



A REVIEW ON KSHARA KARMA AND KSHARA SUTRA

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ABSTRACT

Sushruta Samhita is main pillar of Ayurvedic surgery (surgical & parasurgical). Parasurgical measures are following - Kshara(Caustic), Agni (Cautery) & Jalauka (Leeches). Kshara karma is the superior most among the sharp and subsidiary instruments because of performing excision, incision and scrapping. Kshara is an alkaline substance obtained from ashes of drugs. Kshara can be used as directly in infected site or through kshara sutra. Kshara worked in the principle of chemical cauterization.

KEYWORDS: Kshara karma, Ksharasutra, Parasurgical.

INTRODUCTION

Shalya Tantra was its zenith in Sushruta's time. Sushruta Samhita is main pillar of Ayurvedic surgery (surgical & parasurgical). Parasurgical measures are following - Kshara karma, Agnikarma, Jalouka. Surgical disorder specially anorectal disorders managed these procedures with ease and comfort for both surgeon and patient. Kshara karma is the superior most among the sharp and subsidiary instruments because of performing excision, incision and scrapping. Kshara is an alkaline substance obtained from ashes of drugs. Ksharasutra has been an unparalleled remedy for those suffering from anorectal diseases. These procedure is safe, simple and effective para surgical procedure. It can be done as an out- patient procedure without admitting the patient for many hours. It is performed under local anesthesia. Minimal bed rest and minimal recurrence rate with no chance of recurrence, stenosis, stricture like complications. It is cost effective and ambulatory.

DEFINITION -

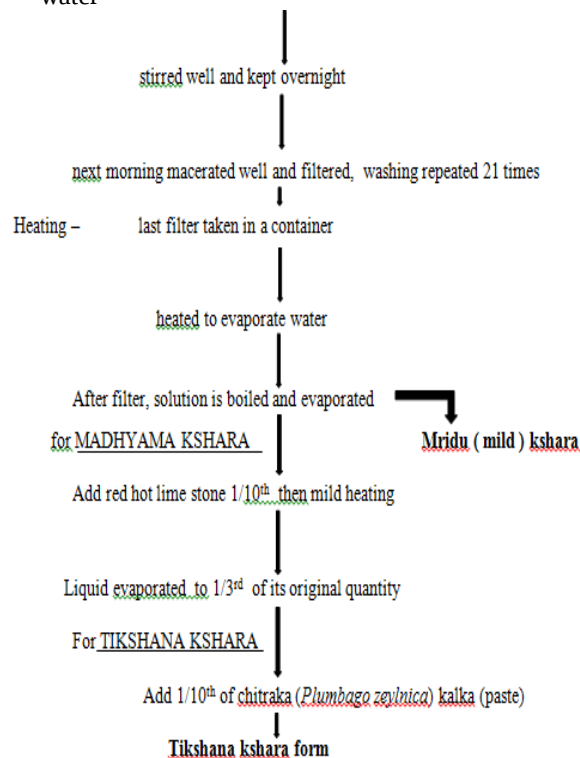
Kshara is ash of plant which is capable of melting away or destroying the lesion.

- KSHARA Derived from kshara means to kill, to destroy.
- Ksharanad implies to debridement and liquefaction of vitiated tissue of infected wound.
- Kshanan means excision or destruction of tissue.

Kshara Preparation process^[2]

- Collection of plant – mature
- Drying – plant should dried
- Burning – plant pieces, are burnt to ash

- Mixing and maceration – ash added with 6 time water



Property of kshara^[3]

- DOSHATWA – Tridoshnashaka
- RASA– Katu, lavana^[4,5] (Acharya Charaka, Acharya Vagbhatta)
 - Katu ^[6](Acharya Sushruta)
 - Lavana ^[7](Acharya Dalhana)

- VIRYA- Usna
- VARNA - Sukla
- SWABHAVA – Saumya, Aagneya
- KARMA^[8]

Dahana (cauterization), Pachana (digestion), Vilayana (liquification of unhealthy tissue), Darna (splitting and excision of lesion), Shodhana (debridement of dusta vrana), Ropana (Healing), Stambhana (stop bleeding), Lekhana (scrapping the pathological lesion).

Action of kshara

- Debridement and lysis of the tissue.
- Kshara has anti inflammatory action & properties of chemical curetting^[9]

It chemically curate and ↓ slough out the pus pockets/debris/ epithelial lining of fistulous tract/non healing wound ↓

There by allowing the tract /cavity to collapse and heal

- Kshara has katu rasa, usna veerya and tiksna guna facilities

↓
Scrapping, Purification, Coagulates effects, Healing

Types of kshara

Table no. 3: Types of kshara.

