

## Review Article

## AYURVEDIC DRUGS USED IN THE PREPARATION OF KSHARA-SUTRA IN ANO RECTAL DISORDERS W.S.R. PILES, FISTULA

Dr. AKHLESH KR. BHARGAVA<sup>1\*</sup>, Dr. MANOJ ADLAKHA<sup>2</sup>, Dr. RITU KAPOOR<sup>3</sup>

<sup>1</sup>M.D.Ph.D.(shalya tantra N.I.A.), Lecturer & H.O.D. Govt. Ashtang Ayurveda College Indore(M.P.); <sup>2</sup>Asst.prof.deptt. of dravya-guna, rajasthan ayurved university jodhpur; <sup>3</sup>Asst.prof. Deptt. of Agad tantra, Rajasthan Ayurved University Jodhpur.

Email: akhlesh.bhargava@yahoo.com

### ABSTRACT

It is quite common for a patient to seek treatment of this disease through surgical intervention because this is only alternative known to the modern medical practitioners and the public in general.

In modern surgery the only form of treatment of anal disorders that affords any reliable prospect of cure is operation. The operative treatment of anal diseases is often far from simple and calls for caution and boldness based on wide experience of the disease in its various patterns and confident appreciation of anal anatomy.

The surgeries of anal diseases have an unenviable reputation for subsequent recurrences faecal soiling, imperfect control of flatus, chronic wound healing, more hospitalization etc. These are few operations in surgery where the quality of the result is so much influenced by the technical skill of the surgeon.

Man always strives for the best that is why the advancements and research has become a continuous process. Today, not only medical fraternity but common man also wants to verify the ancient claims which are time tested since centuries, on present day available scientific parameters.

Kshara and Kshara-sutra will definitely play a key role in the development of Shalya Tantra branch. Kshara Sutra is a unique and an established procedure for difficult surgical diseases.

It has brought revolution in the Indian system of surgery. Kshara Sutra ligation therapy in the management of Ano rectal disorders has proved boon for the humanity. It effectively substitutes the modern surgical procedure as it has :Less economical, Pt. is ambulatory, Less discomfort, No damage of sphincter and soft tissues, No need of long duration hospitalization.

Other complications of the operation that mentioned priority has never been reported in K.S. therapy.

The content of standard Kshar sutra :Snuhi ksheer (Euphorbia nerifolia), Apamarg kshara (Achyranthus aspera), Haridra (Curcuma longa)

**Keywords:** snuhi, adhobhagar, shyamadi.

### INTRODUCTION

#### SNUHI

#### Ayurvedic Classification

In ayurveda classics, snuhi is mentioned under following gana.

Sadsudhantree (ksheertraya), Virechan-Charak

Adhobhagar, shaymadi-sushruta

Kaphavataghna varga-

|                |   |  |
|----------------|---|--|
| Botanical Name | - | Euphorbia nerifolia                            |
| Family         | - | Euphorbiaceae                                  |
| Sanskrit Name  | - | Snuk, Gudha, sudha, Snuhi, Samantdugdha, Vajri |
| Hindi Name     | - | Thuhar, Sehunda, Seej                          |
| English Name   | - | Common milk hedge                              |

**Distribution:** It is found throughout India especially in South India.

#### Description:

Macroscopic - stem green, cylindrical, showing spiral ridge portion only, dried stem tough with pairs of sharp stipular thorns with hollow space in centre containing white reticulate mass taste acrid.

Microscopic - Transverse section shows a single layered epidermis composed of squarish, thin walled, parenchymatous cells, followed by a thick zone, consisting of about 30-40 layer of thin walled. Oblong or ovoid, elongated parenchymatous cells having a number of rounded and oval latex cells, Some contain dark yellowish latex, the number of latex cell gradually group of fibers towards cortex. Xylem consist of vessels,

tracheids, fibers and xylem parenchyma pith consists of thin walled, rounded or oval, parenchymatous cell, starch and calcium oxalate crystal absent.

**Part used:** Root stem leaves, Ksheer (Latex).

**Powder:** Cream yellow under microscope shows, vessels, fibers and cortical cells, starch and calcium oxalate crystals absent.

