Case Study

Indian Journal of Ancient Medicine and Yoga
Volume 10 Number 4, October - December 2017
DOI: https://dx.doi.org/10.21088/ijamy.0974.6986.10417.7

An Integrated Approach in the Management of Complex Posterior Horse Shoe Fistula-in-Ano

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Abstract

Ksharsutra application in fistula-in-ano takes upper hand in the various surgical modalities available but it has its limitations one of which is long duration of treatment. In this case study, a 45 years old male patient visited Shalya OPD with complaints of intermittent fever, swelling at perianal region, pus discharge from perianal region for 3 months. Patient underwent incision and drainage (I&D) 3 months back. On perianal examination in lithotomy position there were two external opening at 5 and 7 o'clock and a common internal opening at 6 o'clock position. Fibrosed band could be palpated from 5 to 7 o'clock. Routine blood and urine examinations were within normal range. Pus culture showed presence of Escherichia coli (E.coli). Trans rectal Ultrasonography (TRUS) report showed 10cm long "Horse shoe" shaped fistula in perianal region with external opening at 5 and 7 o'clock and internal opening at 6 o'clock, 10mm from anal verge, 20mm and 28 mm long blind branch at 5 and 7 o'clock respectively. Hence, case was diagnosed as *Bhagandara* (complex posterior horse shoe fistula-in-ano). He was treated by partial fistulectomy with *Ksharsutra* application along with window technique. Post-operative wound healed within 6 months. Patient faecal continent was maintained and there was no evidence of fistula. Post-operative TRUS showed subcutaneous hypo-echoic scar in perianal region between 5 to 7 o'clock positions. So this case highlighted that integrated approach treats the cryptoglandular infection and decreases the duration of treatment.

Keywords: *Bhagandara*; Horse-Shoe Fistula; *Ksharasutra*; Partial-Fistulectomy.

Introduction

Acharya *Sushruta* included *Bhagandara* in *Ashtomahagda* which shows the gravity of this ano-rectal condition even today there is no gold standard treatment for this disease [1]. It is notorious for its chronicity, recurrence and frequent acute exacerbations. According to a recent study conducted on the prevalence of anal fistula in India by Indian Proctology Society in a defined population of some states, approximately varied from 17-20% while London approximately 10% of all patient 4% of all new patients were reported to suffer from this disease among the anorectal disorder [2]. The fistula-in-ano is one of the disease which have affected mankind of all times. There are several options for the treatment of fistula-in-ano with their own limitations as mentioned below. Fistulotomy or Fistulectomy, these may cause incontinence. New techniques like Fibrin glue injection, Fistula plug, Endorectal advancement flap, LIFT Technique (ligation of inter-sphincteric fistula tract), VAAFT (Video Assisted Anal fistula treatment), PERFACT (proximal superficial cauterization, emptying regularly fistula tracts and curettage of tracts). These new techniques are too costly and not affordable to low economy country like India and also not free from recurrence. *Bhagandara* described in Ayurveda classics can be co-related with fistula-in-ano [3]. As per *Sushruta, Bhagandara* occurs if *Bhagandarpidika* which can be co-related with ano-rectal abscess is not treated [4].

Sushrut mentioned use of *Kshara* in *Bhagandra*, later *Acharya Chakrapani* and *Bhavmishra* described the preparation of *ksharsutra* [5,6,7]. *Ksharsutra* application in fistula-in-ano takes upper hand in the various surgical modalities available for the treatment of this ano-rectal condition but it has its limitations

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Received on 22.11.2017, **Accepted on** 07.12.2017

one of which is long duration of treatment. As per previous research studies approximately 1cm is cut in a week [8] and the process is associated with excruciating pain while changing the *ksharsutra.* Sometimes due to long duration of treatment patient's compliance is less and many dropouts during treatment. In this case a minimal invasive integrated approach was opted for the management of complex horse shoe fistula-in-ano.

Case Report

A 45 years old male patient visited in Shalya tantra OPD with complaints of intermittent fever since last 6-7 months, swelling on perianal region and pus discharge from perianal region for 3 months and perianal pain for one and half month. Patient underwent incision and drainage (I&D) 3 months back. Patient was habituated to consume non-vegetarian diet, spicy foods and tobacco. Patient was labourer by profession. On perianal examination in lithotomy position there were two external opening at 5 and 7 O'clock and a common internal opening at 6 O'clock position (Figure 1). Fibrosed band could be palpated from 5 to 7 O'clock. Routine blood and urine examinations were done and found within normal range. Pus culture was done to know the presence of microorganism and it was found that it had E.coli in abundance. As per TRUS report, 10cm long "Horse shoe" shaped fistula in perianal region with external opening at 5 and 7 O'clock and internal opening at 6 o'clock ,10mm from anal verge, 20mm and 28 mm long blind branch at 5 and 7 O'clock respectively (Figure 7). Hence, based on clinical findings and TRUS the case was diagnosed as a case of *Bhagandara* (complex posterior horse shoe fistula-in-ano) and patient was admitted in male *shalya* ward for further management.

