Partial Fistulectomy, Primary Closure and *Ksharasutra* Application in the Management of *Bhagandara*- A Three Dimensional Approach in Single Case

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Abstract

Ksharasutra is a medicated thread, indicated in ano-rectal disorders particularly in the management of *Bhagandara* (Fistula-in-ano) in *Ayurveda*. Fistula-in-ano is a complex disease and many procedures are being done by proctologist with chances of recurrence and morbidity. In this case report, a patient of fistula-in-ano at anterior aspect of anal canal was treated with three dimensional approaches which are partial fistulectomy, primary closure and *Ksharasutra* application in remaining part of fistula tract. The case was complicated as the tract was long up to base of scrotum and having grade-1 risk due to hypertension. So for early recovery, without complication and to avoid the recurrence the case was treated with three interventions in single sitting under spinal anesthesia. Old *Ksharasutra* was changed with a new one by rail-road technique on weekly interval. The unit cutting time (UCT) was measured and noted at every week. The stitches were removed on eighth day after surgery. Wound dressing was done daily with *Jatyadi Ghrita* (medicated clarified butter). This case was cured completely within five weeks. Hence study concluded that the complicated cases can be treated with multiple interventions including Ksharasutra in single sitting.

KEYWORDS: Ayurveda, *Bhagandara*, Fistula-in-ano, *Jatyadi Ghrita*, *Ksharasutra*, Partial fistulectomy, *Panchavalkal*

Introduction:

Bhagandara (fistula-in ano), in *Ayurveda*, comes under *Ashtomahagada* (eight major diseases) because of its bad prognosis and notorious nature. [1] In *Sushruta Saṃhita*, it is clearly mentioned that *Bhagandara* can be treated with *Chedana* (fistulectomy- Excision of the fistulous tract) or *Kṣharasootra* in case of debilitated, weak, child or female patients. [2] Fistula-in-ano is a part of the spectrum of peri-anal sepsis and it generally develops after an ano-rectal abscess and cryptoglandular infection. Pain, discharge, itching and social embarrassment are common symptoms. [3] In modern surgery fistulectomy, fistulotomy, fibrin glue, fistula plug, Video Assisted Anal Fistula Treatment (VAAFT) and Ligation of Inter-sphincteric Fistula Tract (LIFT) are treatment modalities with their own merits and demerits. [4] Application of *kṣhara* (alkaline ash) in *Naḍivraṇa* (sinus) and *Bhagandara* (fistula-in-ano) has been described by Acharya Sushruta. [5] Later on, preparation and application of *Ksharasutra* in *Bhagandara* (Fistula-in-ano) has described by *Chakrapani* and *Bhavamishra* in detail. [6-7] In this study, a case of anterior fistula-in-ano having two external opening at 1 o'clock position was treated with partial fistulectomy with primary closure followed

by *Kṣharasootra* application in the remaining part of the fistulous tract. The *Snuhi* (Latex of *Euphorbia nerifolia*) based *Ksharasutra* was prepared by *Apamarga Kshara* (Ash of *Achyranthus aspera* Linn.), and turmeric powder (*Curcuma longa* Linn.) in surgical Barbour's thread size 20 G as per Ayurved Pharmacopeia of India (API). [8]

Case Report:

In this case report a 60 years old male patient visited in outpatient department of Shalya Tantra (surgery), IPGT& RA Hospital, Jamnagar, with complaints of peri-anal pain, pus discharge, constipation and itching since last 3 months. He had a vegetarian and spicy diet and was working as a painter. Patient had the history of smoking. On inspection, two external opening was observed at 1 O' clock in lithotomy position and 4 cm away from the anal verge (Figure-1). He was investigated for Trans Rectal Ultrasound (TRUS) and 54 mm long fistula was noted in left perianal region with two external openings at 1 o'clock position in skin and without any internal opening, inner end of fistula abuts left lateral wall of the anal canal at 2 o'clock position. The laboratory investigation for blood, urine, and stool were conducted and found within normal limits except high RFT that is blood urea [46mg/dl] and serum creatnine [1.7mg/dl]. But USG showed that renal parenchyma was not changed. Chest X-ray and USG of whole abdomen were done and no abnormal signs were detected. There was no previous history of surgery and other illness. Patient was detected as hypertension for first time and was consulted to physician and he started Olmesartan 1tab once a day. Blood pressure (B.P.) was measured daily two times and after 15 days it was under control that is 140/90mm of Hg. Lastly patient was treated as grade-1 risk with three dimensional approaches under spinal anesthesia.

Methodology:

Pre-operative: Patient was advised nil by mouth from 10:30pm in the previous day of surgery. Written inform consent was taken. The local part of patient was prepared. Proctolysis enema was given in early morning before procedure. Inj. T.T. 0.5cc IM and sensitivity test for inj. Xylocaine 0.1% ID was done.

Operative: In O.T., patient was kept in lithotomy position on O.T. table after giving spinal anesthesia. Peri-anal area was painted with Betadine solution and sterile cut sheet was draped. Four fingers anal dilation was performed by Lord's procedure. External opening at 1 o'clock was made patent with probe and methylene blue- dye was passed then the dye was not come through anal canal, no internal opening was found. Probe was passed and an internal opening was made by it at 12 o'clock position. After that fistulous tract was partially excised up to internal sphincter and wound of partial excision was closed by ethilon 3-0 suture as interrupted suturing then *Ksharasutra* threading was done in rest of fistulous tract (Figure-2). Hemostasis was achieved and patient shifted to ward with stable vitals.