#### Identity, Purity and Strength:

|                           |   |                   |
|---------------------------|---|-------------------|
| Foreign matter            | - | Not more than 2%  |
| Total ash                 | - | Not more than 8%  |
| Acid - insoluble ash      | - | Not more than 1%  |
| Alcohol - soluble extract | - | Not less than 5%  |
| Water - soluble extract   | - | Not less than 15% |

#### Pharmacodynamic Properties of SNUHI

| Properties | Description             |
|------------|-------------------------|
| Rasa       | Katu                    |
| Guna       | Laghu, Tikshna          |
| Veerya     | Ushna                   |
| Vipaka     | Katu                    |
| Karma      | Bhedana, Tiksnavirecana |

**Chemical Composition:** It contains euphorbon, resin, gums, rubber, calcium maleate etc. The latex contains water soluble 69.4-93.3% and catotchone 2-2.6%. The latex is also believed to contain an enzyme which is proteolytic in nature.

**Constituents:** Resin, gum and triterpenes.

**Action:** Doshik - Alleviates Kapha and Vata.

External - The juice of leaves applied externally to produce mild analgesic. The latex is irritant, rubrificient and powerful caustic when applied to a raw surface.

Internal Digestive System - The latex given orally act as a drastic purgative.

Respiratory system - Act as an expectorant.

**Therapeutic uses:**

Externally - Bandaging of leaves are useful in painful swelling swarasa is useful in otalgia. Latex is useful in toothache and skin disorder. The latex is used to remove warts and similar excrescence. Turmeric powder mixed with latex of snuhi is recommended to apply to piles masses. Thread steeped in above mentioned mixture is used for ligating pile masses and Fistula-in-ano.

Internally - The latex of snuhi used in chronic constipation, leprosy, anasarca, ascites etc. The snuhi is also useful in gout arthritis, syphilis, cough, dyspnoea etc.

**Collection of Latex:** The latex is collected in the end of sishir by pearsing the stem of snuhi with the help of a sharp knife on a 2-3 year old plant which is full of thorn.

**APAMARGA**

**Ayurvedic classification**

Apamarg is mentioned under

|                                |   |  |
|--------------------------------|---|--|
| Sirovirechana & krimighna gana | - | Charak   |
| Arkadi gana                    | - | Sushruta   |
| Botanical Name                 | - | Achyranthus aspera   |
| Family                         | - | Amaranthaceae  |
| Sanskrit Name                  | - | Praytakpushapa, Shikhari, Kharmanjari, Mayuraka, Adhahshalya, Kিনিhi |
| Hindi                          | - | Chichini, Chirchita, Latjeera  |
| English                        | - | Prickly chaff flower   |

**Distribution:** It is found in all parts of India.

**Description:** It is annual perennial herb often with a woody base. Stems simple or branched from the base, often tinged with reddish, purple, ribbed viscid-pubescent. Leaves are ovate to elliptical or obovate rounded with a ceneate or rounded base, acute or acuminate or obtuse, crispy undulate, glabrous to pubescent. 3-10 (-15) x 2-6 (-7) cm. Petiole 0.5-2cm. long.

Spikes up to 75 cm long. Bracts and bracteoles sub equal, ovate spinescent. Tepals 5 sub equal. greenish, ovate, lanceolate, sharply acute, 0.35-0.6 x 0.1-0.15 cm.

Pseudostaminoids or truncate or irregularly dentate at apex. The plant is very variable in habit, degree of hairiness, size and shape of leaves and length of spikes

**Flowering and fruiting time:** Winter to summer seasons.

**Useful part:** Whole plant (*panchang*), root, spikes and leaves.

**Pharmacodynamics**

|              |   |  |
|--------------|---|--|
| Rasa         | - | Katu, Tikta                                  |
| Guna         | - | Laghu, Ruksha, Tikshna                       |
| Veerya       | - | Katu   |
| Doshik karma | - | Kapha vata shamaka, Kapha pitta shamshodhaka |

**Chemical composition**

The plant and seeds contain alkaline substance specially potash.

It contains sodium, potassium, calcium, iron, magnese, aluminium, carbon, phosphorus etc. Prof. Basu and coworkers (B.H.U.) isolated a water soluble alkaloid "Achyronthene". R.N. chopara (1969) reported the work done on plant by different workers, he quoted that alcoholic

extracts of seeds yield saponin 2%, sapogenin 1.1% and total extract of root contains oleanolic acid.

Betaine is the basic constituent identified besides achyranthine alkaloid.