Methodology

Pre-Operative

Written inform consent of patient was taken. Part preparation was done. Proctolysis enema was given in early morning 3 hours before operation. Injection T.T. 0.5cc IM was given and inj. Lox 2% sensitivity test was done.

Operative Procedure

1st stage surgery: Patient was taken in OT taking care of all the aseptic precaution. Spinal anaesthesia was given in sitting recumbent position. Thereafter, lithotomy position was given to the patient. Cleaning and draping was done. Four fingers dilatation was done. Patency test was done using methylene blue, which was seen coming out from external opening at 5 O'clock and internal opening at 6 O'clock (Figure 2). Incision was taken at around 3 cm from anal verge at 6 O'clock which was increased laterally on both sides, using straight artery forceps tough fibrosed band felt by fingers was dilated and inter-sphicteric space was exposed. The artery forcep was then taken out though the internal opening and a *ksharsutra* was placed in situ. A probe was passed from external opening at 5 O'clock which was taken out from the window made at 6 O'clock. Partial fistulectomy was done and *ksharsutra* was kept in situ external to external (5-6 O' Clock) similarly on 7 O'clock partial fistulectomy was done and a *ksharsutra* was placed external to external (7-6 O' clock) (Figure 3).

2nd stage surgery: After 12 weeks, fistulotomy done at 6 and 7O'clock, *ksharsutra* was left in situ at 5 O'clock (Figure 4).

Post-Operative

From next evening, patient was advised to take sitz bath with *Panchavalkala* decoction and then antiseptic dressing with *Shatadhauta ghrita* and *Matra Basti* with 10ml *Jatyadi Taila* was done daily. 5gm *Eranda Bhrishta Haritaki* (*Terminalia chebula*) powder with Luke warm water at bed time was prescribed. *Ksharsutra* was changed by rail-road method every week. Anti-koch's treatment was prescribed empirically based on clinical signs.

