



A Literature review on various methods of *Ksharsutra* preparation

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Abstract

Fistula-in-ano is a condition which has been recognized as troublesome surgical disease due to its recurrent nature. Almost all the surgeons starting from Acharya Sushruta to the reputed surgeons up to the minute have realized the difficult course of this disorder as far as its surgical as well as medical management is considered. Treatment of fistula-in-ano is always a challenging task for the surgeons and the patients as well. The Ray of hope is provided by Ayurveda in combating this ailment. "Ksharsutra" is an excellent Para surgical procedure for management of Fistula in ano and possible decrease in its reoccurrence. An attempt has been made to review all the references mentioned regarding the preparations of *ksharsutras* and modifications made in it to improve its utility.

Keywords: *Ksharsutra, methods, bhagandar, fistula, ayurvedic, seton*

Introduction

"Ksharsutra" is a unique and excellent parasurgical procedure for management of Fistula-in-ano, Hemorrhoids, Warts, Moles, Pilonidal sinus etc. *Ksharsutra* literally means a thread coated with *Kshar*. *Kshar* in Sanskrit means 'one that is capable of destruction'. *Kshar* is based on its property of corroding the skin or the flesh of an affected part of the body.

"क्षरणात् दुष्ट त्वक् मांसादि चालनात् शतनादीत्यर्थः अन्ये तु क्षरणात् दोषाणां चालनात् ।"

(डल्हण)

Ksharsutra ligature performs excision by virtue of its mechanical pressure and phytochemical cauterization.

This article attempts to compile various methods of the preparation of *Ksharsutra* from various classical text and

practitioners. It also includes the new experimentations and formulations which have been published in reputed medical journals.

Ksharsutra is mainly used in the treatment of Fistula-in-ano. Fistula is called as *Bhagandara* in Ayurveda. As we know, the treatment of fistula aims at excising the complete track by surgery. Fistula i.e. *Bhagandara* is notoriously known for its recurrence. *Sushrut* has emphasized this fact as follows¹.

"घोराःसाधयितुंदुखाःसर्वएवभगंदराः।
तेष्वसाध्य स्त्रिदोषोत्थः क्षतजश्च
भगन्दरः॥"
(सु.नि.४/१४)

The treatment of fistula is Fistulectomy or Fistulotomy. Both the surgeries include cutting the whole length of track. For large fistula surgery can cause serious complications like incontinence. *Ksharsutra* by the virtue of its action prevents this. It is also known to prevent the recurrence. This property and utility is well accepted by the modern science also.

Ksharsutra is a linen thread which is coated with certain *Ayurvedic* drugs which have corrosive and desloughing actions on an unhealthy granulation tissue which is the root cause of delayed healing of fistula. There are number of such drugs mentioned in the *Ayurvedic* classical texts.

The first reference of *ksharsutra* is seen in *Sushrut* samhita in the chapter of Visarpa-Nadi-Stanroga Chikitsaadhyay³. It says

"कृश दुर्बल भिरूणां नाडी मर्माश्रिता च या।
क्षारसूत्रेण तां छिन्द्यान्न तु शस्त्रेण
बुद्धिमान् ॥"

(सु.चि. १७/२९)

The treatment of a Nadi Vrana i.e a sinus is actually excision. But if the patient having Nadi vrana is weak, either physically or mentally and if the site of Nadvrana is a Marmasthana, excision is contraindicated. That *nadvrana* must be treated with *Ksharsutra*⁴.

Although the credit of the invention of *Ksharsutra* is given to *Sushruta*, there is no clear-cut description of preparation of *ksharsutra* in *Sushrut samhita*. The references are found scattered in other *samhitas*, which have been compiled hereafter.

Material & methods

All Information in this article is collected from Ayurvedic texts and journals.

Various methods for Preparation of *Ksharsutra*

A. *Chakradatta*

The credit of the first distinct description of the manufacturing of *ksharsutra* is given to Chakrapanidatta. He is known for his legendary commentaries on both Charaka samhita and *Sushruta* samhita. He has authored one important samhita which is known as Chakradatta⁸. The first reference regarding preparation of *ksharsutra* is found in this samhita. This is a widely practiced reference by all *Ayurvedic* practitioners.