**Action and properties :**It has anti-inflammatory, analgesic and curative properties. Ash of the *apamarga* is hygroscopic in nature and is a powerful caustic when applied to wound surface.

When used internally, it act as an appetizer, digestive stimulant, cholagogue and mild laxative. It also improves the tone of cardiac muscle.

**Therapeutic uses**

The plant posses various medicinal properties and useful as pungent laxative, antidermatosis, wound healer, blood purifier, poison antidote, a cholagogue and also for other activities.

*Apamarg kshar* mixed with *tila taila* (sesamum oil) and used externally over wounds, ulcers and warts of penis and also other parts of the body. It is also used in otalgia.

*Kshar* being appetizer is used in anorexia, indigestion, abdominal pain, warm infestations, piles and tympanitis. As an alkaline diuretic it is used in renal and vesicle calculus, cystitis and early stages of nephritis

Its antibacterial activity against few microorganisms was reported by *Srivastava & Niyogi* (1953). Oxford cup method was adopted for the purpose and growth of the *streptococcus haemolyticus*, *s. aurus* and *Bacillus typhosus* was found retarded.

**HARIDRA**

**Ayurvedic classification**

In ayurvedic classics *Haridra* is mentioned under following *gana*

|  |   |                |
|--|---|----------------|
| <i>Haridradi, Mustadi and Sleshma sanshaman</i>    | - | <i>Sushrut</i> |
| <i>Kusthaghna, Lekhaniya, Kandughna, Vishaghna</i> | - | <i>Charaka</i> |

|                |   |  |
|----------------|---|--|
| Botanical Name | - | Curcuma longa  |
| Family         | - | Scitamineaceae   |
| Sanskrit Name  | - | Haridra, Kanchani, Nisha, Gauri, Krimighana, Hattavilasini |
| Hindi Name     | - | Haldi, Haridra   |
| English Name   | - | Turmeric   |

**Distribution**

It is cultivated throughout the tropical and other regions in India.

**Description**

Macroscopic - Rhizomes ovate, ablong or pyriform (round turmeric) or cylindrical, often short branched (long turmeric), former about half as broad as long, latter 2-5 cm long and about 1-1.8cm thick, externally yellowish to yellowish brown with root scars and annulations of leaf bases, fracture horny, fractured surface orange to reddish brown, central cylinder twice as broad as cortex, odour and taste characteristic.

Microscopic - Transverse section of rhizome shows epidermis with thick walled, cubical cells of various dimension, cortex characterised by the presence of mostly thin-walled rounded parenchyma cell scattered collateral vascular bundles, a few layers of cork developed under epidermis and scattered oleo-resin cells with brownish contents, cork generally composed of 4-6 layer of thin walled, brick shaped parenchyma, cells of ground tissue contain starch grain of 4-15µ in diameter. Oil cell with suberised walls containing either orange-yellow globules of volatile oil or amorphous resinous matter, vessels mainly spirally thickened a few reticular and annular.

**Flowering and fruiting seasons :**Farming seasons

**Part used:** Rhizome.

**Pharmacodynamic properties**

|        |   |               |
|--------|---|---------------|
| Rasa   | - | Tikta, Katu   |
| Guna   | - | Ruksha, Laghu |
| Veerya | - | Usna          |

|              |   |                                       |
|--------------|---|---------------------------------------|
| Vipaka       | - | Katu                                  |
| Dosha- karma | - | Kapha-vata shamak, Pittarechak-shamak |

#### Chemical composition

Analysis of Indian turmeric gives following results – moisture 13%, protein 6.5%, water 3.5%, fiber 2.6%, carbohydrate 69.4%, Vit A 50 IU per gm. A ketone  $C_{13}H_{22}O$  and an alcohol  $C_9H_{11}OH$ , identified as polymethyl carbinol, have been obtained from the volatile distillate.

Its rhizome contains a volatile oil, an active principle curcumin, a yellow coloured matter and turmeric oil of specific odor and taste.

The antioxidant property of curcuma powder is probably due to phenolic character curcumin. The choleric action of the essential oil is attributed to poly methyl carbinol. The dyestuff act as a cholagogue stimulating the contraction of gall bladder. (*Indigenous durg of India, IInd Ed.*).

#### Action and Properties

##### External

It causes vasodilation when applied on the mucous membrane. The paste of *haridra* is anti-inflammatory, analgesic, *kusthaghana* and *vranashadhak -ropak*. Fumes of *haridra* useful in hiccup and asthma.

