

A PREPARATION AND PHARMACEUTICAL REVIEW OF MAKKAYA PANEEYAKSHARA

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ABSTRACT

Kshara are derivatives of plant drug ashes in the form of solutions, powder or crystals, all of which have the basic quality of being .It plays a very important role in pharmaceuticals and also has great therapeutic value. These formulations are mainly prescribed for various diseases like *Ashmari*, *Vidradhi*, *Bhagandra* etc. According to *Susruta*, *Kshara kalpana* is considered to be best among the *anushastras*. This article details the method of preparation of *Paneeeyakshara* prepared out of *Makkaya Roma* [Dried hairs of *Stigma maydis*] and its characteristic features. Thus, *Kshara Karma* has been considered as a wealth and a strong weapon in *Ayurvedic* pharmacopeia.

KEYWORDS: *Kshara Kalpana*, *Makkaya Paneeyakshara*.

INTRODUCTION

Ayurveda, the science of life, mostly deals with medicinal plants. In *Rigveda* and *Atharvaveda* there are large numbers of medicinal plants mentioned to be used as drugs. *Vedas* are the oldest written testimonials available to mankind on this earth. Plenty of medicinal uses have been enumerated in these authentic texts. But there is no description of *Kshara* in *Vedic* literature. In *Upanishada*, the use of word *Kshara* is found but nothing has been described in detail.

In this regard, detailed explanation regarding *Kshara* has been made by *Sushruta*. Only *Sushruta* has dedicated a chapter to *Kshara*. He has narrated *Kshara* considering its scope in *Shalya Tantra* due to its qualities like *Chhedana*, *Bhedana*, *Lekhana* etc.^[1]

Consequently in the period of *Samhita*, *Charaka* has dealt with definition, varieties, properties & application of *Kshara*. *Charaka* has mentioned two types of *Kshara* preparation. In 1st chapter of *Vimanasthana*, definition, general properties and adverse effects of *Kshara* are mentioned. He has also specified that *Kshara* does not possess a single *Rasa*, but it possess multiple *Rasas* because it is a *Dravya* prepared from various drugs and consist all *rasas* except *Amla rasa*. Apart from that, in surgical description also, *Kshara* has been mentioned as “*Shastrapranidhana*”.^[2]

Dalhana, the eminent commentator of *Sushruta Samhita* explained the word ‘*Ksharana*’ as one which mobilizes and removes the deformed flesh, skin etc. and also removes the vitiated *Doshas* from their location.^[3] Treatment by *Kshara* is technically termed as *Kshara Karma* and it comes under the scope of *Shalya Tantra*, while *Acharya Charaka* has considered it as one of the three fold treatment i.e. *Shashtra Pranidhana*.^[4]

Sushruta emphasizes on the fact that, when the *Kshara* administered by an ignorant physician can harm the body like *Agni*, *Shastra* and *Vajra* or can cause death itself.^[5] While the same *Kshara* when administered by an intelligent and well skilled physician can prove potent enough to subside all serious and most troublesome diseases rapidly in which it is indicated.^[6] Thus, *Kshara Karma* has been considered as a wealth and a strong weapon in *Ayurvedic* pharmacopeia.

Aim & Objective

- To evaluate the methodology of *Paneeyakshara* with special reference to *Makkaya Paneeyakshara*.
- To assess the Pharmacognostical and phytochemical analysis of *Makkaya Paneeyakshara*.

MATERIAL AND METHODS

- Collection, identification and authentication of raw drugs.
- Pharmacognostical study of drugs.
- Preparation of drug at pharmacy
- Phytochemical analysis of a drug.

Collection, Identification and Authentication of Raw Drugs

The dried hairs of *Makkaya* was procured from the local village of Antoli, Vadodara, Gujarat. The raw drugs are identified and authenticated by the Department of Dravyaguna, Parul Institute of Ayurveda, Parul University, Vadodara. *Makkaya Paneeyakshara* was used for powder microscopy.

Pharmacognostical study

The Pharmacognostical study of the Ingredients of trial drug – *Makkaya Paneeyakshara* was carried out in the Pharmacognosy laboratory, Parul Institute of Ayurved, Parul University, Vadodara. *Paneeyakshara* of the trial drug was used for macroscopic, microscopic studies were carried out. Standards mentioned in API^[7], Quality Standards of Indian Medicinal Plants^[8], Database on Medicinal Plants used in Ayurveda^[9] are taken as reference for authentication.

- **Pharmacognosy of *Makkaya Paneeyakshara***

Organoleptic characteristics

Greyish white in colour, alkaline taste with Characteristic odour.

Microscopic features of whole Plant

Acicular crystals, Prismatic crystals, Parenchyma cells, Epidermal cells, Simple fibres, Multi serrated Trichomes with and without glands, Simple starch grains, Tannins.

