



A CONCEPTUAL STUDY ON EFFECT OF SHALLAKI NIRYASA BASED APAMARGA KSHARASUTRA IN THE MANAGEMENT OF BHAGANDARA

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ABSTRACT

Bhagandhara is one of the common ailments pertaining to *guda* and it is included in the *Ashtamahagada*^[1] (eight major diseases) because of its bad prognosis and notorious nature of recurrence. According to *Acharya Susahruta* '*Bhagandhara*' starts as deep-seated *pidika* (boil) with in two *angulas* of anal canal, producing fever and pain. In contemporary science it is compared to fistula-in-ano. In modern medical science various treatment modalities has been explained but they are having its own merits and demerits. *Ayurveda* advocates application of *Ksharasutra* in *Bhagandara*.^[2] *Ksharasutra* the magic thread referred in *ayurveda* is widely used and practised by proctologists worldwide in treating *Bhagandara*[FIA]. The *ksharasutra* is being standardised over the years through various *ayurvedic* reasearches. For the preparation of standard *Apamarga ksharasutra* the materials required are *snuhi ksheera*, *Apamargakshara*, *Haridra churna* and linen barbour thread no 20.^[3] All the required materials are easy to procure and preserve or can be prepared easily except *Snuhi ksheera* as *Snuhi* plant is grown in selected geographical areas, also the preservation of *Snuhi ksheera* is very difficult as it gets coagulated very quickly hence there is always a need for replacement of *Snuhi ksheera* in the preparation of *ksharasutra*, *Shallaki niryasa* reffered in *ayurvedic* texts like *Bhavamishra*^[4] *Bhavaprakasha*^[5] has properties like *tikshna guna*, *sheeta veerya*, *Raktapitta and Vranahara* and may be used as alternative Hence in present study *Shallaki Niryasa* is used as base in preparing *ksharasutra* and are used in treating *Bhagandara*. This study aims at testing effect of *shallaki niryasa* based *ksharasutra* in *Bhagandara*.

KEYWORDS: Ayurveda, Bhagandhara, Fistula in ano, Shallaki niryasa, Apamarga kshara, Apamaraga kshara sutra, *Snuhi Ksheera*.

INTRODUCTION

Bhagandara (Fiatula in ano) is a condition which does *darana* (splitting or discontinuity with severe pain) in *bhaga*(Vagina), *Guda* (Rectum or Anal canal), and *basti*(Urinary bladder)^[6]. In contemporary science it is compared to fistula- in- ano. fistula in ano is a track lined by unhealthy granulation tissue and communicating two epithelial lined surfaces which opens deeply in the anal canal or rectum and superficially on the skin around the anus.^[7] Anal fistula causes various symptoms including pain, swelling, discharge, itching and social embarrassment. Management of *Bhagandara* often remains a challenge for proctologists due to high incidents of its recurrence rate. *Acharya Sushruta* was very well known to this fact that the disease is notorious and very difficult to deal with. In modern surgery fistulectomy, fistulotomy, fibrin glue, fistula plug, video assisted anal fistula treatment(VAAFT), Ligation of inter-sphincteric fistula tract(LIFT) and distal laser

proximal ligation(DLPL) are treatment modalities for treating fistula in ano and they have their own merits and demerits like minor bleeding, pus discharge, rectal mucosa laceration, perineal swelling and sepsis. *Ksharasutra* preparation is first explained by *Acharya Chakrapani data*^[8], *Sushruta* mentioned application of *Ksharasutra* in the *Nadivrana*^[9] and used in the management of *Bhagandara* in patients of *avara satva*, *vridhdha* and *Garbhini*. *Shallaki niryasa* is a drug used by all system of medicines, traditional as well as modern and prescribed in the management of inflammatory diseases viz bronchitis, osteo-arthritis.^[10] *Shallaki niryasa* is having *Madhura*, *katu*, *tikta rasa*, *Tikshna guna*, *Sheeta veerya*, *Katu vipaka*, *Pitta Kapha hara*, *Raktapitta hara* and *vrana hara* according to *Bhavaprakasha* mentioned it under *karpuradi varga*. In this article on *Shallaki niryasa* effort is taken to highlight the importance of *shallaki niryasa* based *apamarga ksharasutra* in the management of *Bhagandara*.

Disease Review

The disease responsible for tearing, splitting or deforming the *Bhaga Guda Basti pradasha* is known as *Bhagandara*.

