ABSTRACT:

It is the general opinion that smooth and glowing skin of face not only enhances the beauty of a person but it also provides tremendous self confidence. One of the leading cosmetic problems which affect the facial skin is Acne vulgaris and it is affecting 85% of teenagers of the World population. So there is a need for potential well tolerated treatment which can limit the disease and thus reduce psychological impact of the condition. In Ayurvedic classics in the context of Kshudra rogas, there mentioned about Mukhadooshika occurring in yuvavastha and its signs and symptoms are similar to that of Acne vulgaris. In Ayurvedic classics many lepas are considered to be the effective treatment for Mukhadooshika. The present study was carried out with an objective to compare the efficacy of lepa of Kolaphalamajja with that of Shalmalikantaka in Mukhadooshika.

Study design: The study was ‘Single blind comparitive study’ conducted on 30 patients of Mukhdooshika of either sex. Patients were randomly recruited to Trial group and Standard group of 15 each. The Trial group patients were advised Kolaphalamajja lepa and the Standard group prescribed Shalmalikantaka lepa, one time a day for 49 days.

Results: Kolaphalamajja lepa showed significant response in Oily skin texture and Shalmalikantaka lepa in Dry skin texture of Mukhadooshika, hence proved that Kolaphalamajja and Shalmalikantaka which is easily available one, is effective in combating Mukhadooshika.

Key words: Mukhadooshika, Lepa, Acne Vulgaris, Kolaphalamajja, Shalmalikantaka.
duce its psychological impact While mentioning the treatment modalities for disease Mukhadooshika all the acharyas of Ayurveda have given importance on lepa. So there is a need to evaluate the efficacy of the dravyas mentioned in classics. Shalmali is one of the known dravya which is in use as effective one for lepa in combating Mukhadooshika. Kola is one of the dravya which is quoted by Vagbhata and Chakrapani in the treatment of Mukhadooshika. It is one of the easily available dravyas, so it is selected to study its efficacy. Mukhadooshika is due to Kapha-Vataja rakta dusti. Kola is vatapittagna and having usna guna. So with the motto of evaluating the efficacy of Kola in Mukhadooshika, work has been carried out.

**OBJECTIVES OF THE STUDY:**
1. To evaluate the efficacy of Kolaphalamajja lepa (Kolaphalamajja with navaneeta, guda, kshoudra) in Mukhadooshika.
2. To evaluate the efficacy of Shalmalikantaka lepa (Shalmalikantaka with ksheera) in Mukhadooshika.
3. To compare the efficacy of Kolaphalamajja lepa with that of Shalmalikantaka lepa in Mukhadooshika.

**KOLA- Zizyphus jujuba Lam.**

In Ayurvedic classics it is described under Asthaapana dravya, Vicharana sneha, Vatasamshamana varga, Amlavarga, nyagrodhadi gana and in the treatment pramehapidaka, vidradhi, Mukhadushika, kushtha jwara, atisara, chardi, arochaka Gulma, Unmaada, Udara, m Gunas; Madhura, Graahi, Usna, Guru, Saraka Constituents - Vitamin C, Sugars and Minerals.

**Fruit:** saponin, jujuboside B, flavone-C-glucosides-6, carotenes, jujubosides A & B,

**SHALMALI: Bombax ceiba**

We found references in Ayurveda saying Shalmali pushpa is a Supya shaka as noted by Acharya Charaka and in Shaka varga by Sushruta. Its different parts like vruntha, pushpa, moola, niraya useful in Rakra pitta, raktatisara, pravahika, yonidosha etc. The reference of Shalmali kantaka is found in Astanga Hrudaya in the context of the disease Mukhadooshika and dosha dushta jihwa, as its appearance resembles that of Shalmali kantaka.