Acc. To origin	Acc. To use ^[12]
Naisergika - Tankan, Sarja	Paniya kshara
Kritrima – sodium borate	(oral administration)
Pranija – sankha, karpada, pravala	Pratisarniya (external use)-
Vanspatika – apamarga, yava kshara	Mild
	Moderate
	Severe

➤ Paniya kshara – for oral administration

Indication of paniya kshara^[13]

Shrkara	Arochaka	Anaha	Gulma	Ajeerna
Agnisanga	Mutrakricha	Udar roga	Visha	Krimi
Ashmari	Arsha	Asthila	Abhyantha -vidradhi	Yakrita vidradhi

Examples of paniya kshara

- ❖ Milder alkali like kshara panchaka, dwikakshara, trikakshara^[14] etc.
- ❖ Dwikakshara- yavakshara + sarjakshara
- ❖ Trikakshara – yavakshara + sarjakshara + tankana
- ❖ Kshara panchaka – yavakshara + sarjakshara + apamarga + tila kshara + palash kshara

Indication of Pratisarniya kshara^[17]

Kustha	Kitibh	Mandal	Kilas	Bhagandara
Arbud	Arsha	Charmakil	Vrana –nadi	Visha
Tilakalak	Naychcha	Vyanga	Bahya- vidradhi	Krimi mukha roga

Contraindication of kshara^[18]

Those who should not be subjected to caustic treatment are as follows- weak, very young, very old, timid, and

Qualities of Kshara^[10]

Table no. 1: Guna (qualities) of kshara.

Naati tikshana	Neither too strong
Naati mridu	Neither too mild
Sukla	White
Slashana	Fine
Picchila	Slimy
Avisyandi	Un spreading
Shiva	Soothing
Shighara	Quick acting

Bad qualities of Kshara^[11]

Table no. 2: Dosha (Bad qualities) of kshara.

Ati mardava	Too mild
Swetya	Too white
Ati Taikshana	Too hot
Ushna	Too sharp
Picchila	Too slimy
Sarpita	Too spreading
Sandrata	Too thick
Apakwata	Incompletely processed
Hinadravata	Prepared from drugs of lesser potency
Ati tanu	Too mild

➤ Pratisarniya kshara^[15] – for local application.

Pratisarniya kshara is classified on the basis of their burning capacity or cauterizing capacity^[16]

1. Mridu (mild)-Will not burn the Erandnal after counting 100, Ph- 7-9
2. Madhya (moderate) - Will burn the Erandnal after counting 100, Ph-9-11
3. Tikshana (severe) - Will burn the Erandnal before counting 100, Ph -11-14

suffering from general anasarca, abdominal diseases, hemorrhagic diseases, pregnant, menstruating women, those having hyperpyrexia, urinary abnormalities,

dehydrated, thirsty, those having predilection, for fainting, the important, and those having downward or upwards displacement of the ovaries and the uterus. The kshara treatment is not effective even in those diseases which are curable by caustic treatment, if they are complicated by edema, pain in bones, and aversion to food, pain in the pericardial region and in the joints.^[19]

Kshara should not be applied on the vulnerable area vessels, ligament, joints, cartilages, sutures, arteries, throat, umbilicus, nail bed, penis, orifice, at the site of thin musculature and the eyes except in the diseases of eyelids.^[20]

Contraindication of Paniya kshara^[21]

It is harmful in person with haemorrhagic diseases, pyrexia, person having pattika constitution, in young and old, the weak, those suffering from vertigo, intoxication, fainting, diminished vision and other similar diseases.

Dose of kshara

Paniya kshara

- Acc.to Ras tarangini^[22] - 2-8 gunja (250 mg-2 gm)
- Acc.to Acharya Dalhan^[23] - Heena matra-1/2 pala
Madhyama- 3 karsha
Uttam matra -1 pala

Effect of kshara after application

SAMYAKA DAGDHA (Properly applied kshara)^[24]

- symptom - Suppression of the diseases
- Feeling of lightness
- Cessation of discharge

HEENA DAGDHA (Improper or inadequate application of kshara)^[25]

- symptom - Pain, Irritation, Heaviness
- Aggravation of the diseases

ATIDAGHA (Excessive application of kshara)^[26]

Symptom - Burning sensation, reddish color, Body ache, thirst,

- Inflammation, discharge, fatigue, fainting, Death

Paschat karma of kshara application^[27]

After Samyag dagdha of kshara colour of pakwa jamun fruit appear. It implies the kshara has done its work efficiently. The ghrita mixed mulethi powder is applied over the cauterized part to calm down burning sensation due to kshara application.

Standardization of kshara^[28]

- General protocol for plant based formulation-
 - Morphological, taxonomical studies
 - Organoleptic evaluation
 - Microscopically examination including quantitative microscopy
 - Volatile matter
 - Ash value
 - Extractive value
 - Chromatographic profile
- Different method used for standardization-

Spectrophotometer, fluorimetry, chromatography.

- The chromatography method include TLC, HPLC etc.
- Estimation of pH
- Loss on drying at 105°C
- Estimation of sodium and potassium content.

KSHARASUTRA^[29] It is encircling surgical ligature which has been medicated by using kshara.

