

**EVALUATION OF FRESH FRUIT PULP OF *L.SICERARIA* AS  
COSMETIC AGENT****Dr. Sampada Pandhare\***

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**ABSTRACT**

From the ancient times in India, many plants are recognized as medicinal plants and effective drugs have been isolated from natural sources and developed through drug design as excellent medicines. Even today many natural agents (juice, pulp, extracts) are used in day to day life as cleansing agents, smoothening agents, conditioners, colouring agents etc. Thus herbal products ought to be a focus of research and development.

**KEYWORDS:** Herbs, *L.SICERARIA*, Astringent, Detoxicating agents, Remedies, wrinkle free, Cosmetic Agent.

**INTRODUCTION**

In the not too distant past, many families had favourite home remedies. These were used to control small medical emergencies and to prevent minor ailments from developing into chronic problems.

Naturally every family had only snippets of home doctoring knowledge but during this period there was also a considerable partnership between the home folks and the family doctor and physicians often used a variety of plant and water remedies to cure common illnesses. Herbal health care is one of the several systems but one must not think that these humble herbs can answer every single health problem.

History is studded with fascinating plant discoveries from primitive cultures and some of these discoveries have even changed history of medicine.

Thousands of plants are reported to have antiseptic value for example Cinnamon barks, Clove, Sweet-Clover, Creosote, Currant, Goldenseal sage, Thyme etc. Most active astringent

herbs include oak bark, bayberry bark, red raspberry, white poplar, witch hazel, yellow dock, cranesbills or wild alum. Similarly Balm, Barley water, Borage, Cayenne Pepper, Cinnamon, Ginseng, Honey, Lemons, Peppermint, Mustard, Arrow, Eucalyptus oil have varied effects. Apple pectin, Basil and Clover, Coffee, Fennel, Peach, Oatmeal, etc. have been employed as detoxicating agents. Chamomile, Cucumber, Fennel, Goldenseal, Rose water have been used as eye-easers. Apple cider, Vinegar rinse water, Nettle Juice, Rhubarb root tea, tea of Chamomile etc. are employed for cleansing hair, providing additional shine to hair, and for stimulating hair growth.<sup>[1]</sup>

Ancient ayurvedic literature describes many materials used for cosmetic purpose. The remedies for beautification included preparations used for various skin conditions including pimples, glowing complexion, healthy and wrinkle free skin, fairness, bright shining eyes and also for removing body odour. Six different compositions of face packs have been recommended for six different 'rutu' (seasons). It is claimed that regular and proper use of these face packs improve complexion, make skin supple and glowing with improvement of vision and prevents wrinkles and black spots on face and also the graying of hair.<sup>[2]</sup> Formulations to remove scars and spots on skin,<sup>[3]</sup> and face packs for increasing glow of the skin, for removing black spots and pimples have been recommended.<sup>[4]</sup> Methods and preparations for maintaining clean teeth and oral hygiene are reported at several places.<sup>[5]</sup> Several formulations are recommended for thick, black and shining hair, for preventing graying of hair and hair loss, for promoting as well as preventing hair growth, for removing unwanted hair, for controlling dandruff and for various scalp conditions.<sup>[7,8]</sup>

These formulations are available in various dosage forms. Traditional use of many substances e.g. gram flour, turmeric, milk cream, lemon, fuller's earth etc. for improving skin texture and use of herbs for hair care is well known. The herbs classified as 'Rasayana' drugs are claimed to slow down aging, give youthfulness, good complexion and radiance, sweet voice, long life, sharp memory and good health. There are materials which are said to be responsible for rejuvenating and revitalizing body and are responsible for curing various diseases.<sup>[9]</sup> Modern literature has revealed that most of these drugs possess antioxidant or radical scavenging properties and their pharmacological action may be attributed to these properties. 'Rasayana' drugs include many cosmetically important herbs. Several cosmetically important Ayurvedic and traditional raw materials and formulations have been verified for their claimed properties by using modern methods and they have shown very promising results. Active

principles in crude or pure form are extracted from many herbs / drugs and formulated in modern dosage forms like gels, shampoos, toothpastes, hair creams, face pack in cake form and so on.<sup>[10,11]</sup>

### ***LAGENARIA SICERARIA (MOL) STANDLEY***

*Lagenaria siceraria* (Family: Cucurbitaceae) commonly called Lauki in hindi or Doodhi Bhopala in Marathi, is a fruit which is abundantly used in India as a vegetable in day to day consumption in kitchen. Its medicinal uses are profusely described in ayurvedic text. It is Professor Dr. Manu Kothari of KEM hospital in Mumbai who brought this fruit in to present day medicinal use by treating a cardiac patient from Malegaon with the juice of this fruit where by the bypass cardiac surgery could be totally avoided.<sup>[12]</sup> The associate of Dr. Kothari Mr. A Nafade propagated this experience amongst elders due to which the cardiac – vascular block of several patients could be removed by treatment with ‘Lauki Juice’ without any sort of surgical intervention.<sup>[13]</sup> Mr. Nafade formed an organization called ‘Hriday Mitra Mandal’ with a view to bring about awareness of this phenomenon amongst needy persons. The delegation of this organization called upon a well-known yoga expert Mr. Ramdeo Baba who is helping to a great extent in this respect. Pharmacology of the extract of this fruit was studied and it was found that the extract possessed excellent antioxidant activity. It was also noticed that the fruit extract exerts antihepatotoxic, hypolipidemic, anti-inflammatory, immuno-modulatory, and cardio stimulant activities.<sup>[14]</sup>