**Stem bark:** lupeol, beta-sitosterol, tannins

**Karmas:**
- Rasayani,Grahi,Vrushya,Brumhani, Sukra
- Gordani, Balya, Varny

**Lepa Kalpana:** Types of Lepa: According to Sushruta, lepas are of 3 types viz. PrAlepa, Pradeha and Alepa.

- **Pralepa:** Sheeta lepa in Pittadosha pradhana twak rogas.
- **Pradeha:** Ushna lepa in Vata and Shleshma doshaja skin problems.
- **Alepa:** will be moderate in Rakta and Pitta dosha pradhana skin diseases

According o Sharangadhara lepas are classified into

- **Doshaghna lepa:** should be applied to the thickness of 1/4th of an angula.
- **Vishaghna lepa:** should be applied to the thickness of 1/3rd of an angula.
- **Varnya lepa:** should be applied to the thickness of ½ of an angula

Rules for the application of lepa: Lepas should be prepared freshly and used. They should be used only once. The thickness of the lepa is said to be of that of wet skin of Buffaloes. Over the previous lepa, fresh one should not be applied, not be applied at night. Lepas always be applied in the opposite direction of the hair follicles.
Pradeha should be applied during day
The lepa which is stale (kept overnight) should never be applied.
Importance of lepa: Alepa is the first line of treatment in vrana shopha. In all types of shophas it is the commonest and the important one. Just like water poured over burning house extinguishes the fire, lepa applied over the vrana reduces the vedana.

**Topical application**\(^9,10,11\): The major step in percutaneous absorption include the establishment of a concentration-gradient, which provides a driving force for drug movement across the skin, the release of drug from vehicle into the skin-partition co-efficient; and drug diffusion across the layers of the skin- diffusion co-efficient.

The relationship of these factors to one another is summarised in the following equation (Piacquadio & Kligman, 1998).

\[
J = \frac{C_{veh} \cdot K_m \cdot D}{x}, \quad \text{Where, } J = \text{rate of absorption} \\
C_{veh} = \text{concentration of drug in the vehicle} \\
K_m = \text{partition co-efficient} \\
D = \text{diffusion co-efficient} \\
x = \text{thickness of stratum corneum}
\]

Physiological factors that affect percutaneous absorption include-Hydration, Occlusion, Age, Intact versus Disrupted skin, Temperature, Site.

**Vehicle**\(^9,10,11\): Most topical applications are incorporated into bases or vehicles that bring drugs into contact with the skin. The vehicle chosen will greatly influence the drug’s absorption and vehicles themselves can have a beneficial effect on the skin if chosen appropriately. The choice of appropriate vehicle in a topical application is important. Factors that determine the choice of vehicle and transfer, the rate of drug across the skin are:

- Drug’s hydrophobic/hydrophilic partition co-efficient,
- Molecular weight,
- Water solubility
- Lipid solubility.

**Clinical study proper:** The Clinical trial was conducted at SJIIM hospital, Bengaluru, were registered randomly for this study.

**INCLUSION CRITERIA:**
a. Patient having classical signs and symptoms of Mukhadooshika-Shalmalikantakara pidaka, Ghanavat and Shula.
b. Age group between 12-30 years.
c. Patients of either sex will be taken.

**EXCLUSION CRITERIA:**
a. Mukhadooshika of severe degree – cystic form
b. Patients who are on long term treatment with corticosteroids.

d. Patients were categorized randomly into two groups (A and B) comprising 15 in each.

**STUDY DESIGN:** “Single blind comparative clinical study” for 49 days. Lepa was advised once a day for 49 days. Patients were categorized randomly into two groups (A and B) comprising 15 in each.

**Group A:** Advised Kolaphalmajja lepa\(^12,13,14\), (external application to the site).

**Group B:** Advised Shalmlikantaka

**ASSESSMENT CRITERIA**\(^5,6,15,16\):

**OBJECTIVE CRITERIA:** Nature of Pidika, Shula

**SUBJECTIVE CRITERIA:** Pidika, No. of Pidika, Site of Pidika, Frequency of occurrence

(a)Pidika-
- No- 0
- Comedone- 1
- Papule- 2
- Pustule- 3
- Nodule- 4

(b) No. of pidika-
No pidaka - 0
Mild-20 comedones Or 15 inflammatory lesions, total of ≤30
Moderate-20 to 100 comedone Or 15 to 20 inflammatory lesion Total of 30-125
Severe- ≥5 cysts comedones ≥100 total of ≥125
(c) Site of pidaka-
No- 0
Face- 1
+chest- 2
OBSERVATION:
Before treatment