The famous reference goes as follows

"भावितं रजनी चुर्णैः स्नुहि क्षीरैः पुनः
पुनः|बन्धनात् सुदृढं सूत्रं छिन्नत्योश्
भगंदरम्|| "

In the fifth Chapter of *Arshachikitsa*,
Acharya Chakradutta has mentioned the

use of *Ksharsutra* in combating *Fistula-in-ano* and *haemorrhoids*⁸.

According to this reference, a thread coated multiple times with *Snuhiksheera* (the latex of *Euphorbia nerifolia*) and *Rajani churna* (Turmeric powder/*Curcuma longa*) cures *Arsha* and *Bhagandara*.

Sr.	Name	Latin name	Ras – virya- vipak	Guna	Karma
1	<i>Snuhiksheera</i>	Latex of <i>Euphorbia nerifolia</i>	<i>katu ushna katu</i>	<i>Laghu Tikshna</i>	<i>Lekhan, Vednasthapan Shothar, Vishagna</i>
2	<i>Rajni churna</i>	<i>Curcuma longa</i>	<i>katu, tikta ushna katu</i>	<i>Ruksha, Laghu</i>	<i>Vranashodhana, Kandughna, Shothhar ,Krumighna</i>

B. Acharya Vangsen

"स्नुही काण्डगते क्षीरे भल्लातक समन्विते | ज्योतिष्मति त्रिफला दंती कोशातक्यऽग्नि
सैन्धवैः ||

चुर्णैरितैः समघृतैः बन्धयेत् सूत्रकमदृढम् |सूत्रं तत्पातयेदर्शः छिन्नमूलं इवदुमम् ||"

In the chapter of *Arsha chikitsa*, *Acharya Vangsen* mentions the utilization of *Ksharsutra* in the treatment of *Arsha*¹². According to him,

No	Name	Latin name	Ras-virya-vipak	Guna	karma
1	<i>Snuhi</i>	<i>Euphorbia nerifolia</i>	<i>katu ushna katu</i>	<i>Laghu Tikshna</i>	<i>Lekhan, Vednasthapan Shothar, Vishagna</i>
2	<i>Rajni churna</i>	<i>Curcuma longa</i>	<i>Katu tikta Ushna katu</i>	<i>Ruksha, Laghu</i>	<i>Vranashodhana, Kandughna, Shothhar ,Krumighna</i>
3	<i>Bhallat aka churna</i>	<i>Semecarpus anacardium</i>	<i>Katu, tikta, kashay Ushna madhur</i>	<i>Laghu tikshna snigdha</i>	<i>Vatakafahara, Chedhana, shothar, krumihar,</i>
4	<i>Malkan gani</i>	<i>Celastrus paniculatus</i>	<i>Katu tikta Ushna katu</i>	<i>tikshna</i>	<i>vranhara</i>
5	<i>Triphal a: i)aamal a</i>	<i>Embllica officinalis</i>	<i>Madhur, amla, katu, tikta, kashay. Sheeta madhur</i>	<i>Guru sheeta</i>	<i>Daahhar, shothar, rasayana, vrushya, prame hagn</i>

	ii) <i>behd a</i>	<i>Terminalia bellirica</i>	Kashay Ushna madhur	Ruksha laghu	Bhedanam, kruminashanam
	iii) <i>harit aki</i>	<i>Terminal chebula</i>	Madhur, amla, katu, tikta, kashay. ushana madhur	Laghu ruksha	Shothar, krumihar, rasayan
6	<i>Danti</i>	<i>Baliospermum montanum</i>	Katu ushna katu	Guru tikshna	Shothar, vran ropaniya
7	<i>Chitrak</i>	<i>Plumbago zeylanica</i>	Katu ushna katu	Laghu ruksha	Shothar, krumihar
8	<i>Koshat aki (Kadu dodka)</i>	<i>Luffa acutangula</i>	Tikta Ushna katu	Laghu ruksha	Shothar, kushtahar, jwarhar, bhedanaya

- Snuhiksheera, Bhallataka churna, Malkangani, Triphala churna, Dantimoola churna, Kadudodkabij churna, Chitrak, Saindhav, etc.* are taken in equal quantities
- This homogenous mixture is mixed well with *Ghrita* and applied over linen thread and allowed to dry.

As per the reference there is no guideline for how many coatings are expected. But as it is not mentioned only one coat is expected here.

