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### RESEARCH ARTICLE

#### A COMPARATIVE CLINICAL STUDY ON THE EFFECT OF MRITTIKA LEPA AND LODHRADI LEPA IN YUVANAPIDIKA W.S.R TO ACNE VULGARIS

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#### Abstract

Acne vulgaris is a condition where it is characterized by Microcomedones, the earliest lesions of acne, appear at adrenarche, when androgens of adrenal origin begin to stimulate follicular hyperkeratosis and sebaceous hyperplasia in pilosebaceous units on the face.<sup>1</sup>Mud is one of the rarely used natural modes of treatment in any of the cases. But Black Mud is very useful in conditions of skin ailments.Lodhradilepa has anti-inflammatory action.Therefore, the study was planned to observe the comparative effect of mrittikalepa and lodhradilepa in the management of Acne vulgaris. In the study 30 patients were selected according the classical signs and symptoms of Yuvanapidika& divided into two equal groups comprising of 15 patients in each group. In Group A, 4 patients (26.67%) got mild relief, 3 patients (20%) got moderate relief and 8 patients (53.33%) got marked relief. In Group B, 4 patients (26.67%) got mild relief, 6 patients (40%) got moderate relief and 5 patients (33.33%) got marked relief.Black Mud easily combines with water, absorbs all the seven colours of skin and does not have any adverse effects. It gives cooling effect to the body, because of its moisture retention capacity and it increases the blood circulation and energizes the various skin tissues.<sup>2</sup>The drug Lodhra, Vachaand Dhanyakaare Kushtagna, Vranaropaka,Vedanasthapaka, Shotahara<sup>3</sup>might have resulted in good relief.

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#### Introduction:-

Since the creation of the Universe, with the gradual development of mind, the Mother Nature slowly taught various things about beauty to the man. In the present scenario, people are very much conscious about their health as well as beauty. Beauty is a feeling which brings satisfaction and confidence to a person. One's beauty is one's skin. Glowing, smooth and silky skin is base of a beautiful appearance. In this century in all fields, beauty and personality of a person are the main tools to attract the people. Whole beauty of the body depends on face and is affected by certain anomalies of the adolescent age i.e., 16–30 years.

The pidikas which gets pachana over the face causing the disfigurement is termed as Mukhadushika which is a synonym of Yuvanapidika.The Yuvanapidika appears like shalmalikantaka which is a type of thorn.<sup>4</sup>

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Manifestation of Yuvanapidika is at a particular age i.e., Yuvavastha. The doshas involved as causative factor are kapha and vata along with rakta.<sup>5</sup> And as such the factors capable of aggravating kapha and vata are the nidana for the manifestation of Mukhadushika. Yuvanapidika can be clinically correlated to Acne vulgaris in contemporary science.

Acne vulgaris leads to non-attractive look to a permanent disfigurement of the face, which may result in inferiority complex. Cosmetology is a science dealing with beautification and having certain definite principles. Most of the people use cosmetics not only for curing their skin problems but in routine to maintain the skin appearance and beauty. Hence, an old age practice of applying mud on the face as well as body replenishes the skin and helps in rejuvenating the same.

## Materials And Methods:-

### Collection of materials:

1. **Mruttikalepa:** The black mud (Cotton soil) was collected from farm of Konnur village, Naragund taluk of Gadag district in a non-contaminated land from 6 meter deep leaving upper 3 feet deep mud. It was separated from all the roots, stones, leaves etc. Then it was dried under the sun for about 8-10 hours. After drying it was soaked in water for 1-2 days. Then later water was drained out. Processed wet mud was again dried in sunlight for 1-2 days. After complete drying it was triturated in khalva yantra to make fine powder and later sieved through a cloth and collected.
2. **Lodhradi lepa:**<sup>6</sup> Equal quantity of drugs Lodhra, Vacha and Dhanyaka were powdered and sieved through cloth according to the reference, in Pavamana Pharmaceuticals, Bijapur.

### Ingredients of LodhradiLepa



LODHRA



VACHA



DHANYAKA



**LODHRADI LEPA CHOORNA****LODHRADI LEPA SACHET****MRUTTIKA LEPA****RAW MRUTTIKA MRUTTIKA TRITURATED MRUTTIKA SEIVING****MRUTTIKA LEPA CHOORNA****MRUTTIKA LEPA SACHET****Inclusion Criteria:**

1. Patients presenting classical signs & symptoms of Yuvanapidika with history of more than 2 months.
2. Patients between the age group 16 to 30years.
3. Patients of either sex.

**Exclusion Criteria:**

1. Patients having pidika of other Kshudraroga and Kushta are excluded.
2. Patients associated with other systemic disorders.
3. Patients with age group below 16years and above 30years.