Post-operative: Patient was advised nil orally for six hours with head low position. Intravenous fluid of Ringer Lactate and Dextrose 5% one liter each was administered on day first. Liquids allowed after six hours**.** Injection Ceftriaxone 1.5gm two times, and injection tramadol as per need was given for initial first day. Oral antibiotics and analgesics were continued for further 5 days. Along with this adjuvant medications like, 10 ml *Jatyadi Taila* was given per rectum daily once, *Eranda Bhrashta Haritaki* 5 gm at bed time and *Triphala Guggulu* 500mg thrice in a day was prescribed from next morning**.** Stitches were removed on eight day and sitz bath/ *Avagaaha swedan* (warm

water + *Panchavalkala* decoction) was advised for two times a day. Diets like green vegetables, milk, fruits, rice, roti and plenty of water advised from next day evening to avoid constipation. Non-vegetarian, spicy and oily food, junk foods, alcohol was restricted. Long sitting and riding/travelling avoided till complete healing of tract.

Result and Discussion:

On 3rd post-operative day the *Ksharasutra* was in situ, wound was healthy, no pus discharge and no oozing present from stitches (Figure-3). Sitz bath with *Panchavalkala* decoction was prohibited till the stitches were removed and dressing of wound with *Jatyadi ghrita* was done daily. On post-operative 5th day the mild pus discharge was present from the tract, wound but stitches were healthy. On the 7th day, alternate stitches were removed and on 8th day, all stitches were removed (Figure-4). There was no any swelling, pus discharge and gapping in the stitches that indicates the complete get rid of fistulous tract and wound healed due to the primary closure. Wound of partial fistulectomy was healed earlier with dressing by *Jatyadi Ghrita* which improves the quality of life of patient. *Ksharasutra* was changed on weekly interval with new *Ksharasutra* after applying 2% xylocaine jelly by railroad technique till complete cut through and healing of fistulous tract. The length of *Ksharasutra* thread was recorded to assess progress of cutting and healing on every change. On post-operative 28th day (4th week), the wound became cleaned and healing was promoted with healthy granulation tissue (Figure-5). Sitz bath with *Panchavalkala* decoction and dressing with *Jatyadi Ghrita* was continued along with *Ksharasutra* change and there was healthy granulation, epithelisation and contraction of wound was observed. Total 6 weeks were required for complete cutting and healing of fistulous tract. There was healed scar of primary closer wound, fistulectomy wound and *Ksharasutra* applied tract (Figure-6). The unit cutting time (UCT) of fistulous tract case was 7.5 days per cm.

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. [9] Due to alkaline pH of *Ksharasutra* local infection was under control which helps to healing. The cutting is presumed by local action of *Kshara*, *Snuhi* and mechanical pressure of tight *Ksharasutra* knot during initial 1-2 days of its application which followed by healing in rest of the 5-6 days. The turmeric (*Curcuma longa*) powder minimizes reaction of caustics and helped for healing of wound. [10] *Ksharasutra* has combined effect of all three drugs (*Apamarga Kshara*, *Snuhi Ksheera* and *Haridra*) and said to be unique drug formulation for cutting and healing of fistulous tract.

Panchavalkal decoction has cleaning and wound healing properties respectively so it helped to kept wound clean and promoted healing of wound. [11-12] The contents of *Jatyadi ghrita* has *Shodhan*,(cleaning) *Ropan* (Healing), *Raktasodhak* (blood purifying), *Krimighna* (antimicrobial), *Kandughna*, *Sothahara* (anti-inflammatory) properties which are necessary for healing of wound so it also helped in healing of wound. [13] *Eranda Bhrashta Haritaki Churna* helped in regular bowel movement.

The chances of recurrence are very high in the case of conventional fistulectomy. In plain *Ksharasutra* the required time for cut through and healing of wound is more, so patients are mentally disturbed with this disease. Hence, to minimize the required time multiple interventions like, partial fistulectomy with primary closure along with *Ksharasutra* application is said to be the best option observed in this case report.

Conclusion:

This single case study of anterior fistula-in-ano can be managed by partial fistulectomy with primary closure and *Ksharasutra* threading, which revealed that the quality of life during treatment has improved in short time period. As it is a single case study so it requires more number of cases for concrete conclusion.

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Figure 1: 1 O' clock fistula-in-ano

Figure 2: Primary closer and *Ksharasutra* in situ

Figure 3: Status of wound after 3rd post operative days

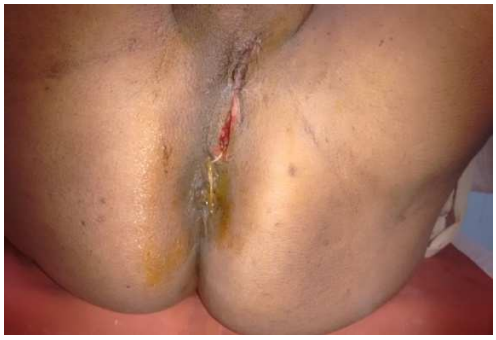

Figure 4: Healthy wound after suture removal on 8th post operative day

Figure 5: Healing wound with *Ksharasutra* after one month

Figure 6: Healed scar after treatment after one and half month