

Role of *Kshara* (Alkalis) in the *Ayurvedic* Therapeutics as per *Astanga Hrudayam*

Naveena Kodlady*, Patgiri BJ**, Prashant D. Math***

Abstract

Kshara are alkaline substances obtained from the water soluble ash of the drugs of plant origin. They are hygroscopic in nature, possessing piercing and scraping properties, and are mainly used in the treatment of diseases such as fistula-in-ano, hemorrhoids, dysuria, renal stones, oedema, and tumours etc. There are a number of *Kshara* plants referred in classics of *Ayurveda* and are indicated in variety of disease conditions. However the number of *Kshara* used and their therapeutic area appears to be very minimal in the current *Ayurvedic* practice. An attempt has been made in this review to carefully compile various therapeutic administrations of different *Kshara* and their formulations mentioned in *Astanga Hrudayam* which is a revised concise and comprehensive classic of *Ayurveda* and being considered as a practical guide by *Ayurvedic* clinicians. There are 39 different *Kshara* plants found in A.H and 25 contexts where *Kshara* is used as an independent medicine. Among the formulations of *Kshara*, 5 compound *Kshara* formulations, 3 *kshara* predominant formulations along with other 12 *Churna* (powders), 3 *Vati* (tablets), 24 *ghrita* (medicated ghee), 3 *lehya* (medicated candies) used in various ailments like cough, asthma, abdominal tumors, irritable bowel syndrome, anaemia, goiter, diabetes mellitus, epilepsy, hernia, skin diseases, certain diseases of ear, nose, oral cavity; pterigium and obesity etc. The exercise would give a comprehensive view on *Kshara* in *Ayurvedic* therapeutics as described in A.H.

Key words: *Kshara*; Alkali; *Yava*; *Swarjika*; *Ayurveda*.

Introduction

Ayurveda proposes different gradations of treatments based on the severity and treatability of the diseases. They include medicinal treatment (*bheshaja karma*), surgical treatment (*shastra karma*) and thermal cautery treatment (*agnikarma*). Medicinal treatment is the primary choice of treatment while thermal cautery is considered the ultimate one for the particular disease conditions. *Kshara* is a medicine which possesses the action of a

surgical treatment due to its penetrating and scraping properties and is considered to be best among all sharp instruments and accessory instruments[1]. Because it can perform surgical actions like incision, excision etc even in inaccessible places where surgery is difficult to be performed, in conditions where surgery cannot help and an added advantage of internal administration also.

Generally, *Kshara* are prepared by concentrating the water soluble contents of the ash of the plant origin. The natural, mineral origin alkalis like borax (*tankana*) etc. and *Samudra Shuktija Kshara*[2] (Sea Oyster alkali) etc of animal origin are also used in *Ayurveda*. There are multiple *Kshara* referred in the *Ayurvedic* literature, but only few such as *Yava Kshara*, *Sarja Kshara*, *Apamarga Kshara* and *Chincha Kshara* etc are being used in current *Ayurvedic* clinical practice. In spite of larger therapeutic indications, its therapeutic utility is seen in the only fewer areas like ano-rectal diseases, renal stones, and dysurea etc. Its indication on tumour (*Arbuda*) is certainly a

Author's Affiliation: *PhD Scholar, Dept. of Rasashastra and Bhaishajya Kalpana including Drug Research, IPGT&RA, Gujarat Ayurved University, Jamnagar, 361008, Gujarat, India, **Reader, Dept. of Rasashastra and Bhaishajya Kalpana including Drug Research, IPGT&RA, Gujarat Ayurved University, Jamnagar, Gujarat, India, ***PhD Scholar, Dept. of Rasashastra and Bhaishajya Kalpana including Drug Research, IPGT&RA, Gujarat Ayurved University, Jamnagar, 361008, Gujarat, India.

Reprint's request: Naveena Kodlady, Assistant Professor, Department of Rasashastra and Bhaishajya Kalpana, LRP Ayurvedic Medical College, Urun Islampur, Islampur, Walwa TQ, Sangli Dist - 415409, Maharashtra.

E-mail: naveenkodlady@gmail.com

(Received on 01.07.2012, accepted on 25.08.2012)

point of interest amidst of difficult challenge faced by all medical systems to treat cancerous conditions.