**Interventions:****GROUP A: KrishnaMruttikaLepa****GROUP B: LodhradiLepa**

- |                              |   |   |
|------------------------------|---|---|
| 1) Sample size               | : | 15 patients                                       |
| 2) Method                    | : | External application                              |
| 3) Time of Application       | : | Morning 6 am - 9 am                               |
| 4) Duration of Application   | : | Till Lepa gets dried up                           |
| 5) Duration of treatment     | : | 30 days   |
| 6) Follow up after treatment | : | 1 <sup>st</sup> follow up on 30 <sup>th</sup> day |
| 7) Post treatment follow up  | : | On 45 <sup>th</sup> day                           |

**Methodology:-****LEPA VIDHI**

- a. Purvakarma
- b. Pradhanakarma
- c. Paschatkarma

**1) Purvakarma:** Examination of patients

Preparation of medicine

Male patients were asked to shave their face

Patients were made to wash their face with luke warm water.

**Method of preparation of lepa:**

Lepawas prepared from the dry drugs as mentioned, in a vessel and mixed with normal water to get lepa or paste form. This lepa was applied over the face of the patients.

**2) Pradhana karma:**

- Patient was made to sit on the chair with closed eyes.
- The lepa was applied on the face and affected part in pratilomagati excluding the lips and orbital region.
- The patient was made to sit in the same position until the lepa was dried.
- Patient was advised not to speak or laugh or get angry during that period.

**3) Paschat karma:**

- When the lepa was dried, patient was advised to wash his or her face with luke warm water.
- Special advice was given to the patient not to squeeze the pidaka, not to apply any creams.

**Subjective Parameter****Pain (Ruja)**

**Grade 1** – No pain

**Grade 2** – Pain on deep pressure

**Grade 3** – Pain on touch

**Grade 4** – Continuous pain even without touch

**Burning Sensation (Daha)**

**Grade 1** – No burning sensation

**Grade 2** – Occasionally burning sensation

**Grade 3** – Burning sensation on deep touch

**Grade 4** – Intolerable burning sensation

**Objective Parameter:-****Number of Pidaka**

**Grade 1** – No pidaka

**Grade 2** – 1 – 5 on Right side & 1 – 5 on Left side

**Grade 3** – 6 – 10 on Right side & 6 – 10 on Left side

**Grade 4** – More than 10 Pidaka on Right side as well as on Left side

**Global Acne Grading system**

| Sl. N | Scoring Assessment       | Normal Grade (G1)      | Mild Grade (G2)         | Moderate Grade (G3)      | Severe Grade (G4)                |
|-------|--------------------------|------------------------|-------------------------|--------------------------|----------------------------------|
| 1     | Non-Inflammatory lesions | No comedones           | 1-5 comedones           | 6-10 comedones           | More than 10 comedones           |
| 2     | Inflammatory lesions     | No papules or pustules | 1-5 papules or pustules | 6-10 papules or pustules | More than 10 papules or pustules |
| 3     | Nodulocystic lesions     | Nonnodules             | 1-5 nodules             | 6-10 nodules             | More than 10 nodules             |

**Comparative Study of Results of both the Groups:****Table No.51:** - Comparison of both Mruttika and LodhradiLepa groups.

| Characteristics                | MruttikaLepa  |               |                | LodhradiLepa  |               |                |
|--------------------------------|---------------|---------------|----------------|---------------|---------------|----------------|
|                                | BT Mean score | AT Mean score | % of Reduction | BT Mean score | AT Mean score | % of Reduction |
| <b>Ruja</b>                    | 2.67          | 1.93          | 27.34          | 3.07          | 2.47          | 19.54          |
| <b>Daha</b>                    | 2.13          | 0.13          | 93.75          | 1.93          | 0.33          | 82.75          |
| <b>Non-inflammatory lesion</b> | 2.67          | 1.80          | 35.58          | 2.73          | 1.93          | 29.30          |
| <b>Inflammatory lesion</b>     | 2.20          | 1.60          | 27.27          | 2.67          | 2.00          | 25.09          |

|                                   |      |      |       |      |      |       |
|-----------------------------------|------|------|-------|------|------|-------|
| <b>Nodulocystic lesion</b>        | 1.47 | 1.13 | 22.48 | 1.67 | 1.13 | 31.73 |
| <b>Global Acne Grading system</b> | 2.20 | 0.26 | 87.87 | 2.26 | 0.53 | 76.47 |

**Discussion:-**

**Mode of Action of Lepa:**

As explained by acharya Sushruta in the context of dhamanis, the usual mode for all external applications is that the twachagatabhrajaka pitta absorbs the applied medicine and it is then carried through the tiryakadhamanis to rasa raktavahasrotas for systemic action. In Yuvanapidika all these dushyas are directly involved. Local applicants have major role to play.

**Pilosebaceous Uptake:**

When lepa is applied over the surface of skin opposite to the direction of hair on it, with proper base, the active principles of the ingredients of lepa are released into that base. After that, this combination enters the romakoopa and further gets absorbed through the swedavahisrotas and siramukha.