Nidana

Trauma to anal canal/surrounding skin or mucous membrane Travelling on chariot, horse or in uncomfortable position, Undue straining while passing

stools, Frequency of bowel movement, Injury to rectum and anal canal following ingestion of foreign body like fish bones etc.

Bheda

5 types of Bhagandara^[11] are explained by Acharya Sushruta and Vagbhata added Parikshepi, Arshobhagandara, Riju which are elaborated in table 1.

Table 1: Types of Bhagandara.

Type	Doshas	Features	Discharge	Appearance
<i>Shataponaka</i>	<i>Vata</i>	<i>Toda, tadana, Bhedana, chedana Vyadhana, guda avarana</i>	Continuous copious, foamy discharge	Water can or sieve like
<i>Ushtragreeva</i>	<i>Pitta</i>	<i>Chosa</i> , pain like <i>kshara/agni</i> being applied to wound	Warm and foul smelling	Camel's neck
<i>Parisravi</i>	<i>Kapha</i>	<i>Kandu</i> , less painful	Continuous and slimy	Whitish
<i>Parikshepi</i>	<i>Vata Pitta</i>	Curved tract is formed all around the anal canal just as a trench present all around the forte	Pus and blood	Circular tract around the anal canal
<i>Riju</i>	<i>Vata Kapha</i>	Linear tract associated with pain	Pus	Short straight tract
<i>Arshobhagandara</i>	<i>Kapha Pitta</i>	Located at the base of an <i>arsha</i>	Continuous discharge, always remains moist	Fistula arises following infection of fissure bed with sentinel tag
<i>Shambuakavarti</i>	<i>Tridosha</i>	<i>Toda, daha, kandu</i> and migrating pain around the anal canal	multicolour	Tip of great toe turns of conch/whirlpool
<i>Unmargi/Agantuja</i>	Trauma	<i>Kotha</i> of <i>mamsa</i> and <i>rakta</i> , infestation with <i>krimi</i>	Pus, faeces, flatus, urine, semen	No specific course of tract with gross destruction of perianal area

CHIKITSA

Preventive measures

Avoidance of the causative factor, Appropriate measures for management of *bhaganadra pidaka*

Curative measures

Medical management - Application of *vartee, Kalka, Kashaya, Taila*

Surgical management – *virechana, eshana, chedana, marga vishodana, vranachikitsa, Ksharasutra* therapy.

The treatment of choice for *bhagandara* is *chedana* or excision but other surgical procedures like *bhedan* (drainage of an abscess), *lekhan* (scraping) and *eshana* (probing) are also equally important in the management of this disease like the treatment of other surgical condition.

Drug Review

Shallaki: Contains boswellic acid which has significant anti-inflammatory property. Possesses anti-arthritis and analgesic properties.

Botanical name - *Boswellia serrata Roxb.*

Boswellia - named after Dr. Boswel Endinburgh serrata saw toothed

Family - Burseraceae

Kula - *Guggulu kula*

Guna vargikarana (Classical categorization):

Caraka: *Purishavirajaniya varga*

Suśruta - *Eladi gana, Rodhradi gana*

Bh.Pr.Ni - *Vatadi varga*

Habitat: *Sallaki* grows in *Maharashtra, Madhya pradesh, Rajasthan* and parts of South India.

MORPHOLOGY

Habit - A deciduous middle sized tree.

Bark - Ash-coloured, peeling off in thin flakes, young shoots and leaves pubescent.

Leaves - Compound, 20 to 40 cm long, leaflets are opposite, 2.5 to 6 cm long, 1 to 3 cm wide, sessile, 8 to 15 pairs and an odd one. Variable in shape, ovate or ovate-lanceolate, usually in equilateral and obtuse, crenate-serrate) more or less pubescent, base acute, rounded.

Inflorescence - Axillary raceme

Flowers- Calyx pubescent outside lobes broadly triangular-ovate, Petals are 5 mm long, ovate, stamens are inserted at the base and annular crenate disk

Fruits - Drupe, Trigonums, Pyreps heart-shaped, Cotyle- dons aretrifid.

Useful part- Niryaśa (Exudate)

Market sample of *shallaki niryasa* will have hardened, opaque or translucent tears of greenish white, golden yellow or light brown colour, occurring in various sizes. The shape ranges from round and club shaped to typical stalactite. On breaking becomes short pieces exposing a shining glossy surface. It has got turpentine like odour, tastes astringent.