Materials and methods

Astanga Hrudayam is one of the much referred practical guides and an authoritative

classic of *Ayurveda* and in this review; *Kshara* and formulations of *Kshara* found in this classic are compiled by a careful screening. Apart from the manual search, to facilitate easy and comprehensive searching, software CD of *Astanga Hrudayam* developed by National Institute of Indian Medical Heritage, Hyderabad and published by Institute of Ayurveda and Integrative Medicine,

Table 1: Different plants used for the preparation of *Kshara* referred in *Astanga Hrudayam*

S No	Kshara Plant	Botanical/English name	Reference
1.	Yava	<i>Hordeum vulgare</i> Linn.	A.H.Sha 1/92
2.	Svarjia (Sarja)	<i>Alhagi camelorum</i> Fisch.	A.H.Chi10/61
3.	Tila	<i>Sesamum indicum</i> Linn.	A.H.Chi.11/32
4.	Palasha	<i>Butea monosperma</i> Lam. Kuntze.	A.H.CH8/74
5.	Kamala	<i>Nelumbo nucifera</i> Gaertn.	A.H. Chi 2/45
6.	Kadali	<i>Musa paradisiaca</i> Linn.	A.H.Chi.11/32
7.	Patala	<i>Stereospermum suævolens</i> DC	A.H.Chi.11/13
8.	Bilva	<i>Aegle marmelos</i> Corr.	A.H.Chi.15/46
9.	Agnimantha	<i>Prenna integrifolia</i> Linn.	A H Su 30/9
10.	Shyonaka	<i>Oroxylum indicum</i> Vent.	A.H.Chi.15/46
11.	Bala	<i>Sida cordifolia</i> Linn.	A.H.Chi.15/46
12.	Apamarga	<i>Achyranthus aspera</i> Roxb.	A.H.Chi.11/32
13.	Mushkaka	<i>Scbrebera swietenoides</i> Roxb.	A.H. Su. 30/9
14.	Aragvadha	<i>Cassia fistula</i> Linn.	A.H. Su. 30/9
15.	Paribhadra	<i>Erythrina variegata</i> Linn.	A.H. Su. 30/9
16.	Ashwakarna	<i>Dipterocarpus turbinatus</i> Gaertn.F.	A.H. Su. 30/9
17.	Snuhi	<i>Euphorbia nerifolia</i> Linn	A.H. Su. 30/9
18.	Kanchanara	<i>Bauhinia variegata</i> Linn.	A.H. Su. 30/9
19.	Arjuna	<i>Terminalia arjuna</i> W& A.	A.H. Su. 30/9
20.	Arka	<i>Calatropis procera</i> R. Br.	A.H. Su. 30/9
21.	Putikaranja	<i>Caesalpinia crystalline</i> Linn.	A.H. Su. 30/9
22.	Karanja	<i>Pongamia pinnata</i> Vent.	A.H. Su. 30/9
23.	Karaveera	<i>Nerium in dica</i> Soland.	A.H. Su. 30/9
24.	Kakajangha	<i>Leea hirta</i> , Roxb.	A.H. Su. 30/9
25.	Chitraka	<i>Plumbago Zeylanica</i> Linn.	A.H. Su. 30/9
26.	Tilvaka	<i>Viburnum nervosum</i> Linn.	A.H. Su. 30/9
27.	Ksveda	<i>Luffa aegyptica</i> Mill. ex. Hook. f.	A.H. Su. 30/9
28.	Dhamargava	<i>Luffa cylindica</i> Linn.	A.H. Su. 30/9
29.	Patola	<i>Trichosanthes dioica</i> Roxb.	A.H. Su. 30/9
30.	Devadali	<i>Luffa echinata</i> Roxb.	A.H. Su. 30/9
31.	Langali	<i>Gloriosa superba</i> Linn.	A.H.Su 30/20
32.	Danti	<i>Baliospermum montanum</i> Mull. Arg.	A.H.Su 30/20
33.	Ativisha	<i>Aconitum heterophyllum</i> Wall.	A.H.Su 30/20
34.	Vacha	<i>Acorus Calamus</i> Linn.	A.H.Su 30/20
35.	Swarnaksheeri	<i>Cleome felina</i> Linn. f.	A.H.Su 30/21
36.	Hingu	<i>Ferula Assafoetida</i> Linn.	A.H.Su 30/21
37.	Ku taja	<i>Holarrhena antidysen-terica</i> Wall.	A.H.Chi.10/13
38.	Eranda	<i>Ricinus communis</i> Linn.	A.H.Chi 3/170
39.	Kodrava	<i>Paspalum ecrobiculatum</i> Linn.	A.H.U 24/27

