



A Case Study of Partial Fistulectomy with Ksharsutra Ligation in Fistula in Ano

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ABSTRACT

The anal fistula is a track with an external opening in the skin of perianal region and internal opening in the modified skin or mucosa of anal canal or rectum. In today's practice too, the incidence of this disease is very frequent. In Ayurveda it is correlated with Bhagandar and Acharya Sushruta mentioned five types of Bhagandar. He had explained Shastra karma along with Kshara karma and Bhesajachikitsa for the radical treatment. Here a case of study is going to be presented of fistula in Ano, with the previous history of known modern procedures and repeatedly recurrence even after the multiple surgical operative procedures as well as long term use of new generation specific/ non-specific antibiotics. This 32 year male patient was thoroughly examined and investigated for its classical clinical features of said disease in Shalya Tantra OPD in Parul University Vadodara. Patient has been treated with Partial fistulectomy followed by Ksharasutra ligation, considering it as an ideal procedure in treatment of Bhagandar. The complete details have been dealt here with all relevant clinical materials.

Keywords: Bhagandar, Partial fistulectomy, kshara sutra, Nimbpatradi Varti, fistula in ano

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INTRODUCTION

Ksharsutra approach is a globally recognized Ayurvedic Parasurgical Technique for the treatment of one of the most challenging anorectal pathologies e.g. fistula in ano. Great Indian Surgeon Dhanwantari has narrated in his teachings the use of Kshara for cure of Bhagandar and other complicated diseases [1] where surgical approaches are either difficult or contraindicated due to one or another region. In modern medical science Fistula has been defined as a chronic granulating tubular track consisting of fibrous tissues with two openings communicating between two different epithelium. Fistula-in-ano is generally develops after the negligence of an anorectal abscess and cryptoglandular infection. Common symptoms are Intermittent Pain, recurrent purulent discharge, itching and social embarrassment [2]. According to Sushruta samhita this notorious disease Bhagandara has been sorted out under 5 sub-groups based upon the applied clinical criteria's i.e. involvement of dosas, Shape and type of external openings (Bhagandaripidika), shape of the tract and nature of discharge. Whereas Parks et al., classification says Low intersphincteric, Trans-sphincteric, Extra sphincteric and Supralevator Fistula [3]. Inspection, Palpation Local examination, digital rectal examination (DRE), Probing, and Radiological imaging are most trusted primary methods for diagnosis. It rarely cured by medical treatment and operative results of most of the high anal fistula are not satisfactory. About 50% cases of fistulae are low anal types which are cured by surgery. The recurrence and impairment of anal continence are main complications of surgery. An average recurrence rate of anal fistula after operation is 50% as reported from different centres of world. Our great surgeon Sushruta has described that fistula can be treated with Ksharasutra in case of sophisticated and high gentry's patients specially debilitated, weak, child or female patients. Chhedana karma (fistulectomy-Excision of the fistulous tract) [4] is specially advised with all the surgical protocol in case of this challenging entity for surgeons.

By following the guidelines of Sushruta Samhita, the below mentioned case has been successfully treated with unique healing and greater satisfaction of the patient as well as treating team.

CASE REPORT:

Personal History:

- Patient Name – XYZ
- Age – 32 year
- Gender – Male
- Occupation – Student
- Date of admission – 21/01/2022
- Date of recovery – 18/02/2022

Chief complaints with duration:

- Patient complaints of recurrent pus discharge and itching with perianal throbbing pain since longer time (one year).

H/o Present Illness:

According to patient he was apparently well before 1 year but gradually he has felt some in connivance during a long seating due to some discomfort in perianal region. He has consulted his family physician and with his treatment patient was symptoms free for next few months. Then again, he started ill feeling in the same region but in this episode of symptoms, where was a pus discharge from a perianal boil and after the pus discharge patient got relief. But unfortunately, 2 months back again he got severe agonising pain of throbbing nature started in perianal region in night. After the consultation with surgeon patient has taken some antibiotics and planned for radical treatment by Ayurvedic surgeon for his recurrent problems. Before 20 days back he got pus discharge and itching in ano again so he visited in our Shalya Tantra Department OPD No. 106 and he was admitted in male surgical ward for further management.

Past History:

- No any past history of hypertension, diabetic mellitus, tuberculosis and any drug reaction.

Family History:

- No any relevant history found.

