11. Follow-up

Follow-up were done in every 15 days gap, that is, 15th, and 30th day of the clinical trial. During follow-up, both subjective and objective parameters of assessment were done to assess the result.

## 2.12. Assessment for Results

The degree of severity as per above gradation criteria and data collected from pathological investigations after 15 days AT1 and 30 days AT2 of treatment were assessed. The assessment has been done in two stages as follows –

### 2.12.1. Clinical assessment

The average percentage improvement in the severity of different clinical sign and symptoms was calculated. The

overall clinical assessment has been done considering the sign and symptoms as follows-

- Unsatisfactory: below 25% relief in sign and symptoms.
- Mild Improvement: 26–50% relief in sign and symptoms.
- Moderate Improvement: 51–75% relief in sign and symptoms.
- Marked Improvement: 76–100% relief in sign and symptoms in trial period.

## 2.13. STATISTICAL ANALYSIS

The subjective and objective data, like the sign & symptoms, FBS, PPBS & HbA1c, gathered from the patients were subjected for statistical analysis. Data were analyzed statistically in terms of Mean, Standard Deviation (SD), Standard Error (S.E), t- value and p- value. The statistical analysis after 30 days of treatment has been done. For the effectiveness of trial drug and control drug paired 't' test and unpaired t- test has been used. The effectiveness of trial drug and control drug has been assessed through the P Value.

The effectiveness of both the trial and contro drugs had been assessed through the p- value. The p-value was interpreted as- >0.05 statistically Non significant at 5% level

<0.05 significant at 5% level

<0.01 significant at 1% level

<0.001 highly significant at 0.1% level

## 2.14. Presentation of Data

Data collected from the patients were tabulated under the following two sections:

- a. General observations such as age, sex, religion, occupation, educations status, socioeconomic status, marital status, dietaryhabit, habit/addiction, history of past illness, family history, sleeping habit, urination, bowel habit, and Vyayama.
- b. Result of therapy based on changes in sign-symptoms and disease specific-biochemical investigation.

## 3. OBSERVATION AND RESULTS

Total 32numbers of patients were registered randomly for the study, 30 patients were completed the study.

Matshya shakalopama- The percentage of effect was 54.55%. P- value was less than 0.05 which was significant.

Mahavastu- The percentage of effect was 43.04%. P- value was less than 0.05 which was significant.

Asweda- The percentage of effect was 64.71%. P- value was less than 0.05 which was significant.

Krishna Varna- The percentage of effect was 50%. P- value was less than 0.05 which was significant.

Aruna varna- The percentage of effect was 46.03%. P- value was less than 0.05 which was significant.

Erythematous plaques- The percentage of effect was 40.63%. P- value was less than 0.05 which was significant.

Pasi score- The percentage of effect was 42.90%. P- value was less than 0.05 which was significant.

Auspitz's sign- The percentage of effect was 68.33%. P- value was less than 0.05 which was significant.

Candle grase sign- The percentage of effect was 68.33%. P- value was less than 0.05 which was significant.



### GRADING- ( Subjective Parameters)

| ILLNESS                                   | SEVERITY                                            | GRADE | BT | AT |
|-------------------------------------------|-----------------------------------------------------|-------|----|----|
| Matshya Shakalopama                       | Most part of body affected with scaling             | 3     |    |    |
|                                           | Moderately involved lesions and scaling             | 2     |    |    |
|                                           | Very few lesions and scaling                        | 1     |    |    |
|                                           | No scaling                                          | 0     |    |    |
| Arunavarna                                | All area affected                                   | 3     |    |    |
|                                           | Affected three area/more patches                    | 2     |    |    |
|                                           | Small area/affected only one area                   | 1     |    |    |
|                                           | No pink discolouration                              | 0     |    |    |
| Asweda                                    | Severe loss of sweating in all affected area        | 3     |    |    |
|                                           | Moderate decrease of sweating of affected area      | 2     |    |    |
|                                           | Mild decrease of sweating                           | 1     |    |    |
|                                           | Normal sweating                                     | 0     |    |    |
| Erythematous plaques                      | Most part of body affected with erythematous lesion | 3     |    |    |
|                                           | Moderate lesions of erythematous plaques            | 2     |    |    |
|                                           | Very few lesions of erythematous plaques            | 1     |    |    |
|                                           | No erythematous plaques                             | 0     |    |    |
| Krishnavarna<br>(Blackish Discolouration) | All area affected, very dark                        | 3     |    |    |
|                                           | Affected three area/more patches                    | 2     |    |    |
|                                           | Small area / affected only one area                 | 1     |    |    |
|                                           | No blackish discolouration                          | 0     |    |    |