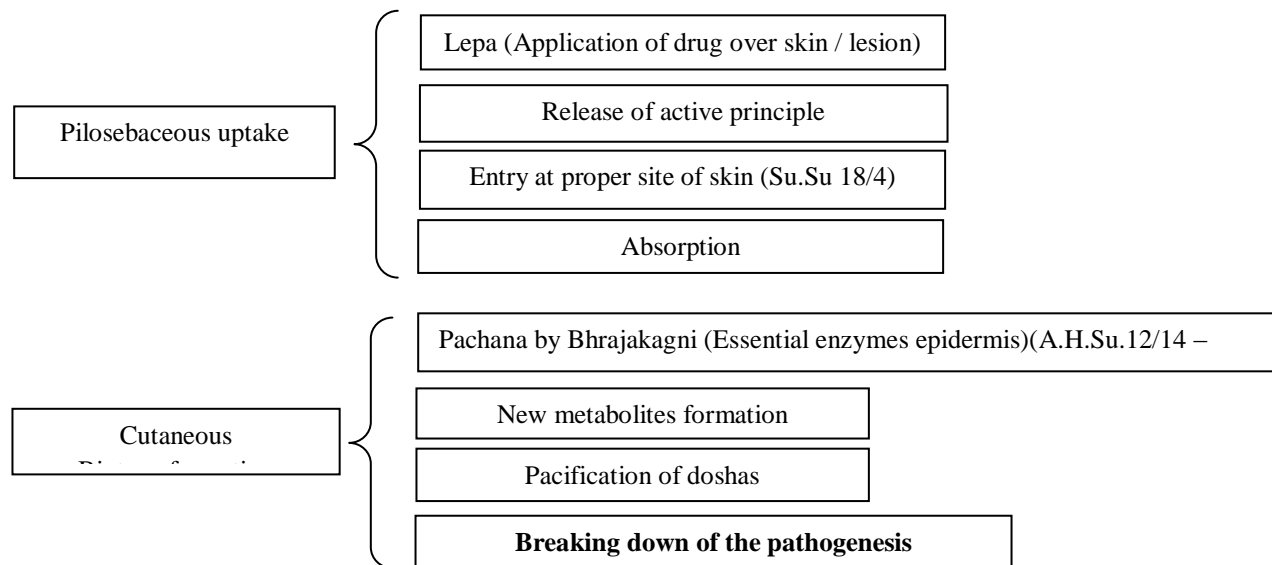
However, it should be kept in mind that the pilosebaceous uptake i.e., absorption of lepa differs as per the site variation, skin condition and more important is the base through which it is applied.

**Cutaneous Biotransformation:**

There after it is subjected for pachana by bhrajakagni viz. 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 and thus breaks the pathogenesis cycle leading to the alleviation in symptoms.

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



**Mode of Action of MruttikaLepa**

According to Naturopathy, Black mud is one of the elements of nature having immense impact on the body and it is used to cure various diseases. Its black color absorbs all the colors of the sun and conveys them to the body. It gives cooling effect to the body, because of its moisture retention capacity, it increases the blood circulation and energizes the various skin tissues. Mud mainly contains various Macro and Micro nutrients in which skin is semi permeable to zinc, as it is easily absorbed by the skin and acts as an antifungal.

Mud cures the diseases mainly by 4 effects

- 1) **Mechanical effect:** In which because of its viscosity soothes the inflamed or painful part.

2) **Chemical effects:** It is by chemicals of mud which acts as irritants over the surface and sensation is sent through pain sense i.e., chemical pain receptors. It draws away the toxins from system by increasing the circulation in the affected part.

3) **Thermal effect:** Here thermo receptor carries the temperature sensation and release the heat of the body.

4) **Electrical effect:** Mud having electrical effect makes the affected part active by increasing the circulation in that part.

Here in Yuvanapidika the main signs and symptoms are Shotha, Ruja, Meda, Daha, Kandu etc. In Yuvanapidika the Mud will remove the internal Meda and impure blood to the periphery and strengthens the skin tissue as mud invigorates the circulatory system by diverting a large amount of blood to the periphery and hence useful in cleansing and strengthening the skin tissue. Frequent application of mud helps in improving the complexion of the skin by getting rid of spots and patches, which appear in Yuvanapidika.

The mud mixed with water creates a large surface area. This forms the basis for clay's properties which include

- a. **Adsorption:** This is the capacity of clay to draw compounds to the outside of the molecules and hold them there. The negatively charged ions in the clay attract the positively charged ions in pollutants adhered to skin, an effect similar to magnet. This property allows clay to bind to toxic substances and microorganisms present in Yuvanapidika.
- b. **Absorption:** This is the ability of clay to draw compounds inside of the molecular structure of the clay. Once inside the clays swells trapping the toxins and thereby ensuring they cannot be released again. The greater the surface area of the clay, the more it can attract positively charged particles or toxins. Due to this property, clay can be used to draw toxins out of the skin and reduce pus and inflammation from swellings and cysts.
- c. **Ionic exchange:** This is the capacity to change the electrical charge of a surface that the clay comes in contact with. This effect is quite unique and contributes to the balancing effect clay has on the skin.

### Conclusion:-

1. Mruttikalepa was found to be clinically effective and statistically significant in reduction of non-inflammatory lesion and reduction in other symptoms in moderate to good range with least recurrence rate.
2. Mud greatly helped in reduction of oiliness of the face and reduction of comedones.
3. The relief by bothlepas were effective, but not long lasting as recurrence was seen.
4. Comparing between the groups, Group 'A' having Mruttikalepahash shown better result than Group 'B' having Lodhradilepa without any adverse effect.

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