General examination

- G.C- Afebrile
- CVS- S1 S2 Normal.
- Pulse- 86/min
- BP- 130/80 mm Hg
- RS- Chest clears on both sides.
- Digestive System- Appetite- normal
- Bowel- constipated.
- Uro-genital System- NAD

Local examination:

- On local Examination there was a mild to moderate tenderness and pus discharge at 11 o' clock position.
- On Digital Rectal Examination there was normal sphincter tonicity.
- On Proctoscopy – there were no any specific abnormality have been detected other than Internal opening and multiple tracts.

Investigation:

Laboratory investigation:

- The laboratory investigation for blood, and urine were conducted and found within normal limits.

Radiology investigation:

- He was investigated for Fistulogram and 5 cm long fistula tract was noted in right perianal region with one external openings at 11 O'clock position and one internal opening at 11 O'clock at level of dentate line.

DETAILS OF PROCEDURE:

On the basis of clinical history, radiological findings and previous experience we have planned for partial fistulectomy with ksharsutra ligation followed by NimbpatradiVarti⁵ (special herbal compound mainly prepared by leaves of Neema, Daruharidra, Yasthimadhu, honey and cow butter) for local use.

Pre-operative:

1. Patient was advised nil by mouth from 6hr. before surgery.
2. Written inform consent was taken.
3. The local part of patient was prepared (as per the standard protocol of anorectal surgeries).
4. Proctolysis enema was given in early morning before procedure.
5. Inj. T.T. 0.5cc IM and
6. Sensitivity test for inj. Xylocaine 2% ID was done.

Operative:

In operation theatre, the patient was advised to lie down in the lithotomy position and the perineum area was strongly cleaned and irrigated with the antiseptic solution (10% Povodine iodine). Required drape sheets were placed over operative area. The operative site has been anesthetized with the infiltration of inj. 2% Xylocain with adrenalin solution. After achieving appropriate anaesthesia, a specially designed and manufactured malleable copper probe was inserted from external opening of the fistulous tract and emerge at internal opening.

The excision of the fistulous tract by coring method was done from external opening up to the external anal sphincter with the help of surgical blade no. 15 as well as electric cautery. After that Ksharasutra was threaded in remaining part of the tract. Keen observation for any kind of bleeding was done and after proper haemostasis the excised wound was packed with Nimbpatradi Varti and applied T-Bandage.

Post-operative:

As whole procedure was performed in local anesthesia so no pain was felt in the patient. After two hours of completion of procedure single dose of analgesic was given for control of pain. No further pain killer was advised to patient. From next morning, patient was advised to take Sitz bath with Panchavalkala Kwath thrice a day (before defecation in the morning, just after defecation as well as before going to bed at night) and then specific therapeutic dressing with Nimbpatradi varti had been started daily. 5 gm Eranda Bhrishta Haritaki powder with luke warm water at bed time was prescribed for the stool softening. Ksharasutra was changed with a new one by rail-road technique on weekly interval and the length of thread as well as the condition of wound was noted to assess the unit cutting time (UCT) and healing time till the complete treatment period and follow up period [5].

MANAGEMENT & OBSERVATIONS:

On 1st postoperative day the Ksharsutra was in situ, tract was observed comparatively in cleaned and healthier status. Sitz bath with Panchavalkala Kwath was advised and dressing of wound with Nimbpatrdivarti was remained continue.

Ksharsutra was changed on weekly interval with new Ksharsutra after applying 2% xylocaine jelly by railroad technique till complete cut through and healing of fistulous tract. Sitz bath with Panchavalkala decoction and dressing with Nimbpatrdivarti was continued along with Ksharasutrachange. The length of Ksharsutra thread was recorded to assess progress of cutting and healing on every change.

- On post-operative 1st week, the wound became cleaned and healing was promoted with healthy granulation tissue.
- On post-operative 2nd week, the wound became cleaned and healing was promoted with healthy granulation tissue
- On post-operative 3rd week, the wound became cleaned and healing was promoted with healthy granulation tissue
- On post-operative 4th week, the wound became cleaned and healing was promoted with healthy granulation tissue
- On post-operative 5th week, the wound became cleaned and healing was promoted with healthy granulation tissue.

During the observations healthy granulation, epithelisation and contraction of wound was found in this case. Total 5 weeks were required for complete cutting and ideal healing of fistulous tract. The unit cutting time (UCT) of fistulous tract case was 6 days per cm.

