

KSHARA KALPANA AND ITS USES IN AYURVEDA - A REVIEW

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ABSTRACT

Kshara is alkaline in nature. It is derived from certain plants as well as minerals and animal products which contain more alkaline substances by evaporation method, which may be used as single, or compound, or mixture form. There is a wide range of description available about *Kshara* in much Ayurvedic classical text. *Ksharasutra* described by *Chakradatta* is being used widely by surgeons and appreciated its effectiveness. *Kshara* has been used both internally and externally for the treatment of many ailments like *Mutrashmari* (viz. renal calculi), external application in *Arshas* (hemorrhoid piles) and in the form of *Kshara Sutra* (alkaline thread) in the treatment of *Nadi Vrana* (sinus), *Bhagandhara* (fistula in ano) etc. *Kshara* is also aided in the different pharmaceutical procedure like *Shodhana* (purification), *Jarana* (roasting) and *Maran* (incineration). The importance of *Kshara* in therapeutics as well as in pharmaceutical procedure inspired us to explore the uses of *Kshara* and *Kshara Sutra* in view to establish its importance as well to get its clues for future scopes.

Keywords: *Ayurveda, Kshara, Ksara sutra, Arsa, Bhagandara.*

INTRODUCTION

Ayurveda is serving the mankind since a long time with the aim to provide healthy status to healthy individual and to cure the disease. During this long time this traditional system undergone many problems but still it remain mainstay of health care system of India About 1000 single drugs and 8000 compound formulations are seen in various classical book of *Ayurveda*. *Panchavidha kasaya kalpana* are fundamental preparation in *Ayurveda* pharmaceuticals. Various dosage forms are derived from these fundamental preparations. *Kshara Kalpana* (alkaline preparation) is one of them. The process of preparation of *Kshara* involves the extraction of

‘alkalies’ from ash of dried plants. It is said that the diseases which are difficult to treat can be cured by *Kshara* therapy (alkaline therapy)¹. *Ayurvedic* treatment is based on various types of dosage forms. *Panchavidh kashay kalpana* is the basic form. many formulations are developed over time having long shelf life, stability, strong action like *guti, vati, syrup, asava, arishta, sneha kalpana, kshara etc.* *Kshara kalpana* is alkaline substance obtained from ash of plants, minerals and animal products. The *Kshara* can treat those diseases which are difficult to cure. It can be used both internally as well as externally as per indications given in text. In different text of *Rasa*

Shastra number of *Kshara* are mentioned in different pharmaceutical processes to prepare metals and minerals in to therapeutic formulations (Bhasma form) through the process of *Shodhana* (purification), *Sattvapata* (metal extracting), *Marana* (incineration of metals and minerals)², and also contradict the ill effects of poisonous drugs (schedule E-1) as antidote³. As per mode of use, it has two types that is *pratisaraniya*, *paniya kshara*. and on the intensity of corrosive property, it is divided into three types:

1. *Mrudupaka*, 2. *Madhyampaka*, 3. *Tikshnapaka*². In this article, an attempt has been made to review and highlight the uses of *Kshara* in the phramcentico-therapeutics of Ayurveda

AIM & OBJECTIVE: Present article aims to compile the literature about *Kshara kalpana*, its classification, methods of preparation and therapeutic indication in a scientific manner.

MATERIAL AND METHODS: Literature about *Kshara and Kshara Kalpana* has been collected from the Ayurvedic texts like *Sushrut Samhita*, *Sharangdhara Samhita* and *Rasagrantha* like *Rasatarangini*, connected research and review articles and recent ongoing researches for review work and presented it in a systemic manner.

DEFINITION OF KSHARA IN DIFFERENT AYURVEDIC CLASSICS: The substance that removes the vitiated material from skin, flesh etc. (*Dusta Tvagmasadi*) or the substance, which detoxify the *Dosha* (bodily humour), *Dhatu* (tissues) and *Mala* (excreta) is known as *Kshara*⁴. According to the Ayurvedic Formulary of India, *Kshara* are alkaline substance obtained from the ash of drugs⁵.

