MEDICINAL PLANTS USED IN ACNE VULGARIS - A CRITICAL VIEW

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ABSTRACT
It is the general opinion that smooth and glowing skin of face not only enhances the beauty of a person but it also adds self-confidence. In Ayurvedic classics in the context of kshudrarogas, Mukhadushika is mentioned. Its signs and symptoms are similar to that of Acne vulgaris. Acne vulgaris is caused by mainly two bacterias. It is inflammatory, painful, scar forming condition. So there is need of the drugs which are antibacterial, anti-inflammatory, analgesic and antioxidant. The single drugs mentioned in the context of Mukhadushika has the properties of antibacterial, anti-inflammatory, analgesic and antioxidant proved by the presence of chemical constituents which are responsible for these activities.

Keywords: Mukhadushika, Kshudraroga, Acne vulgaris.

INTRODUCTION
The disease Mukhadushika one among the Kshudraroga, is aptly named ‘Mukhadushika’ as it results in disfigurement of physical and psychological status of an individual by manifesting itself on the most important part of the body i.e. Face (99%).
Explanation of Mukhadushika is analogous with description of ‘Acne vulgaris’. Acne Affects 80% of the population in the age group 11-30 years. Mainly caused by the Staphylococcus epidermidis and Propini bacterium.
Management of Mukhadushika as per Ayurveda acharyas’s is through Shodhana and lepas. Primarily lepas are indicated, if acne doesn’t resolve, then shodhana is advised, but vamana is mentioned as best because of kapha-vata pradhanatwa.
In contemporary sciences topical therapies, antibacterials, anti-inflammatory, analgesics, antioxidants, hormones, surgery, U.V radiations, Intra lesion injections etc are mentioned.
Here is an attempt to evaluate the anti-acne properties of drugs based on their chemical constituents.

AETIOLOGY
Four major aetiological factors are involved
1. Increased sebum production
2. An abnormality of microbial flora
3. Hyper-keratinisation of pilosebaceous duct
4. Production of inflammation

PATHOPHYSIOLOGY:
- Hyperkeratinisation and excess desquamation of epithelial cells from the walls of the hair follicle, leading to blockage of the follicular opening.
- Infection with Propini bacterium acnes. This bacteriacolonises the pilosebaceous ducts and acts on lipids to produce a number of pro-inflammatory factors.
Blockage of the pilo-sebaceous unit. The stimulus to hyper-cornification could possibly be androgen mediated or an irritant effect of sebaceous lipids. As hyper-cornification increases, the ductal colonization with Propionibacterium acnes and Staphylococcus epidermidis is seen, lipases of bacteria hydrolyse the sebaceous triglycerides to free fatty acids which may contribute to the cornification.

**TREATMENT**

Mild acne - Topical therapy.
Moderate or severe acne - Oral and topical therapy.

**HERB AND CHEMICAL CONSTITUENT USEFULL IN THE TREATMENT OF ACNE VULGARIS**

<table>
<thead>
<tr>
<th>Herb</th>
<th>Chemical constituents</th>
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| **Shalmali**<sup>8</sup>   
*Salvia malabarica*  
Part Used- Thorn   | Antibacterial – Shalmimin  
Analgesic - Mangiferin  
Anti - inflammatory - Luteol, Triterpene |
| **Matulunga**<sup>9</sup>   
*Citrus medica*  
P.U-Fruit   | Antioxidant, Analgesic - Flavonoid and phenolic compounds.  
Anti-inflammatory - Citroflavonoids. |
| **Dhanya**<sup>10,11,12</sup>   
*Coriandrum sativum*  
P.U-Fruit, Leaf   | Anti-inflammatory, Analgesic, Antibacterial – Linalool  
Antioxidant - Terpenoid, Phenolic compound |
| **Vacha**<sup>13</sup>   
*Acorus calamus*  
P.U-Rhizome   | Antibacterial – Alpha and Beta-asarones  
Anti-inflammatory, Analgesic – Essential oil |
| **Kushta**<sup>14</sup>   
*Saussurea lappa*  
P.U-Rhizome   | Anti-inflammatory – Cynaropicrin  
Antioxidant/Immunomodulatory – Costunolidedehydro costus |
| **Jaatiphal**<sup>15,16</sup>   
*Myristica fragrans*  
P.U-Fruit   | Antibacterial - TrimyristinMyristic  
Antioxidant - Isoeugenol, lignans, eugenol,  
beta-caryophyllene  
Anti-inflammatory – Myristin |
| **Lodhra**<sup>17</sup>   
*Symplocos racemosa*  
P.U-Bark   | Anti-oxidant – Salireposide benzoyl salireposide  
Antibacterial- Harmine |
| **Haridra**<sup>18</sup>   
*Curcuma longa*  
P.U-Rhizome   | Anti-oxidant, Anti-inflammatory,  
Analgesic – Curcumin |
### Medicinal Plants Used in Acne Vulgaris - A Critical View