Table No. 1 Complaints and Observations of this Case Study [6-11]

S. No.	Complaints	Observations of this case study (just after the 1 st week)	Observations of this case study (just after the 2 nd week)	Observations of this case study (just after the 3 rd week)	Observations of this case study (just after the 4 th week)	Observations of this case study (just after the 5 th week)
1	Pain (Vedana)	Chunchumayan	Aankunchana	alpvedana	Vigatavedana	Vigatavedana
2	Tenderness (sparshasahyta)	Sparshsahyta (mild to moderate)	Sparshsahyta (mild)	Sparshsahyta	Sparshsahyta	Sparshsahyta
3.	Exudate type (sravabheda)	Puyasrava	Puyasrava	Sravarahita	Sravarahita	Sravarahita
4	Exudate quantity (sravamatra)	Sravayukta (Moderate)	Sravayukta (Mild)	Sravayukta (Mild)	Nirasravo (None)	Nirasravo (None)
5	Odour (Gandha)	Aamgandhi	Aamgandhi	Lohagandhi	Gandharahita	Gandharahita

6	Circumference of the wound (vranaAakruti)	Triputaka	Triputaka	Triputaka	Suvyavasthit	Suvyavasthit
7	Wound bed appearance (varna)	Pandu varna	Pandu varna	Jihvatalabho	Jihvatalabho	Tvaksvarnasamtalam

Table No. 2 Complaints and Observations of Standard Dressing Material [12]

S. No.	Complaints	Observations of standard dressing material (just after the 1 st week)	Observations of standard dressing material (just after the 2 nd week)	Observations of standard dressing material (just after the 3 rd week)	Observations of standard dressing material (just after the 4 th week)	Observations of standard dressing material (just after the 5 th week)
1	Pain (Vedana)	Suchitodavata	Chhedanavata	Aayamanvata	Aakunchanavata	Alpvedanta
2	Tenderness (Sparshasahyta)	Sparshasahyta (Moderate)	Sparshasahyta (Moderate)	Sparshasahyta (Mild)	Sparshasahyta	Sparshasahyta
3	Exudate Type (SravaBheda)	Puyasrava	Salilprkasho	Pinjarvata	Lasikavata	Sravarahita
4	Exudate Quantity (SravaMatra)	Sravayukta (Moderate)	Sravayukta (Moderate)	Sravayukta (Mild To Moderate)	Sravayukta (Mild)	Nirasravo (None)
5	Odour (Gandha)	Aamgandhi	Aamgandhi	Lohagandhi	Gandharahita	Gandharahita
6	Circumference Of The Wound (VranaAakruti)	Triputaka	Triputaka	Triputaka	Triputaka	Suvyavasthit
7	Wound Bed Appearance (Varna)	Pandu Varna	Pandu Varna	Jihvatalabho	Jihvatalabho	TvaksvarnaSamtalam

Probable Mode of action:

NIMBPATRADI VARTI [13-15]:

Nimb:

- Leaf extracts from *Azadirachita indica* promote wound healing by promoting inflammatory response and neovascularization.
- *Nimb* and its components inhibit the growth of a wide range of microbes, including viruses, bacteria, and pathogenic fungi.

Daruharidra:

- It has a high capacity for drying and can cure wounds quickly. When applied externally, its paste can quickly alleviate pain and inflammation.

Yashtimadhu:

- Yashtimadhu has the qualities of VranaShodhana and VranaRopana, which help with wound healing.
- Yashtimadhu possesses both anti-ulcerogenic and anti-inflammatory effects.

Ghee and Madhu:

Ayurvedic literature has documented, over the centuries, the healing properties of ghee both systemic and topical. Sushruta in his surgical treatise Sushruta Samhita postulated that the combination of Ghee (Ghrita) and honey (Madhu) for wound healing would have the synergistic healing effect of each one.

KSHARSUTRA:

The applied Kshara on thread has anti-inflammatory and anti-microbial activity.

Alkaline nature of Kshara cauterizes dead tissue and facilitates cutting as well as healing [16]. Due to alkaline pH of Ksharasutra local infection was under control which helps to healing. Ksharsutra has combined effect of all three drugs (SnuhiKsheera, ApamargaKshara and Haridra) and said to be unique drug formulation for cutting and healing of fistulous tract. Panchavalkala decoction has cleaning and wound healing properties respectively so it helped to kept wound clean and promoted healing of wound [17].