THERAPEUTIC IMPORTANCE OF KSHARA

It is mentioned in the classics, that the diseases which are difficult to treat can be cured by *Kshara* therapy⁴. *Vrana Shodhana* (purification of wound) and *Ropana* (healing) properties of *Kshara* are its special properties⁶.

METHOD OF KSHARA PREPARATION:

The drug is cut into small pieces and dried well. The pieces are put in earthen pot and burnt into ash. First, a few pieces are put in fire and ignited. As they burn

more and more pieces are added, when all the pieces are burnt and convert to ash then leave it for self cooling. Water is added to the ash in the ratio of 6:1 and mix well. This is then filtered through a piece of cloth. This process of filtration may be done two to three times till a clear liquid is obtained. This liquid is then put in an earthen or iron vessel and heated over a moderate fire till the water evaporates, leaving a solid salty white substance which is collected⁵.

MODERN CONCEPTS

Herbal ashes generally contain sodium, potassium, carbonate, calcium oxide, magnesium and silica. *Kshara* is prepared by dissolving this ash in water and after filtering, it dried by the evaporation method. During the filtration process, an insoluble substance like silica is being separated by and soluble substances like potassium and sodium remain in the solution. In this process when so many substances come in contact of each other, some of them get decomposed and some new substances are being formed. It means *Kshara* having more hydroxides are having more *Ksharana Shakti*, hence it is comparatively more '*Tikshna*' so used externally only. *Ksharodak* (alkaline water) contains Sodium and Potassium hydroxides in traces hence prescribed internally and can be said as '*Paniya Kshara*'. Proportion of hydroxides can be increased in the *Ksharas* by the addition of lime stone, conch shell, etc., which are known to be having Calcium. These are reaction is set up in the *Kshara*, the outcome of which is the transformation of some of them into carbonates. In the pharmaceutical process of metallic Bhasma preparation *Jarana* (roasting) is one of the intermediate process where *Shodhit Dhatu* (purified metal) roasted with alkaline herbs in which herbal drug get completely burned and *Kshara* of that herb help in the process of *Jarana*. *Jarana* may be compared with "polling" process in which refining of crude metal is done from its own oxide as impurity⁷.

DESCRIPTION OF KSHARA SUTRA:

In the recent era *Ksharasutra* (medicated alkaline thread) in ano-rectal disease has become a common practice in Ayurvedic surgical practice. Acharya

Vagbhatta, Chakradutta Bhavaprakasha has described about *Kshara* smeared with *Snuhi Ksheera* (exudate of *Euphorbia nerifolia*) and *Haridra churna* (*Curcuma longa* powder) in a strong thread to use for *Arsha, Nadibrana, bhagandara*. *Chakradutta* has given the clear idea about the thread which is to be used. Later on in *Rasa Tarangini* sufficient descriptions regarding the way of coatings, the numbers of coatings have been described⁸. In Ayurveda Formulary of India, Part- III, described about the preparation of *Ksarasutra* in detail. According to the description 20 number surgical linen is soaked in fresh latex of *snuhi* and dried. The thread is smeared by 21 layers of *snuhi* latex. Every smearing is done after thread is dried. After smearing in *snuhi* latex the thread is smeared with *Apamarga kshara* and dried well again. The process is repeated 6 times, and then thread is smear with *snuhi kshira* and *haridra* powder for three times. Finally dry well the thread, sterilized by ultraviolet rays and sealed packed in glass tubes⁵.

Properties of Kshara:

Kshara is predominant with *Agni* and *Vayumahabhutiya* hence having *teekshna* and corrosive properties with quick action. It is having superior qualities like *Chhedana, Bhedana, Lekhana* etc. So, *Kshara* having *Lavana* (salty), *Tikta* (bitter) *Rasa; Ruksha* (dry), *Teekshna Guna* (properties); *Ushna* (hot) *Virya* (potency); and *Katu* (pungent) *Vipaka* (attributes of drug assimilation)⁹. *Kshara* has possessed the *Chhedana* (excision), *Bhedana* (incision) properties along with various other therapeutic actions. Thus, they are used in different diseases¹⁰.

