



## Preparation of Ksharasutra

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### Abstract

The use of Ksharasutra therapy in the management of the disease is very useful in curing non-healing ulcers (Dushta Vrana) and also in reducing the inflammation. It is one of the minimal invasive surgical measures.

Preparation of Ksharsutra is explained by Rasatarangini and Ksharsutra is first explained by Chakradatta. Acharya Sushruta, the father of ancient Indian surgery, has narrated the operative treatments for various types of Bhagandara as well as evolved Ksharasutra in Nadvirana etc.

**Keywords:** Apamarga, Haridra, Snuhi Ksheera

**Introduction:** It is the ambulatory procedure with minimum chances of recurrence. It is a medicated thread which is coated with the mixture of latex of different ksheer plants like Snuhi, Arka etc. and Kshar like Apamarga and Haridra.

The 21 Bhavanas of these three ingredients are done on No.20 gauze Linen thread. The action of three ingredients is the latex is proteolytic action, caustic action of Kshara, antiseptic action of Haridra churna.

Ideally ksharasutra should be changed on every 7<sup>th</sup> day and keep on changing till the whole track of Bhagandara is cut down. It acts simultaneously by healing and cutting of the track and there is very negligible rate of recurrence.

**Materials Required:** Snuhi Ksheera, Apamarga Kshara, Surgical Linen Thread No.20, Kshara Sutra Cabinet

**Snuhi:**

**Kula-** Aranda Kula

**Family-** Euphorbiace

**Gana-** Adhobhaghara (S), Virechana (C)

**Latin Name-** Euphorbia Nerifolia Linn

**Botanical Description and Habitat** It is a small shrub with trunk and branches bearing thorns. Leaves are thick and fleshy and are about 30-60 cms. They shed during winter season. Flowers are yellowish in colour. Seeds are usually flat. It has six hundred varieties like chaudhari, tridari, sabarkande etc.

Charaka has divided it into-

- 1) Alpakantak
- 2) Bahukpantak

This variety is considered to be superior. At the end of winter, Latex is usually collected from a plant which is 2 to 3 years old.

**Habitat** Sikkim, Bhutan and all over India.

### **Chemical Composition**

Water and water soluble 69.4 – 93.3% and caoatchous 0.2- 2.6% are latex contents. Resin, gum, rubber calcium maleate, ephorban etc.

**Parts used-** Stem, leaves, Roots latex

### **Properties-**

**Rasa:** Katu

**Virya:** ushna

**Guna:** Laghu, tikshna

**Doshghnata;** Kaphavatashamak

**Vipaka;** Katu

### **Action and Uses**

**Internal Uses** It is used in the process of Shodhana. It is used as purgative. Juice of Snuhi ksheer mixed with honey, salt and borax is used in bronchitis and asthama. Useful in diabetes mellitus, anaemia, ascites, hepatosplenic enlargement, syphilis, gout etc.

**External Uses** In inflammatory conditions leaves are useful. For earache drops are used. Latex is useful in skin disease, impotency, toothache, piles and in preparation of ksharasutra.

**Apamarga:**

**Kula-** Apamarga kula

**Family-** Amarantheceae

**Gana** Arkadi(S), Krimighna Vamanopa(C), Shirovirechana

**Latin Name-** Achyranthes aspera linn

**Botanical Descriptions and Habitat**

It is a small herb which is about 0.5 to 1m high. The leaves are oval or elliptical and small, 6 to 8 cm long, 5 to 8 cm broad, hairy and soft. On the dorsal side the leaves are whitish in color. The branches are thick at the end. Fruits are grayish and elliptical. The flowers blossom in winter and the seeds disperse in summer. The flowers are greenish white in color and appear in florescence in nature.

**Habitat**

It is found all over India.

**Varieties** Consists mainly two varieties.

a) Red

b) White

**Chemical Composition-**

The seeds, flowers, leaves, steam and root contains potassium salts. Saponin A and B from seeds along with Hentriacontane, two new Saponins C and D and Oleanolic acid based Saponins from fruit, Ecdysterone, inokosterone, Oleanolic acid, Ecdysone and glycoside from roots; alkaloids Achyranthine and Betaine from the whole plant are reported.

**Parts used** Whole plant

**Properties**

**Guna** Tikshana, Ruksha, Laghu

**Rasa** Tikta, Katu

**Vipaka** Katu

**Virya** Ushna

**Doshghnata** Kaphapitta shodhaka, Kaphavata shamaka.

### **Action and Uses**

**\*Internal uses** It is used in bronchitis, flatulence, painful inflammation, colic, leprosy, helminthiasis, skin disorders, piles, boils, anaemia, pruritis, colic pain, pneumonia, gonorrheas. The plant is thermogenic, expectorant, acrid, revulsive, digestive, carminative, laxative, demulcent, stomachic, depurative, antihelmintic diuretic, demulcent, anti inflammatory etc.

**\*External uses** Crushed leaves are applied on inflammatory lesions. Decoction of leaves is applied on the wounds. Local applications of crushed leaves are done in bleeding piles. It shows anti inflammatory, antidote, analgesic, antiseptic properties. The juice being haemostatic in nature stops bleeding from wounds.