In plain Ksharsutra the required time for cut through and healing of wound is more, so patients are mentally disturbed with this disease. So, Ksharsutra has effect of simultaneously cutting and healing of muscles and should be established as sphincter saving treatment modality for fistula-in-ano. Hence, to reduce chances of incontinence, to minimize the time requirement, to drainage the pus or discharge from track, early return to routine workout, to minimize hospital stay multipurpose intervention like, partial fistulectomy with Ksharsutra application is said to be the best option observed in this case report.

RESULT

PROBABLE ACTION OF DRUG.

In Ayurved, the action of a drug is understood by the properties of its basic physico-chemical factors. The factors are Rasa, Guna, Virya, Vipaka and Prabhava of the drug; these primarily affect the doshas and determine their doshashamaka activity; this in turn corrects the vitiated doshas and thus, maintains the doshic equilibrium. This is the basic principle of the treatment.

Now in this case it is observed that threefold approach has given comparatively better results within due course of management. The therapeutic combined effect of Nimbpatradivarti was observed in terms of ideal Shodhana and Ropana Karma. Medicinal effects of its constituents are highly effective for the radical treatment of Bhagandara due to Kledahara, Shothahara etc.

Being a universally accepted approach for the treatment of fistula in ano, it is not necessary here to discuss the effect of Ksharasutra and partial fistulectomy. To enhance these two procedures additional use of Nimbpatradivarti has proven as a potent dressing material to subside the local infection, untoward complications and helpful in achieving the ideal healing time with classical texture, strengthening, scar as well as colour of healed area.

DISCUSSION

Discussion about the case:

An unsatisfied with modern surgical procedures a middle age patient with the history of recurrent fistula in ano has been studied with complete follow up to know the repeated advocated Ayurvedic procedures i.e. Ksharsutra for the radical management of such challenging disorder of anorectal area. During investigation it has been observed that a big scar with unhealthy fibrous tissue having 5 cm long tract was there and during per rectal examination provisionally diagnostic as a Bhagandara which is having internal as well as external openings at 11 o'clock position.

No any systemic diseases has been found and after the thorough investigation patient has been planned to undergo this procedure.

Discussion about the present clinical features and recurrence:

- Local tissue immunity was very low – it is observed that the local tissue immunity was very poor as a minute trauma and infection reach up to the deeper tissues and unhealthy granulation tissue develops at the site.
- Delay in the wound healing – as per the history of chronicity it is found that period of wound healing was comparatively greater than normal time. This unwanted delaying wound healing was due to the presence of resistance bacteria as well as fibrous tissues.
- Presence of fibrous tissue – On examination it is observed a greater area of unhealthy fibrous tissues with irregular and Utsanna margins.
- Presence of septic focus at the diseased area – During per rectal examination it is observed that foul smell and serosanguineous purulent discharge was continuously leaking which was evidence of septic focus at the site of anorectal area.

Discussion on criteria of study:

This all features of the patient have given impetus to cure this patient on the line of “Chakradatta” in which “Nimbpatradi Varti” is advocated for the overall management of such challenging condition.

Discussion on the management and its effect:

1. By following the Sushruta Samhita indication, it is planned to apply Ksharsutra followed by Chhedana Karma (partial fistulectomy). As a rule, this line of treatment is most essential but at the same time to prevent the recurrence it is equally important to manage the devitalised tissues with such a poly-herbal compound which contains – cytotoxic and antimitotic effects with proper healing promoting factors.
2. Phytochemicals which are present in the selected poly-herbal compound are proven cytotoxic medicines for the treatment of contamination of micro-organisms –
 - a) The cytoplasm available in the harmful bacteria are destroyed directly due to such chemicals of Nimb, Daruharidra and Yashtimadhu.
 - b) This compound again controls the growth of bacteria due to its antimitotic property, Hence, the further spreading of microorganism has been totally stopped and patient has been cured with remarkable wound healing features.
 - c) The globally accepted material that is honey is considered as a supreme most dressing materials undoubtedly and the same material has been used here for ideal healing of unhealthy wound. There is no need of explanation about the efficacy of honey in the proper management of wound, hence this approach has been duly potentiated with Gow Ghrita and in this case the result has been obtained in extra ordinary way.