CLASSIFICATION OF KSHARA

Ayurvedic texts *Kshara* are classified on the basis of their mode of application. These are *Pratisaraniya* (external use) and *Paneeya* (internal use) *Kshara*. The

Pratisaraniya Kshara has been further sub classified according to its potential in to *Mridu* (mild), *Madhya* (moderate), and *Tikshna* (intense)¹¹. This classification is entirely based on the strength or concentration of *Kshara* and applicable in the external use. Some other classifications of *Kshara* on different basis are also given in different texts:

CHARACTERISTICS AND PRESERVATION:

Kshara is white in color. When expose to atmosphere this become moist and therefore it should be kept in air tight bottle. It will last for five year¹².

DOSE OF KSHARA: 125 mg to 1 gm¹³

INDICATIONS OF KSHARA

Pratisaraniya Kshara: *Pratisaraniya Kshara* is indicated in *Kustha* (skin disorders), *Arsha* (piles), *Visha* (poison), *Kitibha, Dushtavarna* (non-healing ulcers), *Dadru* (fungal infection), *Nadivrana* (sinus), *Mukharoga* (mouth disorders), *Arbuda* (tumor), *Bhagandar* (fistula), and *Krimi* (worms) *Roga*¹⁴

Paniya Kshara: *Paniya Kshara* is indicated in *Gara Visha* (artificial poison), *arochak* (tastelessness), *Krimi, Gulma* (tumors), *Anaha* (constipation), *Visha, Udararoga* (GIT disorders), *Arsha, Agnimandya* (loss of appetite), *Ashmari* (renal calculi), *Ajirna* (indigestion),¹⁵ *Arsha, Bhagandar, Ashmari, Gulma, and Udararoga*¹⁴.

Contradiction of Kshara: In case of *Raktipitta* (bleeding disorders), *Timira* (eye disease), *Ruksha* (dryness), *Moorchha* (unconscious), and the diseases occurs at the sites of *Marma* (vital points), *Sira* (head), *Snayu* (ligaments), *Sandhi* (joints), *Tarunasthi* (cartilaginous bones), *Dhamani* (arteries), the use of *Kshara* is not indicated. The conditions like whole body oedema, bone pain, heart pain, joint pain, thirst, pregnancy^{15,16}.

Table 1: Important uses of *Ksara*

Sl.No	Kshara	Indication
1.	<i>Apamarga (Achyranthus aspera)</i> ¹³ <i>kshara</i>	<i>Gulma</i> (abdominal lump), <i>Udarasula</i> (abdominal pain), <i>Swasa</i> (asthma)
2.	<i>Kadali</i> ⁵ (<i>Musa paradisiaca</i>) <i>kshara</i>	<i>Gulma</i> (abdominal lump), <i>Plihodara</i> (splenomegaly), <i>Jirna jwara</i> (chronic fever), <i>Sopha</i> (inflammation)
3.	<i>Mulaka</i> ⁵ (<i>Raphenus sativus</i>)	<i>Mutrakuchhra</i> (dysuria), <i>Asmari</i> (calculi)