### **Haridra:**

**Kula** Haridra kula

**Family** Scitaminae

**Gana** Kushthaghna, vishaghna, Tiktaskandha, Kanduughna, Mustadi, Shleshmasanshaman (S), Haridradi.

**Latin Name** Curcuma longa Linn

### **Botanical Discription and Habitat**

Leaves smell like ginger and are 30 – 40 cm in length. Rhizome grows underground and it is the annual shrub. The petiole smells like mango and is long and broad like leaves. The stalk of the flower is 12-16 cms. A long and yellow flower grows at the tip. Fruit is oval in shape with deep yellow pulp. In the beginning of the rainy season blooming of the flowers occurs.

### **Habitat**

South Asia is the native place of this plant and it is cultivated throughout warmer part extensively. This plant is found all over India.

**Parts used** Rhizome

### **Chemical Composition**

The major chemical constituents are the yellow colouring principles of which curcumin constituents 50-60%, essential oil, curcuminoids approximately 6%, high content of bisabolane derivatives.

The minor components include dihydrocurcumin, phytosterols, bidesmethoxy curcumin, fatty acids, esmethoxy curcumin and polysaccharides

### **Properties**

**Rasa:** Tikta, katu

**Virya:** ushna

**Vipak:** Katu

**Guna:** Laghu, ruksha

**Doshkarma:** Tridosha shamak

### **Action and Uses**

**Internal Uses** The rhizomes are antiseptic, laxative, diuretic, bitter, acrid, thermogenic, stomachic, antihelmentic, appetizer, expectorant, haematinic. They are useful in inflammation, wounds, leprosy, ulcers, pruritis, skin diseases, allergic conditions, anorexia, and discolouration of the skin, constipation, haemorrhages, hepatomegally, splenomegally, fever, ringworm, jaundice, amenorrhoea and diabetes.

**External Uses**-It cures skin disorders and also has wound cleaning and healing properties. Local application of turmeric is analgesic, anti inflammatory and complexion enhancer.

### **Preparation of Apamarga Kshar**

Firstly, whole plant is to be collected and cut in pieces. The plant should be dried in shade and it should be burnt in light fire. Ash is collected and is dissolved in water which is six times the total quantity of the ash. With the help of the percorator, the solution thus formed is filtered. In four times of water the residual of the ash is again dissolved and the same procedure is repeated twice in order to take away all the alkaline material from the ash.

At last, ash remains as a neutral residue which should be thrown away. Several times, Kshar is filtered and finally by evaporating the filtered solution, the Kshar is obtained.

### **Preparation of Haridra Churna**

From the market, raw Haridra is collected and is dried properly and its churna is prepared. Then the churna should be passed from the fine cloth and the fine powder which is collected should be kept in the fine jar.

### **Thread**

Surgical Linen thread **No.20** is used for the preparation of Ksharasutra. After passing through the process of coating, the tensile strength of the thread should be maintained properly.

### **Collection of Snuhi kshir**

At early hours in the morning, Snuhi kshir is collected by taking the incision on the selected part of the Snuhi plant in a glass container with a broad mouth. Sharad rutu is the best season for the collection of Snuhi Kshir.

Other raw materials, which are required, are collected from the market.

**PREPARATION OF KSHARSUTRA** In ancient text, a medicated thread which is coated with the latex of different plants, Kshar and Haridra powder is known as ksharsutra. Ksharsutra for the first time was advocated by Bhavprakasha. The commentrator of Charak Samhita, Chakrapani in 12<sup>th</sup> century has given the reference of the preparation of ksharsutra in Chakradatta. A nice description about the preparation of ksharsutra is mentioned in Rastarangini.

### **Preparation of Standard Ksharsutra**

Mainly three steps are involved in the preparation of ksharsutra. Materials that are used in the preparation of ksharsutra are smeared on the thread in the form of 21 coatings. In the first step, total 11 times, the fresh latex of Snuhi is smeared on the thread. Thread is mounted in specially designed hangers for this purpose. By keeping uniform pressure all along, a piece of gauze or cotton wool is soaked in fresh latex and this gauze is rubbed over this thread. Each coating is given only after the first coating is dried completely. Special arrangements are made to dry this thread by using Ksharsutra Cabinet.

The second steps consist of seven coatings which are obtained with the latex of Snuhi and the fine powder of Apamarga Kshar. Here, the thread is first smeared with the latex of Snuhi and while the thread is still wet, it is passed through the powder of Apamarga Kshar which gets stuck to the thread in very uniform manner.

The final step includes the three coatings of Haridra in the same manner as that of Apamarga Kshar. Then in the cabinet, Ksharsutra is sterilized by using the Ultra-violet rays.

They are packed in glass tubes after cutting into suitable sizes and preserved for use.

### **Benefits of Ksharsutra Application**

\*The drugs coated on the ksharsutra are slowly and gradually released into the track and the wound, leaving no pockets overseen. These pockets are drained out by the action of the drugs.

\*After complete healing the appearance of the perianal part should be as near as possible. When minimum dissection and extension of the wound is performed, this is possible.

\*The wound after Ksharsutra are much smaller and hence, leave a better appearance after healing.

\*The gradual cutting of the track takes a very long time which is shorten significantly by ksharsutra ligation.

### **Conclusion**

As ksharsutra is useful in the management of Bhagandara, Arsha and Arbuda etc. It is important to know the preparation of Ksharasutra in detail. This Ayurvedic review explained in this article gives knowledge about the techniques involved in the preparation of Ksharasutra.

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