|                   |                          |   |  |  |
|-------------------|--------------------------|---|--|--|
| Mahavastu         | Severe lesions           | 3 |  |  |
|                   | Moderate to mild lesions | 2 |  |  |
|                   | Mild lesions             | 1 |  |  |
|                   | Almost clear             | 0 |  |  |
| Auspitz sign      | Present                  | 2 |  |  |
|                   | Improvement              | 1 |  |  |
|                   | Absent                   | 0 |  |  |
| Candle grase sign | Present                  | 2 |  |  |
|                   | Improvement              | 1 |  |  |
|                   | Absent                   | 0 |  |  |



|     |                     |   |
|-----|---------------------|---|
| Hb% | 6 - 7.4 gm%         | 3 |
|     | 7.4 - 8.5 gm%       | 2 |
|     | 8.5 - 10 gm%        | 1 |
|     | > 10 gm%            | 0 |
| FBS | >150 mg/dl          | 3 |
|     | 126 - 150 mg/dl     | 2 |
|     | 101 - 125 mg/dl     | 1 |
|     | 70 - 100 mg/dl      | 0 |
| TLC | >13500/Cu mm        | 3 |
|     | 12000- 13500/Cu mm  | 2 |
|     | 10500- 12000/ Cu mm | 1 |
|     | 4500- 10500/Cu mm   | 0 |

**Table 2: Showing the subjective Parameters before and after treatment in Patients (N = 30)**

| <b>Matsya Shakalopama</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>SE</b> | <b>Wilcoxon W</b> | <b>P-Value</b> | <b>% Effect</b> | <b>Result</b> |
|---------------------------|-------------|---------------|-----------|-----------|-------------------|----------------|-----------------|---------------|
| BT                        | 2.57        | 3.00          | 0.50      | 0.09      | -4.123            | 0.000          | 54.55           | Sig           |
| AT                        | 1.17        | 1.00          | 0.59      | 0.11      |                   |                |                 |               |

| <b>Mahavastu</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>SE</b> | <b>Wilcoxon W</b> | <b>P-Value</b> | <b>% Effect</b> | <b>Result</b> |
|------------------|-------------|---------------|-----------|-----------|-------------------|----------------|-----------------|---------------|
| BT               | 2.63        | 3.00          | 0.49      | 0.09      | -4.738            | 0.000          | 43.04           | Sig           |
| AT               | 1.50        | 1.50          | 0.51      | 0.09      |                   |                |                 |               |

| <b>Asweda</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>SE</b> | <b>Wilcoxon W</b> | <b>P-Value</b> | <b>% Effect</b> | <b>Result</b> |
|---------------|-------------|---------------|-----------|-----------|-------------------|----------------|-----------------|---------------|
| BT            | 1.70        | 2.00          | 0.47      | 0.09      | -4.796            | 0.000          | 64.71           | Sig           |
| AT            | 0.60        | 1.00          | 0.50      | 0.09      |                   |                |                 |               |

| <b>Krishna Varna</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>SE</b> | <b>Wilcoxon W</b> | <b>P-Value</b> | <b>% Effect</b> | <b>Result</b> |
|----------------------|-------------|---------------|-----------|-----------|-------------------|----------------|-----------------|---------------|
| BT                   | 2.60        | 3.00          | 0.50      | 0.09      | -3.357            | 0.001          | 50.00           | Sig           |
| AT                   | 1.30        | 1.00          | 0.53      | 0.10      |                   |                |                 |               |

| <b>Aruna Varna</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>SE</b> | <b>Wilcoxon W</b> | <b>P-Value</b> | <b>% Effect</b> | <b>Result</b> |
|--------------------|-------------|---------------|-----------|-----------|-------------------|----------------|-----------------|---------------|
| BT                 | 2.10        | 2.00          | 0.96      | 0.18      | -4.886            | 0.000          | 46.03           | Sig           |
| AT                 | 1.13        | 1.00          | 0.73      | 0.13      |                   |                |                 |               |

| <b>Erythematous Plaques</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>SE</b> | <b>Wilcoxon W</b> | <b>P-Value</b> | <b>% Effect</b> | <b>Result</b> |
|-----------------------------|-------------|---------------|-----------|-----------|-------------------|----------------|-----------------|---------------|
| BT                          | 2.13        | 2.00          | 0.86      | 0.16      | -4.690            | 0.000          | 40.63           | Sig           |
| AT                          | 1.27        | 1.00          | 0.64      | 0.12      |                   |                |                 |               |