4.	<i>Palash⁵ kshara</i> (<i>Butea monosperma</i>)	<i>Agnimandya</i> (loss of appetite), <i>Gulma</i> (abdominal lump), <i>Plihayakrit brudhi</i> (enlargement of liver&Spleen), <i>Mutrakuchhra</i> (dysuria), <i>Asmari</i> (calculus)
5.	<i>Yabakshara⁵</i>	<i>Adhmana</i> (flatulance), <i>Anaha</i> (distend abdomen), <i>Sula</i> (abdominal pain), <i>Udararoga</i> (abdominal disease), <i>Gulma</i> (abdominal lump), <i>Pliharoga</i> (splinomegaly), <i>Mutrakuchhra</i> (dysuria),
6.	<i>Kalyana kshara⁵</i>	<i>Vibandha</i> (Constipation), <i>Adhmana</i> (flatulance), <i>Gulma</i> (abdominal lump), <i>Udavarta</i> (upward movement of gas), <i>Arsa</i> (piles)
7.	<i>Vajrakshara⁵</i>	<i>Ajeerna</i> (indigestion), <i>Sula</i> (abdominal pain), <i>Gulma</i> (abdominal lump), <i>Udara</i> (abdominal disease), <i>Sotha</i> (inflammation)
8.	<i>Vasa kshara⁵</i> (<i>Adhatoda vasica</i>)	<i>Gulma</i> (abdominal lump), <i>Kasa</i> (cough), <i>Swasa</i> (asthma)
9.	<i>Tankana Kshara¹³</i>	<i>Kasa</i> (cough), <i>Adhmana</i> (flatulance), <i>Swasa</i> (asthma), <i>Mudhagarbha</i> (obstructed labour), <i>Sthabaravisa nasak</i> (antidote)
10.	<i>Panaviraladi Kshara⁵</i>	<i>Sopha</i> (inflammation)
11.	<i>Sarjikshara¹³</i>	<i>Mutraghata</i> (dysuria), <i>Ajirna</i> (indigestion), <i>Gulma</i> (abdominal lump), <i>Adhmana</i> (flatulance), <i>Krumi</i> (worm)
12.	<i>Arka¹³ kshara</i> (<i>Calotropis procera</i>)	<i>Udarasula</i> (abdominal pain), <i>Swasa</i> (asthma), <i>Plihabrudhi</i> (splinomegaly), <i>Gulma</i> (abdominal lump),
13.	<i>Tilaksara¹³ kshara</i> (<i>Sesamum indicum</i>)	<i>Mutrakuchhra</i> (dysuria), <i>Plihabrudhi</i> (splinomegaly), <i>Asmari</i> (calculus)
14.	<i>Chincha¹³ kshara</i> (<i>Tamarindus indica</i>)	<i>Mutrakuchhra</i> (dysuria), <i>Gulma</i> (abdominal lump), <i>Sula</i> (abdominal pain), <i>Asmari</i> (calculus)
15.	<i>Kshara of Tila Apamarga, Kadali, Palasa, and Amalaki (Ananda yoga)¹²</i>	<i>Mutrasarkara</i> (urinary Calculus), <i>Asmari</i> (calculus), <i>Asthila</i> (prostatic hypertrophy), <i>Jalodara</i> (ascites),
16.	<i>Snuhi ksara¹³ kshara</i> (<i>Ephorbia nerifolia</i>)	<i>Ajirna</i> (indigestion), <i>Jalodara</i> (ascites), <i>Yakrutdosa</i> (hepatic disorder)
17.	<i>Avviytoladi (Putikaranja) Kshara⁵</i>	<i>Gulma</i> (abdominal lump), <i>Udara</i> (abdominal disease), <i>Sopha</i> (inflammation)

CONCLUSION

Major thrust by whole of the pharmaceutical industry is focused towards design and development of new innovative/indigenous plant based drugs through investigation of leads from traditional system of medicine. In recent years, ethno-botanical and traditional uses of natural compounds, especially of plant origin received much attention as they are well tested for their efficacy and generally believed to be safe for human use. It is best classical approach in the search of new molecules for management of various diseases. *Kshara* is one of the important dosage forms as mentioned in Ayurveda to cure various diseases like *Kustha*, *Gulma*, *Mutraghata* and *Kshara Sutra* is

one of the important surgical procedures for the treatment of fistula in Ano. *Kshara and Kshara Sutra* are popular remedy among the various Ayurvedic effective medicaments, Researchers are exploring the therapeutic potential of *Kshara* derived from different plant as it has more therapeutic properties which are not known.

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