History of Kshara sutra

- Aa. Charaka^[30] - indicated in Bhagandara.
- Aa. Sushruta^[31] - Nadivrana.
- Aa. Bhavprakash^[32] - haridra + snuhi latex, indication in arsha, bhagandara.
- Aa. Chkrapani^[33] - kshara sutra nirmana vidhi.
- Ras tarangini^[34] - kshara sutra nirmana vidhi, but not use any alkali drug.
- In 1964- Prof. P.J. Deshpande - scientific kshara sutra formation.

Indication & Contraindication of Kshara sutra

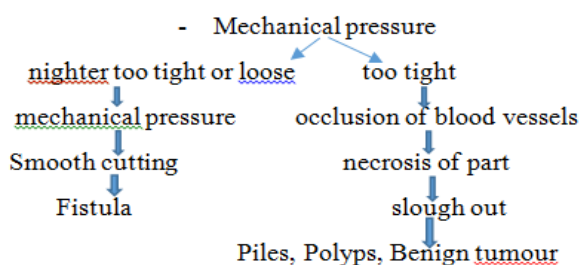
Table no.4: Indication & Contraindication of Kshara sutra.

INDICATION ^[35]	CONTRAINDICATION ^[36]
• Fistula in ano	• Osteomyelitis of pelvic bones
• Haemorrhoids	• Tuberculosis, Vaso - rectal fistula, Rectovaginal fistula
• Chronic fissure in ano with abscess	• Intra-abdominal cold abscess
• Pilonidal sinus	• Pelvic abscess
• Chronic sinus	• Fistula from Crohn's diseases
• Rectal polyps and papillomas	• Intestinal and pelvic malignancies
• Warts	• Osteomyelitis of pelvic bones

Advantages^[37]

- Minimum invasive surgical technique.
- It performed in minor O.T.
- Ambulatory procedure
- No hospitalization
- Safe and effective treatment
- Cost effective treatment
- K.S. procedure can be done in local anesthesia
- Minimum scar formation

Action of Ksharasutra



Preparation of ksharasutra^[39]

INGREDIENTS

- Barbour surgical linen thread 20G
- Latex of *Euphorbia nerifolia* (snuhi) – collect in winter session(oct- april)
- Caustic powder of *Achyranthes aspera* (apamarga kshara)
- Powder of *Curcuma longa* (haridra)

EQUIPMENTS

- Kshara sootra cabinet
- Kshara sootra hanger
- Petry dish
- UV light source
- Glass tube
- Sterile gauge piece
- Gloves
- Bulb 200 watts

METHOD

- Surgical linen thread 20G tied to one end of hanger and hooked to all notch still the other end of hanger is reached.
- Snuhi latex smeared properly in thread with help of clean gauge
- Then placed in cabinet. Cabinet close properly.
- Threads are kept dry with the help of two 200 watts bulb.
- Same process repeated 11 times.
- 12th coating is done first smearing thread with snuhi latex and then passing wet linen thread through powdered Apamarga kshara.
- Then all hanger replaed in cabinet for drying and UV light exposure.
- Repeated 7 coating is done.
- The remaining three coating are finally completed with Snuhi and fine powder of turmeric.
- After each coating the thread are dried in the cabinet and given UV light exposure for 30 min.

PACKING

- After kshara sootra formation, each thread measuring 11-12 inches is cut away at two end overlying the wooden hanger and thread are packed and sealed in dried sterile glass tubes.
- Packed thread are once again given UV light exposure for 30 min.

METHOD OF LABELLING

Following details mention in each thread –
Name, Date of manufacturing, Ph

Probable mode of Action of ingredients of ksharasutra^[40]

1. Snuhi latex - (ph - 5.6)
Proteolytic action → Dissolving of the tissue
2. Apamarga kshara -(ph - 10.2)
Caustic action → Debridement
3. Haridra powder - (ph- 6.2)
Antiseptic, Anti allergic, anti inflammatory

DISCUSSION

Kshara (Caustic alkali) utility in therapeutics is a unique kind of it's own, as Sushruta has discussed various usage forms of Kshara in different ailments-To stop bleeding, For healing an ulcer, To necrose the hemorrhoids, for cutting the tract in fistula-in-ano without injuring the other structures. Ksharasutra having anti-inflammatory, antiseptic, proteolytic, chemical cauterization properties, so help to reduce chance of infection, debridement of infected site.

CONCLUSION

Acharya Sushruta was the person to give the importance to Parasurgical procedures Kshara Kshara(Caustic), Agni (Cautery) & Jalauka (Leeches) for therapeutic purposes in the form of a separate modality. Kshara can be used as directly in infected site or through kshara sutra. Qualities and bad quality of kshara, method of preparation is described in detailed in Ayurved literatures. kshara and ksharasutra act as chemical cauterization.parameters of standered ksharsutra is explained in detailed . All factors are proved that kshara and ksharsutra are hallmark of Ayurvedic surgery. Acharya Sushruta described many procedure can be practiced in present days with properly interrupted as per requirements.

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