| <b>Auspitz's Sign</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>SE</b> | <b>Wilcoxon W</b> | <b>P-Value</b> | <b>% Effect</b> | <b>Result</b> |
|-----------------------|-------------|---------------|-----------|-----------|-------------------|----------------|-----------------|---------------|
| BT                    | 2.00        | 2.00          | 0.00      | 0.00      | -3.000            | 0.003          | 68.33           | Sig           |
| AT                    | 0.63        | 1.00          | 0.49      | 0.09      |                   |                |                 |               |

| <b>Candle grase Sign</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>SE</b> | <b>Wilcoxon W</b> | <b>P-Value</b> | <b>% Effect</b> | <b>Result</b> |
|--------------------------|-------------|---------------|-----------|-----------|-------------------|----------------|-----------------|---------------|
| BT                       | 2.00        | 2.00          | 0.00      | 0.00      | -4.442            | 0.000          | 68.33           | Sig           |
| AT                       | 0.63        | 1.00          | 0.49      | 0.09      |                   |                |                 |               |

| <b>Pasi Score</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>SE</b> | <b>Wilcoxon W</b> | <b>P-Value</b> | <b>% Effect</b> | <b>Result</b> |
|-------------------|-------------|---------------|-----------|-----------|-------------------|----------------|-----------------|---------------|
| BT                | 9.51        | 8.55          | 5.81      | 1.06      | -4.359            | 0.000          | 42.90           | Sig           |
| AT                | 5.43        | 4.60          | 3.97      | 0.73      |                   |                |                 |               |



Since observations are on ordinal scale (gradation), we have used Wilcoxon Signed Rank Test to test efficacy. From above table, we can observe that P-Value is less than 0.05. Hence, we can conclude that, effect observed is significant.

| TLC | Mean | N  | SD   | SE   | t-Value | P-value | % Change | Result |
|-----|------|----|------|------|---------|---------|----------|--------|
| BT  | 0.00 | 30 | 0.00 | 0.00 | 0.000   | 1.0000  | NA       | NS     |
| AT  | 0.00 | 30 | 0.00 | 0.00 |         |         |          |        |

Since observations are quantitative, we have used paired t-Test to test significance. From above table, we can observe that P-Value is greater than 0.05. Hence, we can conclude that, there is no significant change observed in TLC.

| Hb% | Mean | N  | SD   | SE   | t-Value | P-value | % Change | Result |
|-----|------|----|------|------|---------|---------|----------|--------|
| BT  | 0.00 | 30 | 0.00 | 0.00 | 0.000   | 1.0000  | NA       | NS     |
| AT  | 0.00 | 30 | 0.00 | 0.00 |         |         |          |        |

Since observations are quantitative, we have used paired t-Test to test significance. From above table, we can observe that P-Value is greater than 0.05. Hence, we can conclude that, there is no significant change observed in Hb.

| FBS | Mean | N  | SD   | SE   | t-Value | P-value | % Change | Result |
|-----|------|----|------|------|---------|---------|----------|--------|
| BT  | 0.47 | 30 | 0.51 | 0.09 | 0.682   | 0.5006  | 21.43    | NS     |
| AT  | 0.37 | 30 | 0.49 | 0.09 |         |         |          |        |

Since observations are quantitative, we have used paired t-Test to test significance. From above table, we can observe that P-Value is less than 0.05. Hence, we can conclude that, there is significant change observed in FBS.

#### Showing Overall effect in patients (N=30)

| Overall Effect (Patient Wise) | Overall Effect |         |
|-------------------------------|----------------|---------|
|                               | N              | %       |
| Complete Relief               | 0              | 0.00%   |
| Marked Improvement            | 1              | 3.33%   |
| Moderate Improvement          | 10             | 33.33%  |
| Mild Improvement              | 19             | 63.33%  |
| No Change                     | 0              | 0.00%   |
| Total                         | 30             | 100.00% |

## 4. DISCUSSION

### Trial drug- Tiktaka ghrita

In this formulation most drugs having *Kushthaghna*, *Shothahara*, *Kandughna*, *Krimighna*, *Vrana shodhana*, *Rasayana*, *Tridoshasamak* property.