(d) Nature of pidika-
ghanavat- 0
Alpa ghanavat- 1
(e) Shula-
Ashula - 0
Alpa shula- 1
Madhyama shula- 2
Teevra shula- 3
(f) Frequency of occurrence-
No- 0
Less frequent (once in 30 days) - 1
More frequent (once in 15 days) - 2
Always present - 3

After treatment

+back- 3

OBSERVATION:
Before treatment

After treatment
### Statistical analysis between the two groups

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Groups</th>
<th>Mean</th>
<th>% diff</th>
<th>SD</th>
<th>SE</th>
<th>t-Value</th>
<th>p-value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pidaka</td>
<td>Group-A</td>
<td>2.8</td>
<td>55.56%</td>
<td>0.7746</td>
<td>0.2</td>
<td>6.6</td>
<td>&lt;0.0001</td>
<td>HS</td>
</tr>
<tr>
<td></td>
<td>Group-B</td>
<td>1.266</td>
<td>33.05%</td>
<td>1.4577</td>
<td>0.1182</td>
<td>3.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Pidaka</td>
<td>Group-A</td>
<td>1.8</td>
<td>59.65%</td>
<td>0.414</td>
<td>0.1069</td>
<td>2.432</td>
<td>0.0217</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>Group-B</td>
<td>1.33</td>
<td>58.91%</td>
<td>0.6172</td>
<td>0.1594</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site of Pidaka</td>
<td>Group-A</td>
<td>1.067</td>
<td>71.42%</td>
<td>0.2582</td>
<td>0.0666</td>
<td>0.5641</td>
<td>0.5772</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Group-B</td>
<td>1</td>
<td>72.66%</td>
<td>0.3780</td>
<td>0.09759</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nature of Pidaka</td>
<td>Group-A</td>
<td>1.533</td>
<td>92.34%</td>
<td>0.5164</td>
<td>0.1333</td>
<td>3.228</td>
<td>0.0032</td>
<td>HS</td>
</tr>
<tr>
<td></td>
<td>Group-B</td>
<td>1</td>
<td>71.42%</td>
<td>0.3780</td>
<td>0.09759</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shula</td>
<td>Group-A</td>
<td>2.2</td>
<td>91.41%</td>
<td>0.6761</td>
<td>0.1746</td>
<td>2.256</td>
<td>0.032</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>Group-B</td>
<td>1.66</td>
<td>78.1%</td>
<td>0.6172</td>
<td>0.1594</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of occurrence</td>
<td>Group-A</td>
<td>2.6</td>
<td>92.85%</td>
<td>0.5071</td>
<td>0.1309</td>
<td>0.6325</td>
<td>0.5322</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Group-B</td>
<td>2.467</td>
<td>88.2%</td>
<td>0.6399</td>
<td>0.1652</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As table and graph showed, in comparison between the groups,
Group A is more significant in relieving Pidaka and Nature of pidaka in comparison with Group B.

Group A showed only significant result in shulahara action in comparison with Group B.
There is no significant findings between the groups in other parameters namely- Site of pidaka and frequency of occurrence.

Overall assessment of the treatment of the two trial groups:

<table>
<thead>
<tr>
<th>Response</th>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of patients</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Good response/Marked</td>
<td>14 (93.33%)</td>
<td>8 (73.33%)</td>
</tr>
<tr>
<td>Improvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate/Improved</td>
<td>1 (6.66%)</td>
<td>7 (26.66%)</td>
</tr>
<tr>
<td>Mild/Unchanged</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Poor/Deteriorated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In Group A, 93.33% (14) patients showed Marked response and only 6.66% (1) showed moderate improvement. Whereas in Group B, 73.33% (8) patients showed Marked response and 26.66% (7) showed Moderate improvement.

So by comparing the overall assessment of treatment, we can say that Group A showed Marked improvement than Group B.