Bengaluru was also used and certain keywords like kshara, kshare, ksharo, yava, sarja, sarji are used in the process of searching. After compiling the data, they are segregated into different heads like *Kshara* plants in A.H, *Kshara* predominant formulations, *Kshara* used as an independent medicine, other *Kshara* formulations in different dosage forms like *Churna*, *Vati*, *Sneha Kalpas*, *Kshara* used as an *Anupana*, *Kshara* used in preparations of

external applications, *panchakarma* (five purificatory treatments) and other procedures, compound *Kshara* formulation which are prepared in a different method than general *Kshara* preparation, still termed to be *Kshara*, contraindication of *Kshara*. Summary and critical points observed in the review are discussed at the end. This exercise intends to give a comprehensive view on *Kshara* in A.H, explore the scope for the possible expansion

Table 2: Kshara prescribed as an independent medicine

	Name of Kshara	Indications	Vehicle (if any specified)	Reference
1.	<i>Yava Kshara</i>	<i>Makkala Roga</i> (a Puerperal disease)	Ghee, hot water	A.H.Sha 1/92
2.	<i>Utpala Nala Kshara</i>	<i>Grathita Rakta</i> in <i>Urdhwaga Raktpapitta</i> (clotted blood in bleeding disorder/erisepilis)	honey, Ghee	A.H.Chi 2/45
3.	<i>Yava Kshara</i>	Poor digestive power due excess lipid intake	-	A.H.Chi.10/73
4.	<i>Tila, apamarga, kadali, palasha, Yava</i>	<i>Sharkara</i> (Gravel), <i>ashmari</i> (Renal calculi)	Sheep's urine	A.H.Chi.11/32
5.	<i>Yava Kshara</i>	Debilitative Ascites patient	Sesame oil, Cow's urine	A.H.Chi.15/74
6.	<i>Palasha Kshara</i>	Leucoderma	Sugar candy (<i>Phanita</i>)	A.H.Chi.20/5
7.	<i>Karanja Kshara</i>	<i>Pleehodara</i> (Spleenomegaly)	Vida (a salt, Ammonium chloride), Pippali, Kanji (sour fermented gruel)	A.H.Chi.15/87
8.	<i>Yava Kshara</i>	<i>Shwasa</i> (Asthma), <i>Kasa</i> (Cough)	Powder of <i>Piper nigrum</i> and hot water	A.H.Chi.4/32
9.	<i>Bilva Kshara</i>	<i>Parshwa shula</i> (Pain in flanks), <i>Vatavarodha</i> (obstruction to Vata), <i>Hrudgraha</i> (Cardiac disease) in <i>Udara</i> (Ascites)	Sesame oil	A.H.Chi.15/45-46
10.	<i>Syonaka Kshara</i>	-do-	-do-	A.H.Chi.15/45-46
11.	<i>Bala Kshara</i>	-do-	-do-	A.H.Chi.15/45-46
12.	<i>Palasha Kshara</i>	-do-	-do-	A.H.Chi.15/45-46
13.	<i>Tila nala Kshara</i>	-do-	-do-	A.H.Chi.15/45-46
14.	<i>Kadali Kshara</i>	-do-	-do-	A.H.Chi.15/45-46
15.	<i>Apamarga Kshara</i>	-do-	-do-	A.H.Chi.15/45-46
16.	<i>Agnimantha Kshara</i>	-do-	-do-	A.H.Chi.15/45-46
17.	<i>Apamarga Kshara</i>	<i>Sidhma</i>	Oil of <i>Celastrus paniculata</i>	A.H.Chi.19/75
18.	<i>Yava Kshara</i>	<i>Kaphaja pratishtyaya</i> (Rhynorrhoea of Kaphaja origin)	Ghee	A.H.U.20/13

Table 3: Kshara predominant formulations (with prefix Kshara)

	Name of Formulation	Kshara Used	Indications	Reference
1.	Kshara taila	Shushka Moolaka Kshara, Yava Kshara, Sarja Kshara	Diseases of ear [<i>Kandu</i> (itching), <i>kleda</i> (wetness), <i>badhirya</i> (deafness), <i>pooti karna</i> (foul smelling ear), <i>vedana</i> (pain), <i>krimi</i> (Otitis)].	A.H.U.18/30
2.	Kshara ghrita	Sarja Kshara Yava Kshara	Digestive in <i>Kaphaja Grahani</i>	A.H.Chi 10/63-65
3.	Ksharagada	Yava Kshara, Sarja Kshara	<i>Gulma</i> (Abdominal tumour), <i>Udavarta</i> (regurgitation of <i>vata</i>), <i>Vardhma</i> (hernia), <i>Arsha</i> , <i>udara</i> , <i>Grahani</i> , <i>Apasmara</i> (epilepsy), vaginal diseases, poisoning due to cobra and mice etc.	A.H.Chi 14/103-107