C. Rasatarangini [Vd.Sadanand Sharma]

"सुधा दुग्धे वस्त्रपूत हरीद्राचूर्णं संयुते
निषिक्तेन तु तूलेन स्वल्पेन खलु यत्नतः॥

प्रलिप्तं सुदृढं सूत्रं च्छायायाम् अथ शोषयेत्
। विलीप्य सप्तधाहि एवं
शोषयेत्भिषकवरः॥

सुत्रम् एतत् समाख्यातं क्षारं सुत्रं तु
नामतः।"

According to *Rastaringini* ¹⁰,

- Haridra [Turmeric] powder mixed with *Snuhiksheera* (the latex of *Euphorbia nerifolia*) is applied on the linen and allowed to dry in a shadow.
- This procedure is done for 7 day.

No.	Name	Latin name	Ras Virya vipak	Guna	Karma
1	<i>Snuhiksheera</i>	<i>Euphorbia nerifolia</i>	katu ushna katu	Laghu Tikshna	Lekhan, Vednasthapan Shothar, Vishagna
2	<i>Rajni churna / haridra</i>	<i>Curcuma longa</i>	katu, tikta ushna katu	Ruksha, Laghu	Vranashodhana, Kandughna, Shothhar, Krumighna

D. Ras Kamdhenu⁷

“अर्कं स्नुहिपयोः लिप्तं पुनः सूत्रं विशेषयेत्
| त्रिवारान्शोषयित्वा तु क्षारेण एव प्रलेपयेत्
||”

- The thread coated with *Snuhiksheera* (latex of *euphorbia nerifolia*) or *Arkasheera* (latex of *Calatropis gigantea*), should be dried in shade.
- This procedure is repeated three times.
- That coated thread after having applied with *kshar* should be used in rooting out *Arsha* and *Bhagandara*.

E. Prof. Dr.P.J. Deshpande (B.H.U.)

Late Prof. Dr.P.J.Deshpande the then Dean, Faculty of Ayurveda, B. H. U, rejuvenated the almost obsolete *Ksharsutra*. He did an extensive research and standardized the procedure for preparation of *Ksharsutra*.

- The surgical linen thread size number 20 is spread throughout the length of *Ksharsutra* chamber and hung inside *Ksharsutra* cabinet.
- The thread is coated with *Snuhiksheera* (latex of *Euphorbia nerifolia*) uniformly all around the

linen with the help of clean gauze piece.

- After application the *Ksharsutra* chamber is hung inside the cabinet for drying .Same procedure repeated for 11 days .
- On the twelfth day, 12th coating of *Snuhiksheera* is done and wet thread is then passed through a heap of finely powdered *ApamargaKshar* immediately and hung in the cabinet to dry . This procedure is done continuously for 7 days .
- The 19th coating is done with *Snuhiksheera* and fine powder of *Haridra churna* for the next 3 days.
- As per above said procedure, *Ksharsutra* is prepared making a total of 21 days coating .

Day	Daily Coating
Day 1-11	<i>Snuhiksheera</i>
Day 12-18	<i>Snuhiksheera</i> + <i>ApamargaKshar</i>
Day 19-21	<i>Snuhiksheera</i> + <i>Haridra churna</i>

No.	Name	Latin name	Ras Virya vipak	Guna	karma
1	<i>Snuhiksheera</i>	Latex of <i>Euphorbia nerifolia</i>	<i>katu ushna katu</i>	<i>Laghu Tikshna</i>	<i>Lekhan, Vednasthapan Shothar, Vishagna</i>
2	<i>Rajni churna / haridra churna</i>	<i>Curcuma longa</i> powder	<i>katu, tikta ushna katu</i>	<i>Ruksha, Laghu</i>	<i>Vranashodhana, Kandughna, Shothhar, Krumighna</i>
3	<i>Apamarga kshar</i>	<i>Achyranthes aspera</i>	<i>Katu tikta Ushna katu</i>	<i>Laghu ruksha tikshna</i>	<i>Kaphanashana, kandughna</i>

Most of the *ksharsutra* practitioners use the method standardized by Prof. Dr. P. J. Deshpande. The obsolete *ksharsutra* has been rejuvenated and now accepted worldwide.

Various Kshara Dravyas-

There are many herbal drugs which are known for their kshara property. Apamarga

kshara is the most widely used kshara. But other drugs also can be used for preparation in *ksharsutra*.