Phytoconstituents - Shallaki contains B-boswellic acid in resin portion volatile oil contains p-cymene, d-limonene, terpinolene, α-piylene, α-thujone, α-phellandrene, α-terpineol. Glucosamine Hcl is an aminoacid helps in relieving inflammation this along with Beta-Boswellic exhibit anti-inflammatory and analgesic behaviour by inhibiting leukotriene synthesis.

Rasapanchaka

Properties	Shallaki	Kunduru
Rasa	Kashaya,tikta,madhura	Madhura,tikta
Guna	Laghu,Ruksha	Tikshna,Snigdha
Vipaka	Katu	Katu
Virya	Sheeta	Sheeta

PREVIOUS RESEARCH WORKS ON SHALLAKI AND ITS NIRYASA

1] Clinical evaluation of *shallaki niryasa* in the management of *Grivasti sandhigata vata* (Cervical Spondylosis) - study shows therapeutic value of *Shallaki*

Niryasa as is possess anti-inflammatory, anti-arthritic and analgesic activity and it prevent the destruction of articular cartilage.^[12]

2] Effect of *Shallaki Nirayasa* on knee osteoarthritis (*Janu sandigata vata*) - shows an oleoresin available from the plant *Boswellia serrata* is known for its anti-inflammatory and analgesic properties.^[13]

3] Efficacy of *Guggulu* and *Shallaki* based *Ksharasutra* with *triphala guggulu* orally in the management of *Bhagandara* w.s.r to fistula in ano - shows that literatures and experiments of *shallaki* showed anti-inflammatory, antifungal, analgesic, wound healing and binding properties.^[14]

Thus, *Shallaki Niryasa* possess the qualities like: anti-inflammatory, antifungal, analgesic, wound healing and binding. These properties of the *Niryasa*, when it is used as base in the preparation of the *Ksharasutra* may prove beneficial in managing the *Bhagandara*.

Many studies have been conducted on the *Apamarga Kshara* and the *Ksharasutra* prepared using it. These studies shows significant results in treating the *Bhagandara* with good cutting of the tract and healing of the wound with low recurrence and having approximately 0.8-1cm unit cutting rate.

Preparation of Shallaki Niryasa based Apamarga Ksharasutra



Materials Required

- a. *Shallaki niryasa*
- b. *Apamarga Mridu Kshara*
- c. *Haridra churna*
- d. Linen Barbour thread No.20
- e. *Ksharasutra cabinet*

Method of Preparation of Ksharasutra

Ksharasutra will be prepared by using Barbour surgical linen thread no.20. Initially thread will be coated with 11 coatings of *Shallaki niryasa* and dried after each coating. Then 7 coatings of *Shallaki niryasa* immediately followed by coating of *Apamarga Kshara* and dried after each coating. This is later followed by 3 coatings of *Shallaki niryasa and Haridra Churna (Turmeric Powder)* and dried. Thus prepared *Shallaki* based *Apamarga Ksharasutra* are exposed to UV rays for sterilization and stored in air tight containers.

Procedure of application of Ksharasutra: (Conventional method)

Patient will be placed in Lithotomy position and preparation of the part will be done under all aseptic precautions. Painting is done with 5% betadine solution followed by draping of the part. A suitable malleable probe will be forwarded from external fistulous opening in to the fistulous track along the path of least resistance and is guided by the lignocaine gel lubricated finger inside the anal canal to reach into its lumen. Then the tip will be finally directed to come out of the anal orifice through the internal opening.

A suitable length of plain thread will be taken and threaded in the eye of the probe. Thereafter the probe will be pulled out through the anal orifice, to leave the thread behind in the fistulous tract. The two ends of the plain thread then be tied together with a moderate tightness outside the anal canal. This procedure is called primary threading. On the 3rd day, primary thread will be replaced by *Shallaki Niryasa based Apamarga Ksharasutra* by adopting rail-road method.^[9] On every 7th day the old *Ksharasutra* is changed with the new one. Length of the thread which was inside the track is measured in every sitting and observations will be made till complete cutting and healing of the tract.

Mechanism of action of Ksharasutra

Properties - *Kshara* being alkaline in nature, causes fat saponification and formation of alkaline proteinates which subsequently result in liquefaction necrosis when applied over the tissue. It also extracts considerable water from cells due to its hygroscopic nature causing cell death and tissue damage.