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<tr>
<th>Plant Name</th>
<th>P.U.</th>
<th>Use</th>
</tr>
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</table>
| Chandana<sup>19</sup>           | P.U-Heart wood | Antibacterial - Alpha-santalol, Di-n-octylphthalate  
| Sarshapa<sup>20</sup>           | P.U-Seed | Anti-oxidant - Phenolic compound                                      |
| Tuvaraka<sup>21</sup>           | P.U-Fruit | Antibacterial - Hydnocarpic acid  
| Naarikelapushpa<sup>22,23</sup> | P.U- Flower | Anti-inflamatory - Hydnocarpin, Antioxidant – Luteolin  
| Maricha<sup>24,25</sup>         | P.U-Fruit | Antibacterial, Anti-inflammatory Analgesic – Piperine  
| Arjuna<sup>26</sup>             | P.U-Bark | Antibacterial – Luteolin, Anti-inflammatory – Terminoside Antioxidant – Arjunic acid  
| Raktachandana<sup>27</sup>      | P.U- Heartwood | Anti-Inflamatory, Antioxidant-Pterostilbene  
| Haritaki<sup>28</sup>           | P.U- Fruit | Anti-bacterial - Gallic acid, ellagic acid  
| Yashtimadhu<sup>29</sup>        | P.U- Bark | Anti-Inflamatory- Glycyrrhetic acid  

These drugs are used in combination for external application as lepa.

**Example 1**: Lepa prepared out of drugs like Vacha, Lodhra, Saindhava and Sarshapa or combination of Dhanyaka, Vacha, Lodhra and Kushta.

Haridra has the properties like Varnya, Shothahara and Twakdosha hara. Jatiphala, Sarshapa, Yashtimadhu, Haritaki are Krimighna.

Yashtimadhu is Varnya<sup>31</sup>.

**DISCUSSION**

1. Bacteria are one of the cause, so antibacterial drugs are needed to control the problem.
2. Inflammation and pain are the universal symptoms of Acne, so Anti-inflammatory and analgesics are drugs of choice in treatment.
3. For healing and recovery of tissues, antioxidants are essential.
4. Essential oils improve the peripheral circulation. Improved peripheral circulation helps in healing.
5. Terpenoids, Phenols, alkaloids, and flavonoids are compounds whose hydrophobicity induces partition in the lipids of the bacterial cell membrane and mitochondria, disturbing the structures and rendering them more permeable.
6. Many single drugs coated in classics. Few of them had been already proved by evidence based researches like Shalmali, Badara etc.

**CONCLUSION**

1. Anti-acne drugs mentioned in classics has the properties like anti-inflammatory, antibacterial, antioxidant and analgesic. That is why they are very effective in practice.
2. While dealing with the management of Mukhadushika. Acharyas have not only focused on treating acne but also on reinstating the natural texture and complexion of skin.
3. All the plants coated above have been proved as good as anti-come dogenic agents.
4. These plants are safe, economical, freely available, simple plants can be successfully utilized.

**REFERENCE**

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Source of support: Nil,
Conflict of interest: None Declared

Cite this article as
Ashvini S M: Medicinal Plants Used in Acne Vulgaris - A Critical View
ayurpub 2016;I(4): 160-165