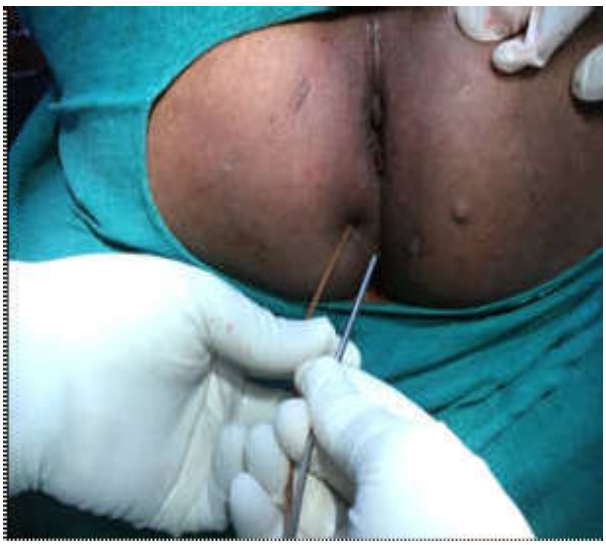


Fig. 1: Pre-Operative

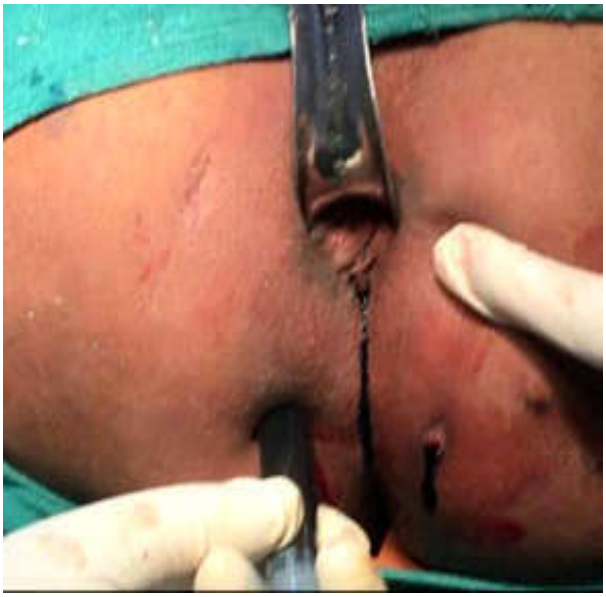


Fig. 2: Pre-Operative Patency test

Fig. 3: First stage surgery post-operative

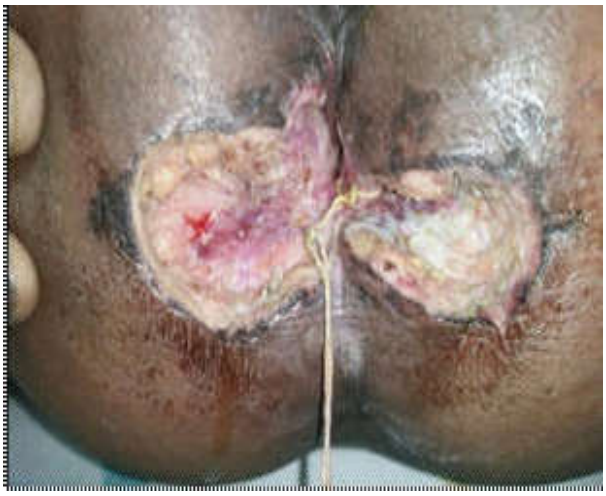


Fig. 4: Second stage surgery -after 12weeks

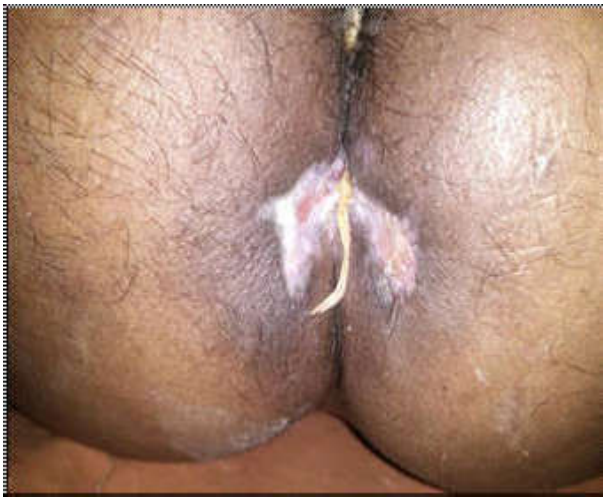


Fig. 5: Wound after 4 and half months

Progress of Wound Healing

Outcome

After first surgery two *ksharsutra* external to external (i.e. 5 O'clock to 6 O'clock and 7 O'clock to 6 O'clock) and one *ksharsutra* external to internal (i.e. 6 O' clock to 6 O' clock) were in situ. The drainage of pus from both ischio-rectal fossa due to *ksharsutra* and also fro inter-sphinteric plane due to window technique was noted. The *ksharsutra* change by railroad technique was continued every week. After 12 weeks (3 months) the discharge was reduced, and cavity was dried up and length of tract also reduced so we planned for second stage surgery. After the second stage surgery the wound healed early, and it was noted that with 4 and half month wound healed 90% with *ksharsutra* in situ (Figure 5). Post-operative wound healed within 6 months completely with minimal scar (Figure 6). There was no evidence of fistula-in-ano, sphicteric tone was within normal

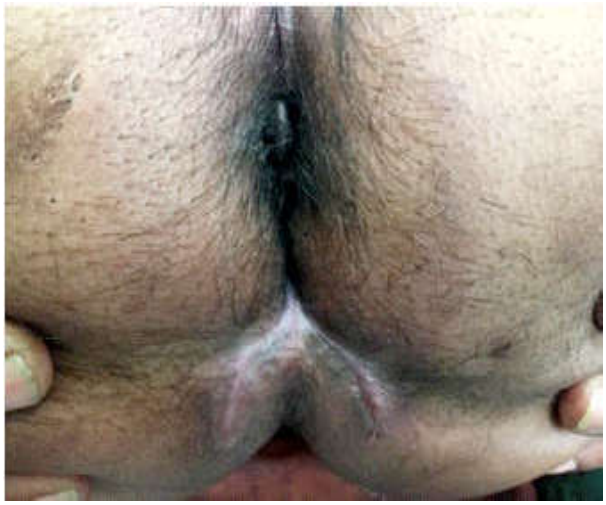
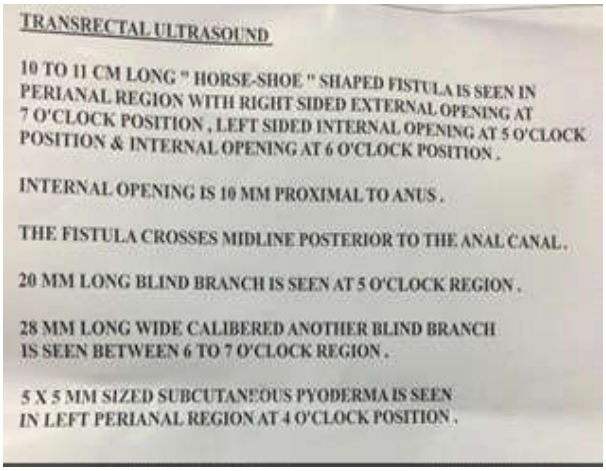


Fig. 6: Healed scar after 6 months


TRANSRECTAL ULTRASOUND

10 TO 11 CM LONG " HORSE-SHOE " SHAPED FISTULA IS SEEN IN PERIANAL REGION WITH RIGHT SIDED EXTERNAL OPENING AT 7 O'CLOCK POSITION , LEFT SIDED INTERNAL OPENING AT 5 O'CLOCK POSITION & INTERNAL OPENING AT 6 O'CLOCK POSITION .