CONCLUSION

As a conclusion it can be point out that most challenging disease fistula in ano can be managed by following Chhedana Karma as merited in Sushruta Samhita which is complimented by Ksharsutra. All the post-operative observations are in evidence of perfect RudhaVrana. The wound healing rate is primarily quantified by the rate of change of the wound's surface area. The objective of this study has been obtained by establishing a standardised and objective technique to assess the ideal cutting rate and healing rate of post-operative Bhagandara wound healing with the physical texture analysis.

This present study is in evidence of Ayurvedic principals that after through cleansing (Shodhana) of the tissues, we came get an ideal environment for proper healing without any complications as well as no chance of recurrence. Here being a challenging surgical case clinical features were not in favour of standard healing but this poly-herbal formulation has given an evidence-based results.

REFERENCES

1. Shastri A and Samhita S (2001): Commentary Ayurved Tatva Sandipika Chikitsasthana; 12th edition. Varanasi: Chowkhambha Sanskrit Sansthan; 46.
2. Jain SK, Kaza RCM, Pahwa M and Bansal S (2008). Role of cyanoacrylate in the management of low fistula in ano: a prospective study. *International Journal of Colorectal Disease*; 23(4), 355-358
3. Prasad L, Prakash S and Prakash A (2013). *Colorectal Diseases and Kshar Sutra Surgery*. New Delhi: Globalmedika a Health Science Publisher; 75
4. Shastri A and Samhita S (2001). Commentary Ayurved Tatva Sandipika Chikitsasthana; 12th edition. Varanasi: Chow khambha Sanskrit Sansthan; 46
5. Chakradatta- Chakrapanidatta, with Vaidyaprabha Hindi Commentary; Edited by Dr. Indradeva Tripathi; Chaukhamba Sanskrit Bhawan Varanasi; Vranashotha Chikitsa Chapter 44, Page No. 260.
6. Ambikadutta Shastri (2016) Sushruta, Sushruta Samhita, Ayurveda-Tattva-Sandipika Commentary; Chaukhamba Sanskrit Sansthan Varanasi; Sutrasthan 22/9,12; Page No. 124.
7. Kashinatha Shastri and Gorakhanath Chaturvedi (2015). Agnivesha, Charaka, Charaka Samhita, Vidhyotani Hindi Commentary Edited by, Chaukhamba Bharati Academy, Varanasi, Chikitsasthan 25/28; Page No. 702.
8. Ambikadutta Shastri (2016). Sushruta, Sushruta Samhita, Ayurveda-Tattva-Sandipika Commentary Edited by; Chaukhamba Sanskrit Sansthan Varanasi; Sutrasthan 23/18; Page No. 128.
9. Ambikadutta Shastri (2016) Sushruta, Sushruta Samhita, Ayurveda-Tattva-Sandipika Commentary; Chaukhamba Sanskrit Sansthan Varanasi; Sutrasthan 28/9; Page No. 148.
10. Ambikadutta Shastri (2016) Sushruta, Sushruta Samhita, Ayurveda-Tattva-Sandipika Commentary; Chaukhamba Sanskrit Sansthan Varanasi; Sutrasthan 23/5; Page No. 123.
11. Ambikadutta Shastri (2016) Sushruta, Sushruta Samhita, Ayurveda-Tattva-Sandipika Commentary; Chaukhamba Sanskrit Sansthan Varanasi; Sutrasthan 23/13; Page No. 125.
12. A Randomized Clinical Trial on Wound Packing to Evaluate the Wound Healing Property of Jatyadi Tail, following incision and drainage of Vidradhiw.s.r. to Superficial Skin Abscesses – Dr. Aditya Kumar Shil., NIA Jaipur.
13. K.C. Chuneekar (2010) The Bhavprakash Nighantu with Elaborated Hindi Commentary. Twenty Eighth Editions, Gudchayadi Varga; Verse 13-16, 314.
14. K.C. Chuneekar (2010) The Bhavprakash Nighantu with Elaborated Hindi Commentary. Twenty Eighth Editions of 2010: Haritakyadi Varga; Verse 95-96.
15. K.C. Chuneekar (1998). The Bhavprakash Nighantu with Elaborated Hindi Commentary: Verse 145 146, 65-66.
16. Londonkar, R. (2011). Potential antibacterial and antifungal activity of *Achyranthes aspera* L. *Recent Research in Science and Technology*, 3(4). 53-7
17. Meena, R. K., Dudhamal, T., Gupta, S. K., & Mahanta, V. (2015). Wound healing potential of Pañcavalka formulations in a post fistulectomy wound. *Ancient Science of Life*, 35(2), 118.

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