Table 4: Kshara containing Churna formulations

S No	Formulation	Kshara used	Indications	Reference
1.	Vidangadi Ghurna	Yava Kshara	<i>Sthaulya</i> (Obesity)	A.H.Su.14/21-24
2.	Pippalyadi Churna	Kutaja Kshara	<i>Grahanidosha</i> (Irritable bowel syndrome)	A.H.Chi. 10/13
3.	Matulungadi churna	Sarja kshara, Yava kshara	<i>Grahani dosha</i>	A.H.Chi.10/61
4.	Hingwadi churna	Sarja Kshara Yava Kshara	<i>gulma</i> , <i>hrudgraha</i> , <i>pandu</i> , <i>pleeha</i> , <i>arma</i> (pterygium), <i>hikkaa</i> (Hic cough), <i>vardhma</i> , <i>shwasa</i> , <i>kasa</i> , <i>admana</i> (abdominal distention) <i>udara</i> , <i>gulma</i> , <i>arbuda</i> , <i>anaha</i> , <i>vataroga</i> , <i>vibandha</i>	A.H.Chi.14/33
5.	Narayana Churna	Sarja Kshara, Yava Kshara	(Constipation), <i>parikartika</i> (Fissure), <i>ajeerna</i> (indigestion), <i>bhagandara</i> , <i>kasa</i> , <i>shwasa</i> , <i>kushta</i> , <i>hrudroga</i> , <i>gara</i>	A.H.Chi.15/15
6.	Nilinyadi churna	Sarja Kshara, Yava Kshara	<i>Gulma</i> , <i>udara</i>	A.H.Chi.15/26
7.	Vacadi Curna	Yava Kshara	<i>yonishula</i> , <i>parshava shula</i> , <i>gulma</i> , <i>hrudroga</i> , <i>arsha</i>	A.H.U.34/30
8.	Pippalyadi curna	Palasha Kshara	<i>Rasayana</i>	A.H.U.39/97
9.	Vacadi Churna yoga	Yava Kshara	<i>Chardi</i> (vomiting), <i>trushma</i> (thirst), <i>Kaphaja hrudroga</i>	A.H.Chi.6/51
10.	Kalaka churna	Yava Kshara	<i>Mukha roga</i> (Diseases of oral cavity)	A.H.U.22/99
11.	Pippalyadi Curna	Yava Kshara	Complications of <i>Virecana</i> (purgation) [<i>pravahika</i> , <i>parisrava</i> , <i>anaha</i> , <i>vedana</i> , <i>parikartana</i> (fissure)]	A.H.Ka 3/15
12.	Vyoshadi Curna	Yava Kshara	<i>Kaphaja Swara kshaya</i> (Dysphonia of <i>kapha</i> origin)	A.H.Chi.5/44

Table 5: Kshara containing Vati formulations

	Name of Formulation	Ingredient Kshara	Indications	Reference
1.	Guggulu Yoga	Yava Kshara	Gulma	A.H.Chi.14/99
2.	Ajashakru ta Kshara gutika	Yava Kshara, Sarja Kshara, Aja Shakrut Kshara	Ascites, shopha (inflammation)	A.H.Chi.15/103
3.	Pacana Gutika	Yava Sarja	Deepana (carminative), Pachana (Digestive) Grahani dosha	A.H.Chi.10/14