Bhavprakash and Raj Nighantu give us different groups of ksharas like *ksharadwaya*, *ksharapanchak*, *ksharashatak*, *ksharadashak* etc.

क्षारव्दय	सज्जीक्षार,यवक्षार
क्षारपंचक	सज्जीक्षार,यवक्षार,तिलक्षार,मुष्ककक्षार,पलाषक्षार
क्षारषट्क	सज्जीक्षार,यवक्षार,तिलक्षार,मुष्ककक्षार,अपामार्गक्षार,लांगली.
क्षाराष्टक	सज्जीक्षार,यवक्षार,तिलक्षार,पलाषक्षार,अपामार्गक्षार,चिंचाक्षार,निवडुंगक्षार,अर्कक्षार

Modifications and new research

Various researchers have modified the way of preparing *Ksharsutras*. The research has been published in various journals of repute. Here is the compilation.

Sr. No.	Reference taken from	Year	Ksharsutra material	Authors	Place
1	Journal of national remedies	2018	Guggul <i>ksharsutra</i> = Guggul extract+apamargakshar+ haridra	Vd. Saxena Varsha Vd Singh Lakshman	B.H.U. varanasi
2	International journal of AYUSH	2018	Kumari haridra <i>ksharsutra</i> =kumariswar as+haridra	Vd Dwivedi Amarprakash Vd Bhoir Vedika Vd PawarAnirudha Vd Kulkarni Anjana	Navi mumbai
3	Internation journal of current research in life sciences	2018	Palash <i>ksharsutra</i> = Palash + apamarga + haridra	Vd Brahmanand Swami Vd Hiremath Sapana	Bidar
4	Journal of Ayurveda & integrated medical	2018	Papaya ksheer based sphatikaksharsutra	Vd Amulya h. Vd Shilpa P.N. Vd Madhunayak R.	karnataka

	sciences(JAI MS)				
5	Journal of Ayurveda & integrated medical sciences(JAI MS)	2018	Tankan <i>ksharsutra</i>	Vd Ashish Patel Vd B.S. Savadi	karnataka
6	Journal of Ayurveda & integrated medical sciences(JAI MS)	2018	Vibhitaki <i>ksharsutra</i>	Vd Lohitkalal Vd Akash Kembhavi	Karnataka
7	Journal of Ayurveda & integrated medical sciences(JAI MS)	2017	Kadali <i>ksharsutra</i> = Kadalikshar + arkaksheer	Vd Shilpa Patil Vd Ashok Naikar Vd ChandrakanthHalli	karnataka
8	International journal of bioassays	2015	Arka <i>ksharsutra</i> = Arka ksheera+ Apamarga kshar + haridra	Vd SatendraTanvar Vd Shailaja S.V.	Karnataka
9	International journal of applied Ayurved research	2015	Snuhi haridra sutra	Vd Amar Dwivedi Vd Anaya Pathrikar	Sion (Mumba)
10	Innovare journal of Ayurvedic sciences	2013	Gomutra <i>ksharsutra</i>	Vd Manojkumar Yadav Vd Akhilesh Bhargava Vd H.K.Kushwah	Jaipur
11	JAHM	2013	Madhu (honey) based <i>ksharsutra</i>	Vd Chakradhar K.V. Vd Sravanthi S. Vd Navyakeethana	Tirupati

Discussion:

Thus there are lot many formulations which are used for the preparation of *ksharsutra*. Almost all of them are quite effective as per the research

papers published. The choice of *ksharsutra* depends on the individual practitioner.

The utility of *ksharsutra* has been proven already. It is quite a boon for treatment of difficult fistulae. It does not cause incontinence and also significantly

reduces the recurrence. *Ksharsutra* chikitsa has been lauded by modern medicine also thanks to the monumental efforts and dedication put forth by Late Prof. Dr. P. J. Deshpande.

Conclusion:

Based on this literature review, we would like to conclude by saying that *ksharsutras* are now being prepared on the basis of various agenda like the availability of certain drugs, diseased condition, patient condition, etc. Thereby a variety of *ksharsutras* are made in used in clinical practice by making certain modification with the help of authentic method mentioned in the classical texts of Ayurved. *ksharsutra* shows its own importance and shows marvelous results when applied with proper indications, strict aseptic precautions and extreme carefulness.

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