**DISCUSSION ON OBSERVATION:**

**Age:** All the patients presented were within 30 years of age. Active hormonal changes taking place during this age may be the reason for this.

**Sex:** 20% (6) are male and 80% (24) are female. Females suffer from hyperandrogenesis more and therefore are more prone to acne.

**Ahara (Rasa, Gunata):** Among 30 patients, more of mishrahari with Madhura and Katu rasa pradhanahara and snigdahari patients found to be suffering from this Acne.

**Koshta and Agni:** Among 30 patients, most were of Madhyama koshta having Madhyamagni.

**Prakruti:** In case of prakruti, 60% (18) are of vatapitta. Comparatively, madhyamakoshti patients are more in the study which signifies that Kapha-pitta prakriti persons usually suffer from twakkrogas.

**Vihara and Nidra:** 63.33% (19) patients were doing less physical work and 66.6% (20) were with disturbed sleep. Patients who were of sedentary lifestyle and disturbed sleep were suffering more with Acne.

(http://EzineArticles.com/466603;en.jinlongetch.com)

**DISCUSSION ON RESULTS:**

Statistically highly significant result found in all the parameters in both the groups i.e., Group A and Group B.

Kolaphalamajja is attributed with madhurakashaya rasa, usna guna and swedajanaka properties. So it is successful in relieving mukhadooshika by removing ardhrata and producing sweda. This being one of the udardaprashamana gana dravyas help in reducing the pidakas. Kola contain triterpinoid, flavonoids which are mainly anti-inflammatory and antibacterial. Flavonoids also help in regenerative process thus relieving acne. The Kolaphalamajja lepa comprises of navaneeta, guda and kshoudra which are having madhura-kashaya rasa and varnyakara, ropana, lekhana karmas. These medias being lipid nature may be enhanced the permeability of Kola and honey, butter possessing healing quality (Subrahmanyam 1991 Topical application of honey in treatment in burns.) and honey.
is antibacterial too (Ther Med: Eur J Med Res) thus help in relieving the acne.

Shalmalikantaka is having kashaya rasa, sandhaneya, vranaropana and shoshakaguna gunas is successful in relieving pidaka. Here ksheera taken as media which is madhura rasa, sheeta gunayukta and varnya, dahaprasamana in action. Due to its properties, Ksheera supported Shalmali in combating acne. Shalmali contains oxalate crystals and tannin which help in the exfoliation of hardened tissue. Lepa which is having more topical action, was found to be efficient way to get rid of Mukhadooshika.

Group A is more significant in relieving Pidaka, hard consistency of pidaka and combating shula in comparison with Group B. There is no significant differences between the groups in other parametes. In Group A, 93.33% (14) patients showed Marked response ,Whereas in Group B, 73.33% (8) patients showed Marked response . So by comparing the overall assessment of treatment, we can say that Group A showed Marked improvement than Group B.

CONCLUSION:

• Mukhadooshika is one such disease affecting almost all individuals in their lifetime, which can be roughly correlated with Acne vulgaris by comparing clinical features of Ayurvedic reference with Allopathic science.

• The treatment consists of shodhana, lepa and shamanoushadis. Modern science also gives the treatment comprising of oral and topical antibiotics and retinoids, corticosteroids. But no treatment is so far found to be effective or with minimum side effects.

• The present study is taken to evaluate efficacy of lepas in acne. So an attempt is made to compare the efficacy of two different lepas viz., Kolaphalamajja (Zizyphus jujuba Lam)lepa and Shalmalikantaka (Bombax ceiba Linn.) lepa.

• It is found that Kolaphalamajja showed better result than Shalmalikantaka in curing Mukhadooshika , particularly in the kind of papular, pustular form.

• Shalmalikantaka also showed better result in relieving acne , especially in case of comedone form.

• From this study it is evident that the Kola is found to be more effective than Shalmali. Results showed that the Kolaphalamijja is more beneficial in Mukhadooshika of popular-pustular form and Shalmalikantaka in comedone form.

REFERENCES:


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