Table 6: Kshara containing Sneha formulations

	Formulation	Kshara used	Indications	Reference
1.	Rasnadi Ghrita	Yava Kshara	Kasa	A.H.Chi.3/4
2.	Vidangadi Ghrita	Yava Kshara	Kasa, Shwasa, Hikka	A.H.Chi.3/12
3.	Kantakari Ghrita	Yava Kshara	Kaphaja Kasa	A.H.Chi.3/60
4.	Chavikadi Ghrita	Yava Kshara, Sarja Kshara	Kshaya Kasa	A.H.Chi.3/161
5.	Kanadi Ghrita	Yava Kshara	Shwasa	A.H.Chi.4/51
6.	Shatpala ghrita	Yava Kshara	Gulma, Jwara, Udara, Pleeha, Grahani, Panndu, Peenasa, Swasa, Kasa, Agnimandhya, Urdhwa vata, Rajayakshma	A.H.Chi.5/22
7.	Eladi Ghrita	Yava Kshara	Arochaka (dyspepsia) in Rajayakshma (tuberculosis)	A.H.Chi.5.51
8.	Chavya chitraka ghrita	Yava Kshara	Arsha	A.H.Chi.8/72
9.	Pippalimula ghrita	Yava Kshara	Arsha	A.H.Chi.8/73
10.	Palashadi ghrita	Palasha Kshara	Arsha	A.H.Chi.8/74
11.	Panchakoladi ghrita	Yava Kshara	Arsha, Pravahika, gudabhrmasha, mootkruchra parisrava, guda vedana	A.H.Chi.8/75
12.	Dhatakyadi Ghrita	Yava Kshara	Raktarsha	A.H.Chi.8/117
13.	Madhukadi Ghrita	Yava Kshara	Tridoshaja arsha, Atisara, grahani, Pandu, Jwara, Aruchi, Mutrakracchra, Gudabhrmasha, Arsha shula, Pravahika	A.H.Chi.8/130- 132
14.	Pancamuladi Ghrita	Yava Kshara, Sarja Kshara	Shula, gulam, udara, shwasa, kasa, anila and kapha.	A.H.Chi.10/27
15.	Kantakari Ghrita	Yava Kshara	Swasa, Kasa	A.H.Chi.3/60
16.	Vidadi Ghrita	Yava Kshara, Sarja Kshara	Agni vardhana in Kaphaja Grahani	A.H.Chi.10/65
17.	Hingvadi ghrita	Yava Kshara	Shula, anaha, Vataja, gulma	A.H.Chi.14/9
18.	Dadhika Ghrita	Yava Kshara	Apasmara, unmada, vataroga, mutraghata	A.H.Chi.14/19
19.	Nilinyadi ghrita	Yava Kshara	Gulma	A.H.Chi.14/54
20.	Dashamula ghrita	Yava Kshara	kaphaja gulma	A.H.Chi.14/78 - 79
21.	Palasha Kshara Yamaka	Palasha Kshara	Rakta gulma shiathilyartha	A.H.Chi.14/122
22.	Yavanakadi ghrita	Yava Kshara	shopha, gulma, arsha, meha	A.H.Chi.17/11
23.	Guggulu Tiktaka Ghrita	Yava Kshara, Sarja Kshara	Sandhi-asthi, majjagata-vata, kushtha, nadi vrana, arbuda, bhagandara, gandamala, gulma, meha, yakshma, aruchi, shwasa, kasa, hrudroga, pandu, vidradhi, vatarakta	A.H.Chi.21/61
24.	Bhutarava Ghrita	Yava Kshara	Graha roga	A.H.U.5/19

of rational use of *Kshara* in present *Ayurvedic* clinical practice.

Kshara Plants in *Astanga Hrudayam*

There are certain specific plants which can yield a better *Kshara* in terms of quantity and therapeutic use. A.H has given number of such plants at different contexts. Various plants used for the preparation of *Kshara* are listed in the Table 1.

Classification and indications of *Kshara*

There are mainly two varieties of *Kshara* based on the route of administration like internal (*paneeya*) and external (*pratisaraneeya*) alkalis. Internally; they are indicated in

Kshara as an independent medicine

In many contexts; *Kshara* has been used for its independent efficacy in the management of diseases and usually with suitable *Anupana* (vehicle) which is a unique and integral principle of *Ayurvedic* prescriptions. In certain diseases, it has been advised in the general line of treatment and in the take along with routine food and drinks. The diseases include *gulma*[5], *shvayatu*[6], *kaphaja visarpa*[7] and *kaphaja mutrakrucchra*[8] etc.

Kshara in formulations

Kshara predominant formulations

There are certain formulations which are named along with the term '*Kshara*', possibly

Table 7: *Kshara* containing Rasayana/Lehya formulations

Formulation	<i>Kshara</i> used	Uses	Reference
1. <i>Dashamula guda</i>	<i>Yava Kshara</i>	<i>gulma, pleeha, arsha, kushtha, meha</i> (Diabetes mellitus), <i>agnisada</i> .	A.H.Chi.8/152
2. <i>Sukumara rasyana</i>	<i>Yava Kshara</i>	<i>vardham, kanti, vidradhi, gulma, pleeha, vibandha, arsha, medra and yoni vata, shophya, udara, khuda.</i>	A.H.Chi.13/47
3. <i>Pippali Rasayana</i>	<i>Palasha Kshara</i>	<i>Rasayana</i>	A.H.U 39/97-98

conditions such as haemorrhoids, poor digestive power, calculi, abdominal tumour (*gulma*), ascites (*udara*) and homicidal poisoning (*gara visha*) etc. while externally, advised in cases like *Masha*, leucoderma, external haemorrhoids, skin diseases, numbness (*supti*), fistula in ano, tumour (*arbuda*), nodes (*granthi*), and severe fistulous ulcers etc[3].