The formulation contains drugs predominantly exhibiting *Kushthaghna*, *Shothahara*, *Kandughna*, *Rasayana* and *Tridosha-shamana* properties, making it effective in chronic inflammatory dermatoses such as psoriasis. Ghrita acts as a *Yogavahi*<sup>8</sup>, enhancing deep tissue delivery of Tikta and Katu dravyas while pacifying Vata and Pitta. The combination promotes *Deepana-Pachana*, reducing Ama, correcting Agni and clearing *srotorodha*<sup>9</sup>, which biomedically correlates with antioxidant, hepatoprotective and detoxifying actions of phytoconstituents such as curcumin, berberine, tannins, gallic acid and picrosides. Dosha balance is achieved through Kapha-reducing, Pitta-cooling and Vata-soothing effects, supported by anti-inflammatory and immunomodulatory mechanisms that inhibit pro-inflammatory cytokines and normalize immune responses. The formulation further facilitates Rakta and Tvak shodhana, improves hepatic metabolism, reduces oxidative stress and exhibits antiproliferative effects on keratinocytes,

thereby decreasing scaling and epidermal hyperplasia. Additional keratolytic, antimicrobial and wound-healing actions prevent secondary infection and enhance skin barrier repair, while cooling and pigment-modulating properties improve erythema and discoloration. Collectively, these integrated Ayurvedic and biomedical mechanisms contribute to symptomatic relief, reduced recurrence and restoration of skin homeostasis.

### Trial drug- Vidangadi lepa

#### •GOMUTRA AS PENETRATION ENHANCER:

•Tikshna, Ushna, Katu gunas, Kapha-Vata nashaka → open Srotas, enhance drug absorption.

Gomutra acts as an effective penetration<sup>10</sup> enhancer by facilitating drug absorption through the skin. It contains more than 30% urea, which increases skin permeability and enhances the thermodynamic activity of the applied medicine. When Vidangadi Lepa is mixed with Gomutra, it promotes deeper penetration of active ingredients, improving therapeutic efficacy in Ayurvedic treatment.

#### •PROBABLE MODE OF ACTION OF LEPA:

The probable mode of action of Lepa can be described in two steps as follows:



#### • PILOSEBACEOUS UPTAKE

When a Lepa is applied over the surface of skin opposite to the direction of hairs on it, through a proper base<sup>11</sup>, the active principles of the ingredients of Lepa are released into that base. After that, this combination enters the Romkupa & further gets absorbed through the swedavahi srotas & siramukh<sup>12</sup>. However, it should be kept in mind that the pilosebaceous uptake i.e. absorption of Lepa differs as per the site variation, skin condition & more important is the base through which it is applied.

#### • CUTANEOUS BIOTRANSFORMATION

- There after it is subjected for Pachana by Bhrajakpitta<sup>13</sup>, the viable epidermis starts off the catabolic degradation of the absorbed material with the help of essential enzymes. In due course of the above transformation, some new metabolites might be forming which pacifies the provoked Doshas locally & thus breaks the pathogenesis cycle leading to the alleviation in the symptoms.
- The contents of Vidangadi Lepa are the seeds of Vidanga, Haritki, Bakuchi, Sarsapa, Karanja, Saindhava lavana, Gomutra is used as base. All these have conferred Vidangadi Lepa with the properties like Ushna, Tikshna, Laghu, Vishada Guna, Ushna Virya & Katu Vipaka. This Lepa is also having Sukshma property as Gomutra is its base.
- Ekkushtha is Kapha-Vata dominant disease. Upon topical application, the active principle of the Lepa reaches to the deeper tissues through siramukha & swedavahi srotas & stains it with its Sukshma & Tikshna property. Due to its Ushna, Tikshna, Vishad & Sukshma properties it deblocks the obstruction in swedavahi srotas & allows the local toxins to flow out through the Sweda, thus clearing out the micro channels. The Ushna Virya of Vidangadi Lepa causes pacification of Vata & Kapha which forms the Samprapti thus alleviating the symptoms. Vidangadi Lepa acts through Kapha-Pitta shamana, Rakta shodhana, and Kusthaghna actions. It reduces scaling, itching, erythema, and inflammation, purifies the skin by enhancing blood detoxification and local metabolism, and restores normal skin texture.

#### 5. CONCLUSION

Thus, it can be concluded that Tiktaka Ghrita and Vidangadi Lepa Combined therapy significantly reduced erythema, scaling, itching, and discoloration, and restored normal skin texture along with avoidance of Nidana could be prevent the recurrence.

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