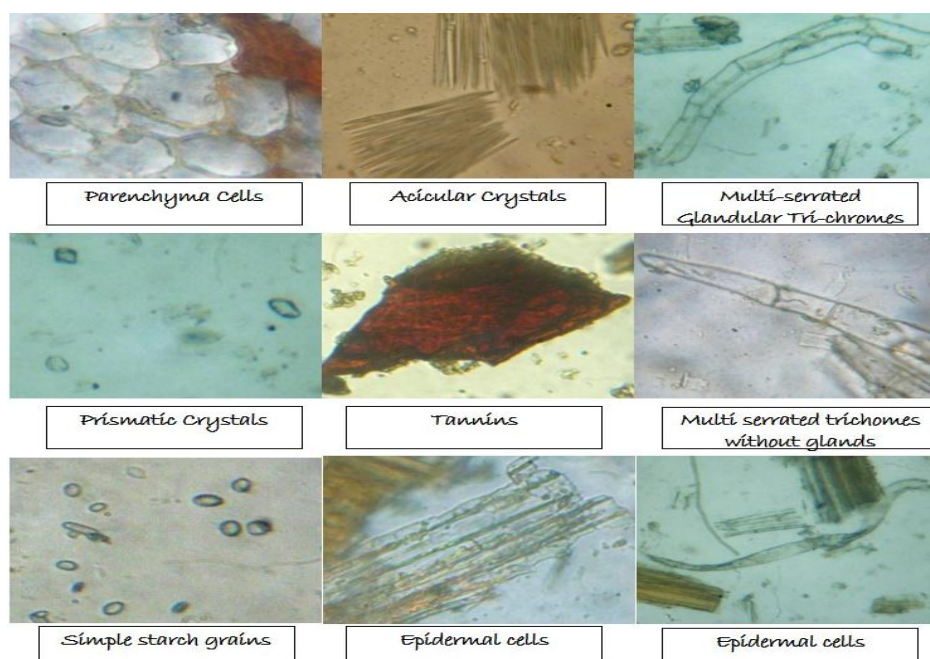


Fig. No. 1 Showing the microscopic features of *Makkaya Roma*.

Method of Preparation

- **Method:** Open method
- **Drug Required:** 150kg of dried *Makkaya Roma* (Silk hairs of Zea mays).

Preparation of the Drug at Pharmacy

- 150kg of dried *Makkaya roma* was spread in an open field. Small quantity of dried hairs was initially burned using fire and subsequently the remaining quantity was added slowly into the fire to ensure complete burning. Drug gets burned quickly and converts into white ash. The maximum temperature during burning was apprometely 75-100c. Totally it took a whole day for entire burning. After that the resultant ash was kept undisturbed for *Swangashita* (Self cooling).

Preparation of Kshara Jala

- *Ksharajala* was prepared by using 6 parts of water for dissolution of alkaline material from ash into the water. The content was rubbed along with water and allowed to settle overnight. The *Ksharajala* was obtained after filtration by using three folded white cloth.

Preparation of Makkaya Paneeyakshara

- *Makkaya Paneeyakshara* was obtained by *Nirjali Karana* [evaporating the water content from the filtrate] in open vessel.

Phytochemical analysis of compound drug

- Phytochemical Analysis of Kshara: *Makkaya Paneeyakshara* was analysed at Vasu Research Centre, Vadodara.

RESULTS**Table.1 Showing the Organoleptic characters of *Makkaya Paneeya Kshara*.**

S. No	Properties	Characteristics
1.	Colour	Greyish white
2.	Appearance	Course powder
3.	Touch	Smooth
4.	Taste	Alkaline
5.	Odour	characteristic odour

Phytochemical parameters

- *Makkaya Paneeyakshara* was evaluated for various physico-chemical analyses like loss on drying, total ash, Acid insoluble ash, Water soluble extract, Alcohol soluble extract, pH. The results were shown in table No. 2.

Table 2: Showing the Phytochemical parameters of *Makkaya Paneeya Kshara*.

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S.No	Parameters	Result
1	pH (1% solution)	10.88
2	Loss on drying	2.34%
3	Total ash	84.43%
4	Acid insoluble ash	80.11%
5	Water soluble extractive	94.12%
6	Alcohol soluble extractive	30.55%

Preservation

- It was stored in air tight glass container in order to prevent from the moisture content.

Shelf life

- *Kshara* has infinite shelf life but it has to be stored in airtight containers preventing its exposure to the atmospheric conditions

DISCUSSION

Kshara is a unique concept mentioned in Ayurveda by which the water extracts water soluble active principle after converting the drug into ash. *Panneyakshara* has gained much more importance in the field of Ayurveda. It's a boon for those who is in a fear of doing surgeries. By its quick action it is having the capacity to break the stones which is present in the *Pittasaya or Mutrasaya*. The organoleptic characters of the *Paneeyakshara* denotes it is highly alkaline medium which is greyish white in colour with smooth touch.

The Physico-chemical characters shows the drug possess less moisture content so it can be stored for a longer period in an airtight container. Acid insoluble shows that there is more presence of fibre contents and silica particles. Alcohol soluble extracts shows that *Makkaya Paneeya Kshara* can't be used for the preparation of *Asava* and *Arista*. Water soluble extracts shows with the help of *Makkaya* silk hairs preparation, *Kasayas* can be made possible.

CONCLUSION

Preparation of *Makkaya Paneeyakshara* is easy task. The silk hairs of *Makkaya* has much more effect in many forms. Out of 150kg dried *Makkaya* hairs the resulted product was 4.5kg only. This *Makkaya Paneeyakshara* will attribute a biggest role in the Field of Ayurveda by reducing Stone size in *Pittasaya Ashmari* as well as *Ashmari* by its *Ksharanat* property.

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