Based on the intensity of their potency and action, they are threefold like mild (*mrudu*), moderate (*madhyama*) and strong (*teekshna*). They have specific role in treatment of varied graded ailments. Strong alkalis are useful in treating severe conditions of tumours etc and which are of *Vata*, *Kapha* and *meda* (fat) origin while alkalis of moderate intensity are useful in moderate conditions of such diseases. Mild alkalis are useful in tumours of *pitta* and *rakta* origin, and in all haemorrhoids[4].

due to major therapeutic role of ingredient *Kshara* used. Some of such formulations are listed in Table 2 with their *Kshara* ingredient and indications.

Formulations of *Kshara* in different dosage forms

Kshara containing Churna formulations

They are listed with their ingredient *Kshara* and indication in the Table 3.

Kshara containing Vati formulations

They are tabulated in Table 4 with their indication and the ingredient *Kshara* used.

Kshara containing Sneha formulations

There are a large number of lipid formulations for internal administration does contain *Kshara*.

Kshara containing lehya formulations

Some of such formulations are depicted in the Table 6.

Kshara used in formulations of panchakarma, external applications and other procedures

Other than independent use for external application, *Kshara* are used in the preparations of various treatment procedures. The collection of such uses is compiled and presented in Table 7.

Table 8. *Kshara* used in preparations of external applications, panchakarma, and other procedures.

	Formulation/ Procedure	Ingredient <i>Kshara</i>	Indications	Reference
1.	<i>Ajagandhadi lepa</i>	<i>Palasha Kshara</i>	<i>Kaphaja Galaganda</i>	A.H.U.22/69-70
2.	<i>Lepana</i>	<i>Yava Kshara</i>	<i>Arbuda</i>	A.H.U.30/1
3.	<i>Bhallatakadi lepa</i>	<i>Yava Kshara, Sarja Kshara</i>	<i>kushtha, kilasa, tilakalaka, mashaka, durnama, charmakeela</i>	A.H.Chi.20/17
4.	<i>Basti Yoga</i>	<i>Yava Kshara</i>	<i>Anulomanartha in anagata niruha</i>	A.H.Su.19/48
5.	<i>samsarjana</i>	<i>Yava Kshara</i>	<i>Kasa, Shwasa, Hikka</i>	A.H.Chi.3/42
6.	<i>Yoni virecana yoga for Yonivishodhana</i>	<i>Kshara</i>	<i>Avideerna Rakta gulma</i>	A.H.chi.14/125
7.	<i>Dashamolika yoga for Yonivishodhana</i>	<i>Yava Kshara</i>	<i>Gulma</i>	A.H.Chi.14/126
8.	<i>Niruha Basti yoga</i>	<i>Yava Kshara</i>	<i>Adhmana, upasthambha in Udara</i>	A.H.Chi.15/52
9.	<i>Basti yoga</i>	<i>Sarja Kshara</i>	<i>Krimi</i>	A.H.Chi.20/21
10.	<i>Pratisarana yoga</i>	<i>Yava Kshara</i>	<i>Kaphaja Oshtagata roga</i>	A.H.U.22/8
11.	<i>Kshara lepa</i>	<i>Yava Kshara</i>	<i>Gambeera jalarbuda – a osta roga</i>	A.H.U.22/10
12.	<i>Pratisarana yoga</i>	<i>Yava Kshara</i>	<i>Dantaharsha.</i>	A.H.U.22/18
13.	<i>Shretadi gulika for Kavala Pratisarana</i>	<i>Yava Kshara</i>	<i>Kantaroga</i>	A.H.U.22/56
14.	<i>Prakshalana</i>	<i>Kodrava Ksharajala</i>	<i>Darunaka</i>	A.H.U.24/27
15.	<i>Ksharasutra</i>	<i>Yava Kshara</i>	<i>Parikshepi Bhagandara</i>	A.H.U.28/27
16.	<i>Ksharasutra</i>	<i>Yava Kshara</i>	<i>Nadi vrana</i>	A.H.U.30/35-36
17.	<i>Gandusha with Ksharambu</i>	<i>Yava Kshara</i>	<i>Kapha sanchaya</i>	A.H.Su.22/9
18.	<i>Seka with Ksharambu</i>	<i>Yava Kshara</i>	<i>Infected wound</i>	A.H.Su.29/76
19.	<i>Triphaladi Taila for Nasya</i>	<i>Yava Kshara</i>	<i>Apasmara</i>	A.H.U.7/32
20.	<i>Pratisarana yoga</i>	<i>Yava Kshara</i>	<i>Talu kantaka</i>	A.H.U.2/65

Kshara used as Anupana

A drug or food and drinks which are taken along with the intake of a medicine are termed to be anupana. Anupana does help in the easy administration and take the drug to target area. Certain conditions where *Kshara* is advised to be used as anupana are depicted in Table

Administration of Kshara through Patthya Kalpanas (Dietetic preparations)

Dietetic preparations have a pivotal role in the management of all kinds of diseases. In some cases, these medicated diet itself subside the illhealth markedly while while these are administered in order to augment the main medications. Certain pattya kalpanas where *Kshara* is used are placed in the Table.

