KSHARA KALPANANA AND ITS USES IN AYURVEDA - A REVIEW

Purnendu Panda¹, Banamali Das², G. C. Bhuyan³, Jayaram Hazra⁴

¹, ², ³Research officer (Ay.), ⁴Director (Institute),
Central Research Institute for Hepatobiliary Disorders, Bharatpur, Bhubaneswar, Odisha, India

Email: pandapurnendu02@yahoo.com

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 pharmaceutics. 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), Sattvapatana (metal extracting), Marana (incineration of metals and minerals)\textsuperscript{2}, and also contradict the ill effects of poisonous drugs (schedule E-1) as antidote\textsuperscript{3}.

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\textsuperscript{2}. In this article, an attempt has been made to review and highlight the uses of Kshara in the phramceutico-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, Sharangdhar 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\textsuperscript{4}. According to the Ayurvedic Formulary of India, Kshara are alkaline substance obtained from the ash of drugs\textsuperscript{5}.

THERAPEUTIC IMPORTANCE OF KSHARA
It is mentioned in the classics, that the diseases which are difficult to treat can be cured by Kshara therapy\textsuperscript{4}. Vrana Shodhana (purification of wound) and Ropana (healing) properties of Kshara are its special properties\textsuperscript{6}.

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 collected\textsuperscript{5}.

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 impurity\textsuperscript{7}.

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 Vayumahahbhuviya hence having teekshnaand 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 Chedana (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 gm 13

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) Roga14
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 Udararoga14.

Contradiction of Kshara: In case of Raktpitta (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, pregnancy15,16.

Table 1: Important uses of Kshara

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Kshara</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Apamarga (Achyranthus aspera)</td>
<td>Gulma (abdominal lump), Udarasula (abdominal pain), Swasa</td>
</tr>
<tr>
<td></td>
<td>Kshara</td>
<td>(asthma)</td>
</tr>
<tr>
<td>2.</td>
<td>Kadali (Musa paradisiaca)</td>
<td>Gulma (abdominal lump), Plihodara (spleenomegaly), Jirna</td>
</tr>
<tr>
<td></td>
<td>kshara</td>
<td>jwara (chronic fever), Sopha (inflammation)</td>
</tr>
<tr>
<td>3.</td>
<td>Mulaka (Raphenus sativus)</td>
<td>Mutrakuchhra (dysuria), Asmari (calculus)</td>
</tr>
</tbody>
</table>
4. Palash\textsuperscript{5} kshara (Butea monosperma)  
Agnimandya (loss of appetite), Gulma (abdominal lump), Plihayakrit brudhi (enlargement of liver&Spleen), Mutrakuchhra (dysuria), Asmari (calculus)

5. Yabakshara\textsuperscript{5}  
Adhmana (flatulence), Anaha (distend abdomen), Sula (abdominal pain), Udararoga (abdominal disease), Gulma (abdominal lump), Pliharoga (splinomegaly), Mutrakuchhra (dysuria),

6. Kalyana kshara\textsuperscript{5}  
Vibandha (Constipation), Adhmana (flatulence), Gulma (abdominal lump), Udavarta (upward movement of gas), Arsa (piles)

7. Vajrakshara\textsuperscript{3}  
Ajeerna (indigestion), Sula (abdominal pain), Gulma (abdominal lump), Udara (abdominal disease), Sotha (inflammation)

8. Vasa kshara\textsuperscript{7} (Adhatoda vasica)  
Gulma (abdominal lump), Kasa (cough), Swasa (asthma)

9. Tankana Kshara\textsuperscript{13}  
Kasa (cough), Adhmana (flatulence), Swasa (asthma), Mudhagarbha (obstructed labour), Sthabaravisa nasak (antidote)

10. Panaviraladi Kshara\textsuperscript{3}  
Sopha (inflammation)

11. Sarjikshara\textsuperscript{13}  
Mutraghata (dysuria), Ajirna (indigestion), Gulma (abdominal lump), Adhmana (flatulence), Krumi (worm)

12. Arka\textsuperscript{13} kshara (Calotropis procera)  
Udadarsula (abdominal pain), Swasa (asthma), Plihabrudhi (splinomegaly), Gulma (abdominal lump),

13. Tilakshara\textsuperscript{13} kshara (Sesamum indicum)  
Mutrakuchhra (dysuria), Plihabrudhi (splinomegaly), Asmari (calculus)

14. Chincha\textsuperscript{13} kshara (Tamarindus indica)  
Mutrakuchhra (dysuria), Gulma (abdominal lump), Sula (abdominal pain), Asmari (calculus)

15. Kshara of Tila Apamarga, Kadali, Palasa, and Amalaki (Ananda yoga)\textsuperscript{12}  
Mutrasarkara (urinari Calculus), Asmari (calculus), Asthila (prostatic hypertrophy), Jalodara (ascites),

16. Snuhi kshara\textsuperscript{13} kshara (Ephorbia nerifolia)  
Ajirna (indigestion), Jalodara (ascites), Yakrutdosa (hepatic disorder)

17. Avvyotoladi (Putikaranja) Kshara\textsuperscript{5}  
Gulma (abdominal lump), Udara (abdominal disease), Sopha (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.

**ACKNOWLEDGEMENT:** The authors are very grateful to the Director General and Deputy Director (Tech) CCRAS, New Delhi, for their encouragement and support.
REFERENCES


Source of Support: Nil
Conflict Of Interest: None Declared