##### Internal

It is carminative, cholagogue and wormicidal. It act as a blood purifier and helps in diuresis. The result obtained after fractional test meal on different individuals shows that the administration of curcuma oil is followed by a marked diminution of secretion of the acids in the stomach.

#### Therapeutic uses

##### External

Paste is useful in traumatic inflammatory and painful swellings. It is very useful for the suppuration of un-suppurated wounds. Powder of *haridra* is very effective in wound healing.

##### Internal

It is used as stomachic & blood purifier. Fresh juice from the rhizome or decoction is used in the treatment of leprosy, snakebite, skin disease, inflammation of joints and allergies. According to *Vagbhatta*, *haridra* is the drug of choice of *prameha*.

The antibacterial properties of the oil were tested on *Staphylococcus aureus*, *S. albus* and *Bacillus typhosis*. Growth of the cultures of above mentioned bacteria's were inhibited in concentration up to 1:5000. The growth of cultures of *B. typhosis* was not inhibited in a concentration up to 1:1000.

Anti-inflammatory activity of *haridra* was reported by several researchers. *Wagner (New Natural Products, 1977 page 222)* claims that curcumin posses local and systemic anti-inflammatory properties.

*Arznei Forsch* (36(1) no.4: 1986; page715-717,) says that curcumin is useful in patients who are prone to vascular thrombosis and require anti arthritic therapy as it prevents platelet aggregation and also prevents prostaglandin synthesis so act as NSAID.

Extract of *Curcuma longa* exhibits an anti inflammatory activity in standard animal models. Curcumin and volatile oil are in part responsible for the action (Aman HP, Wahi MA, *Pharmacology of Curcuma longa. Planta Med.* 1991 Feb; 57(1): 1-7

The antibacterial activity of essential oil of *Curcuma longa* is quite marked. It is relatively better against *Salmonella paratyphi*, *Staphylococcus aureus*, *Klebsilla*. Minimum dose required for formation of zone of inhibition has been found to be 0.1 ml (Anup Banerjee, S.S. Nigam, *Journal of Resin Ind. Med. Yoga & Health* Vol XII No 1-1977).

#### Identification

On the addition of concentrated  $H_2SO_4$  or a mixture of concentrated  $H_2SO_4$  and alcohol to the powdered drug, a deep crimson colour is produced.

A piece of filter paper is impregnated with an alcoholic extract of powder, dried and then moistened with a solution of boric acid slightly acidified with HCl, dried again the filter paper assumes a pink or brownish red colour which becomes deep blue or greenish black on the addition of alkali.

#### REFERENCES

1. Susruta samhita nidana sthana 4/4.
2. sarangdhar samhita madhyam khanda -9.
3. Astanga hridaya uttar tantra 28/35-36.
4. Dravya Guna Vigyan Vol. 1-5 Author- P.V. Sharma Pub.- Chaukhambha Bharti Academy, reprint 1998 Varanasi.
5. Indian Materia Medica K.M. Nadkarni Flora of India, Vol. 1 & 7
6. J.d. Hooker Second Indian reprint 1978. Authority of the secretary of state for India in council Second Supplement to Glossary of Indian Medicinal Plants With Active Principles.
7. Asolkar. L.V.; Kakkar. KK & Chakre. O.J. (1992). Part-I (A-K). Publications and Information Directorate. CSIR. New Delhi. PP. 337 Cultivation and Utilization of Medicinal Plants.
8. Atal. C.K & Kapur. B.M (1982). Regional Research Laboratory. CSIR. Jammu Tawi. PP. 576.
9. Hand Book of Medicinal Plants, Kurup, P.N.V.; Rarnadas, V.N.K. & Joshi, P. (1979) Central Council for Research in Ayurveda & Siddha, New Delhi, PP. 110
10. Database on Medicinal Plants used in Ayurveda vol. IIP.C. Sharma, M.B. Yelne, 2000 & 2001 T.J. Dennis, C.C.R.A.S. Deptt. of ISM & H Pharmacognosy of Ayurvedic Drugs, Kerala vol.11 Author-Prof. N. Laxmi, A. Jagadamma Pub. - Pharmacognosy Unit, Ay. Research Unit, Poojapura 1996, Thiruvananthapuram
11. Material medica of India & their therapeutics