Table 9: Kshara used as Anupana (Vehicle)

	Formulation	Kshara used	Indications	Reference
1.	<i>Yavanyadi Kwatha</i>	<i>YavaKshara</i>	<i>Charidi</i>	A.H.Chi.6/32
1.	<i>Citraka ghrita</i>	<i>YavaKshara</i>	<i>Udara roga</i>	A.H.Chi, 15/7
2.	<i>Trikatu siddha ghrita</i>	<i>YavaKshara</i>	<i>Kaphaja Abhishyanda</i>	A.H.K.16/18

Table 10: Therapeutic uses of Kshara through Patthya kalpana

	Preparation	Kshara	Indications	Reference
1.	<i>Hingvadi dravya siddha Anna</i>	<i>YavaKshara</i>	<i>Shwasa, Hikka</i>	A.H.CHI.4/27
2.	<i>Ajajyadi dravya siddha Peya</i>	<i>YavaKshara</i>	<i>shopha, atisara, hrudroga, gulma, arsha, mandagni</i>	A.H.Chi.17/21
3.	<i>Vidangadi Takra sadhi ta Yavagu</i>	<i>SarjaKshara</i>	<i>Krimi</i>	A.H.Chi.20/25
4.	<i>Yavagu</i>	<i>Yava Kshara</i>	<i>Shula, vibandha, anaha</i>	A.H.Ka.3/14
5.	<i>Arkadi siddha saktu</i>	<i>YavaKshara</i>	<i>Lala praseka in Raja yaksma</i>	A.H.CHI.5/61
6.	<i>Takra</i>	<i>Yava Kshara</i>	<i>Sannipata udara</i>	A.H.Chi.15/128

Compound Kshara formulations

Compound *Kshara* formulations are prepared by using multiple drugs. The method is slightly different than the general method of preparation of *Kshara*. In this drugs are burnt in the closed chamber (Antardhuma method) and the resultant carbon like substance is used as *Kshara*. Some of the compound *Kshara* preparations with their indications are placed in the Table 10.

Contraindications of Kshara

Kshara is one of the categories of drugs not to be taken by healthy individuals on a regular basis[9]. Caraka has given a special emphasis on considered under three important drugs not be taken very regular basis excessively, other two being Pipier longum and salt. Sushruta has given a list conditions where *Kshara* is contraindicated and these include debilitative, children, old aged, less courageous, ascetic with whole body oedema, raktapitta, pregnant, chronic fever, individual who has

much dryness in the body, injured, emaciated, giddiness etc[10]. It is also contraindicated in Bhagna (fractures)[11].

Discussion and Conclusions

There are 39 different *Kshara* plants found in A.H. *Kshara* have been used in variety of dosage forms of *Ayurveda*. Its independent uses were seen in about 25 contexts excluding contexts of *Kshara* predominant formulations.

Ghee has been found be a common co - ingredient or vehicle in majority of conditions of *Kshara* administration. As *ghrita* and *taila* are *yogavahi*[12] (potentizing the drug with which it is processed), it could have been a preferred media to administer *Kshara* while due to its *snigdhatva* (unctuousness) and it can prevent the possible adverse effects due to the piercing action of *Kshara*.

Kshara is one of drugs not to be taken daily. Hence even during therapeutic prescription,

Table 11: Compound *Kshara* formulations

	Name of Formulation	Indications	Reference
1.	<i>Kalyanaka Kshara</i>	<i>Arsha, udavarta, gulma, vibandha, pandu, krimi, mutrasanga, ashmari,</i>	A.H.Chi.8/143
2.	<i>Higvadi Kshara</i>	<i>Udara</i>	<i>Chi 15/70-73</i>
3.	<i>Hingvadi Kshara</i>	<i>Grahani</i>	<i>Chi 10/53-55</i>
4.	<i>Bunibadi Kshara</i>	<i>Grahani</i>	<i>Ci.10/56-57</i>
5.	<i>Kshara vatika</i>	<i>Grahani,</i>	<i>Chi 10/58-60</i>