The results of the above research showed that the free radical scavenging capacity of *L. siceraria* fruit may be responsible for various biological activities. *L. siceraria* juice is reported to have hepato stimulant activity.<sup>[15]</sup> The ability of *L. siceraria* juice to counteract cardio toxicity was studied in detail.<sup>[16]</sup>

The strong antioxidant activity of *L. siceraria* reported by several workers prompted its inclusion in the present study.<sup>[17,18,19]</sup> *L. siceraria* fruit contains several interesting constituents. The constituents which may be responsible for antioxidant activity include, triterpenoids, flavonoids, tannins, cucurbitacins, saponins and C-flavone glycosides and ellagitannins. In addition to these the fruit contains sugar in abundance. Some workers have observed existence of cardiac glycosides in the fruit also which to some extent may explain its cardiotonic activity.<sup>[20]</sup>

## MATERIALS AND METHODS

Extract of *L. siceraria* (Mol.) Standley fruit is selected because of its antioxidant property, easy availability and unexplored cosmetic applications.

### Identification of Plant

Plant used for the present study viz. *L. siceraria* (Mol.) Standley (Sheet No: 9563) was identified by the Department of Botany of The Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.

### Evaluation of fresh pulp of *L. SICERARIA*

#### FRUIT

Pulp of some fruits of cucurbitaceae family is used in some parlours by beauticians. Such practices are also prevalent amongst ladies of some families. Cucumber pulp is often used for this purpose. From the results of application of creams containing *L. siceraria* extracts, it appeared that fresh *L. siceraria* pulp might produce more beneficial effects. Hence the studies were carried out to evaluate cosmetic efficacy of fresh pulp of *L. siceraria* fruit.

### Preparation of Grated Fruits

A fresh fruit of *L. siceraria* was washed and grated with the help of a grater. Little water (10 ml) was sprinkled in order to keep it moist.



**Plate 1: Grated Fresh Pulp of *L. siceraria* fruit.**

### Subjective Evaluation of Grated Pulp of *L. siceraria* fruit through Human Volunteers

Ten volunteers of age between 40 to 70 were asked to clean their faces with water without using any kind of soap. The faces were dried with the help of a cloth. The photographs of the faces were taken. The grated fruit was placed all over the face. The volunteers were asked to

close eyes and the grated fruit was applied over the face with a caution that particles do not enter the eyes (Plate Nos.2 and 3).



**Plate No.2**



**Plate No.3**

The volunteers were asked to rest in this position for 30 to 40 minutes after which the grated fruit was removed from the face and the face washed with cold water. The face was dried and photographed from the same angles and distance in which it was photographed prior to application of grated fruit.

The photographs were taken prior and after application of grated fruits were compared.

\*The gracious help from the members of Hriday Mitra Mandal in conducting this experiment is gratefully acknowledged.

## RESULTS AND DISCUSSION

### Evaluation of fresh fruit pulp of *L. siceraria* as cosmetic agent

It was realized that in many parlors the grated fresh Cucumber is used for imparting fairness to the skin. Both cucumber and *L. siceraria* belong to the family “cucurbitaceae” and from chemotaxonomic considerations it appeared reasonable to expect that most of the constituents and therefore the properties of the two fruits might be common. With this consideration it was decided to examine whether applying of fresh grated *L. siceraria* on the face would provide some worthwhile cosmetic effect.

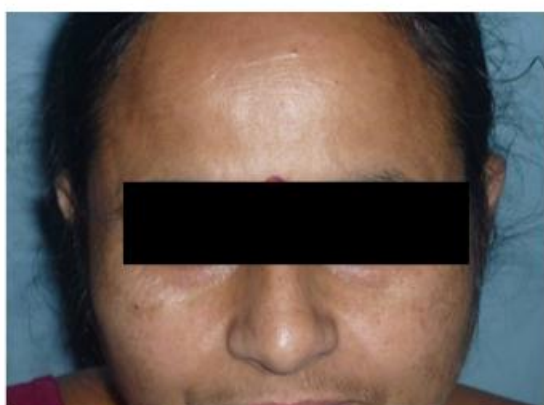


**Plate No.4**



**Plate No.5**

Plate Nos. 4,&6,are the photographs of the volunteers before applying grated *L. siceraria* while Plate Nos.5 & 7 are the photographs after applying grated *L. siceraria*.



**Plate No.6**



**Plate No.7**

## CONCLUSION

Covering the face with grated *L. siceraria* fruit for 30 to 40 minutes resulted in excellent



desirable effects. There was reduction in wrinkles, under eye dark circles and fine line around lips. There was skin tightening effect and noticeable fairness.

The users expressed that they experienced extreme sense of physical well-being after washing.

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