The active ingredients in *ksharasutra* control infection by microbicidal action of the drugs used for the preparation of *ksharasutra*. Drugs like *haridra(curcuma longa)*, *Snuhi(euphorbia neriifolia)* are helpful in healing of fistulous wound by virtue of their anti-inflammatory and wound healing properties. *Ksharasutra* in situ acts as

mechanical seton resulting in draining of collections from the track and pus pockets, cutting and curettage of track and simultaneous healing of the fistula track. The mechanical pressure by tying of *ksarasutra* as well as the necrotic effect of *kshara* helps in gradual cutting and laying open of the tract.

CONCLUSION

Ksharasutra is considered as simple, minimally invasive para-surgical procedure and safe modality for the treatment of *Bhagandara* and *Shalyaja Nadivrana*. From the previous research works *Apamarga kshara* has proven to be very much effective in cutting and healing the Fistulous track. And also has the potential to reduce inflammation, enhance healing, allievate pain, improves tissue recovery and minimise discomfort during the treatment period.

And *Shallaki Niryasa* possess the qualities like: anti-inflammatory, antifungal, analgesic, wound healing and binding. These properties of the *Niryasa*, when it is used as base in the preparation of the *Ksharasutra* may prove beneficial in managing the *Bhagandara*. Hence an attempt is made in this study to know the efficacy of *Shallaki niryasa* based *Apamarga Ksharasutra* in the management of *Bhagandara*.

REFERENCES

1. Acharya Sushruta: Sushruta samhita with Nibandhasangraha commentary of Sri Dalhanacharya, edited by Vaidya Yadavji Trikamji Acharya, Chaukamba Surbharati Prakashan, Varanasi, Sutra Sthana, Chap.33, verse 4, Pg-144.
2. Acharya Sushruta: Sushruta Samhita with Nibandhasangraha commentary of Sri Dalhanacharya, Edited by Vaidya Yadavji Trikamji Acharya, Chaukamba Surbharati Prakashan, Varanasi, Chikitsa Sthana, Chap.17, Verse 29-33, Pg-468.
3. A manual on fistula in ano and ksharasutra therapy by Dr M.Sahu chapter no 9 page no-114.
4. Bhavamishra Bhavapraksha edited by prof k R Srikantha Murthy purvakhanda chapter 6 (iii) sloka no 51page no 213.
5. Bhavamishra Bhavapraksha edited by prof K R Srikanta murthy purvakanda chapter 6 sloka no 23 page no 296-297.
6. A manual on fistula in ano and Ksharasutra therapy by Dr.M.Sahu chapter no 9 page no-144.
7. K Rajgopal Shenoy: Manipal manual of surgery, CBS publishers and distributors, 6th edition, 31stchapter, pg-799-802.
8. Sri Chakrapanidatta: Chakradatta with vaidhyaprabha hindi vyakhya by indra devi tripati. chapter no 5, Verse 148 pg-95.
9. Acharya Sushruta: Sushruta Samhita with Nibandhasangraha commentary of Sri Dalhanacharya, Edited by Vaidya Yadavji Trikamji Acharya, Chaukamba Surbharati Prakashan,

Varanasi, chikitsa stana chapter no 17, Verse 29-33
Pg-468.

10. Journal on pharmacognostical and phytochemical evaluation of oleo-gum resin of shallaki by Dr.Gupta P K, Chandola H M, Harish C R.
11. Acharya Sushruta: Sushruta samhita with Nibandha sangraha commentry of sri Dalhanacharya, edited by Vaidhya Trikamji Acharya, Nidana stana chapter no 4 verse 3 pg-280.
12. Clinical evaluation of shallaki niryas (boswellia serrata) in the management of grivaasthi sandhi gata vata (cervical spondylosis) Shalini Pandey Yogesh Kumar Sharma Ajay Kumar.
13. Effect of shallaki on knee osteoarthritis (janu sandhigata vata) - (Dr.Zenica Dzouza).
14. Efficacy of Guggulu and Shallaki based Ksharasutra with Triphala Guggulu orally in the management of Bhagandara w.s.r. to fistula-in-ano A open labelled randomized comparative clinical study (Nema, Aditya; Gupta, Sanjay Kumar; Dudhamal, Tukaram; Mahanta, Vyasdeva).