Among the formulations containing *Kshara*; 13 *Curnas*, 3 *Vatis*, 25 *Sneha kalpanas* including *Kshara taila* which is a *Kshara* predominant formulation, 3 *lehyas* are seen. Twenty instances where *Kshara* is used in preparations of external applications, *Panchakarma* and procedural treatments etc and 6 instances where *Kshara* is administered through dietetic preparations are found in AH. There are five different compound *Kshara* formulations which are prepared in *antardhuma* method, a different method than the general method of *Kshara* preparation. Although these are termed to *Kshara*, such preparations are later known in *Ayurveda* as *Masi Kalpana*.

The major therapeutic areas of *Kshara* are *Sthoulya*, *Grahani*, *Arsha*, *Mutrakracchra*, *Ashmari* and *Shvayathu*. However the clinical use was seen variety of diseases, especially in conditions of *Vata*, *Kapha* and *meda* origin. Their classical utility include in cough, asthma, abdominal tumors, irritable bowel syndrome, anaemia, goiter, diabetes mellitus, epilepsy, hernia, skin diseases, certain diseases of ear, nose, oral cavity; pterigium and obesity etc.

care has to be taken for not to use it for longer period or without proper anupana.

Although there are number of *Kshara* mentioned in AH, *Yava Kshara* is most commonly used. In most of the cases, *Yava Kshara* has been taken as default choice by word *Kshara* in the commentaries of A.H. Grouping of alkalis based on numbers was in infancy stage, only the group *Ksharadvaya* or *Dwikshara* which comprises of *Yava Kshara* and *Sarja Kshara* was found. *Tankana* (Borax), considered to be one among three best *Kshara* (*Kshara traya*) in *Ayurveda* is not seen in A.H, indicating that borax was not an identified or a used alkali for therapeutic use during the period of A.H. Only commentator *Hemadi* in his *Ayurveda Rasayana* commentary on AH, referred it in a context while giving explanation to the word *Kshara* with example.

The preparation of mild, moderate and strong *Kshara* is an important area which needs to be looked upon before its explorative initiatives to use them in most severe diseases. For sever tumours and diseases of *Vata kapha* and *meda* origin, there needs be administration of *Teekshna* (Strong) *Kshara* and for moderate

conditions of these, *madhyama* (moderate) *Kshara* are needed. For the preparation of *madhyama Kshara*, pastes of *Khatika* (chalk powder) and *Shankha nabhi* (Conch shell) are to be added in the general method of preparation of *Kshara* while for the preparation of strong alkalis, the drugs like *Citraka*, *Langali*, *Talapatri* [(*Haratala* - Arsenic trisulphide) - Arunadatta, the commentator) which are highly hot in potency are added during the preparation.¹³ These specialized methods of *Kshara* have their own role in the treatment of specific category of diseases. But in the present pharmaceutical practice of *Kshara* preparation, these are seldom seen. Hence the utilization of graded techniques of *Kshara* preparation in its original form or with principle based necessary modifications if warranted would give a better scope for the treatment of diseases where *Kshara* are indicated. Preparation of *Kshara* using various *Kshara* plants and discovery of their therapeutic role in challenging conditions like tumours would be potential area of research in medical sciences using this traditional knowledge.

Abbreviations

A.H. - *Astanga Hrudayam*, Sha. - *Shareerasthana*, Chi. - *Chikitsasthana*, U - *Uttaratantra*, K.- *Kalpasthanana*.

References

1. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Sutrasthanana 30/1).
2. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Cikistastana 15/86).
3. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Sutrasthanana 30/2-3).
4. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Sutrasthanana 30/22).
5. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Cikistastana 14/111).
6. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Cikistastana 17/34).
7. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Cikistastana 18/28).
8. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Cikistastana 18/28).
9. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Sutrasthanana 8/41).
10. Sushruta, *Sushruta Samhita*, Dalhana. commentator. Acharya Yadavji Trikamji. Editor. Varanasi: Chowkambha Orientalis; 2007. (Sutrasthanana 11/27).
11. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Uttaratantra 27/35).
12. Bhavamishra, *Bhavaprakasha*, KC Chunekar. commentator. (reprint). Varanasi: Chowkambha Bharati Academy; 2004. (Mishraka varga 6/137).
13. Vagbhata. *Astanga Hrudayam*. Arunadatta, Hemadri. commentators. KR Shatri Navre. editor. (reprint), Varanasi: Krishnadasa Academy; 2000. (Sutrasthanana 30/12-21).