INTERNAL OPENING IS 10 MM PROXIMAL TO ANUS .

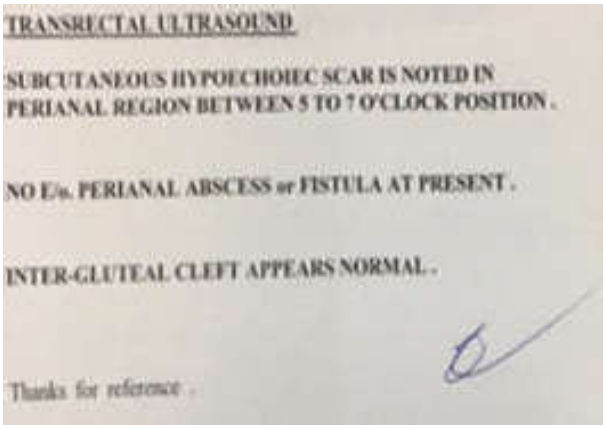
THE FISTULA CROSSES MIDLINE POSTERIOR TO THE ANAL CANAL .

20 MM LONG BLIND BRANCH IS SEEN AT 5 O'CLOCK REGION .

28 MM LONG WIDE CALIBERED ANOTHER BLIND BRANCH IS SEEN BETWEEN 6 TO 7 O'CLOCK REGION .

5 X 5 MM SIZED SUBCUTANEOUS PYODERMA IS SEEN IN LEFT PERIANAL REGION AT 4 O'CLOCK POSITION .

Fig. 7: Pre-Operative TRUS


TRANSRECTAL ULTRASOUND

SUBCUTANEOUS HYPOECHOIEC SCAR IS NOTED IN PERIANAL REGION BETWEEN 5 TO 7 O'CLOCK POSITION .

NO E/o. PERIANAL ABSCESS or FISTULA AT PRESENT .

INTER-GLUTEAL CLEFT APPEARS NORMAL .

Thanks for reference .

Fig. 8: Post-Operative TRUS

limit maintain the normal faeces and flatus continence.

Discussion

In this case whole ischio-rectal fossa of both sides was involved with two external opening at 5 and 7 o'clock position. There was a fibrosed band on the posterior part of the anal canal communicating these two-fistulous tracts. So, in first stage of surgery, partial fistulectomy and two external to external *ksharsutra* was inserted with window technique. Disadvantage of plain *ksharsutra* application in this case is prolonged duration of treatment and improper drainage of pus. Hence the purpose of this integrated method is, it helps in debridement and maintaining the continuous, drainage of pus through partial fistulectomy wound of both sides, the duration of treatment is also reduced significantly, and proper drainage of the abscess cavity is achieved. On the other hand, if conventional method of treatment is followed wherein complete fistulotomy/fistulectomy is done; first of all there is chance of sphincter damage followed by incontinence. Secondly if proper dressing is not done and wound heals superficially then there is chance of recurrence. So, in this method of treating a complex fistula-in-ano both conventional and *ksharsutra* were used. *Ksharsutra* induces fibrosis preventing any sort of sphincter damage and debrides the unhealthy granulation [9,10]. Window technique method was opted because if only *ksharsutra* was inserted then proper drainage of the cavity is not achieved. The window made at the inter-sphincteric space helps in proper drainage, debrides the crypto-glandular origin at 6 O'clock and maintains sphincter continence preventing any damage to sphincter.

In second stage external to external thread at 7 o'clock and thread at 6 O'clock was layed open after 12 weeks, when pus discharge stopped and 2-3 cm of *ksharsutra* was left in-situ which reduces the duration of treatment further. *Panchavalkal* decoction has cleaning and wound healing properties so it helped to keep wound clean and promoted healing [11]. *Shatadhauta Ghrita* (clarified butter) is recognised for an excellent *Sneha Dravyas* due to its *Samskaranuvartana* (as increase the power of another drug) and *Yogvahi* (synergetic effect) properties [12]. *Jatyadi taila matrabasti* acts as a soothing agent for smooth evacuation of faeces and it takes care of post op pain [13]. *Erandbhrishta haritaki* is *Mridu Virechaka* (Soft Laxative) and helps to relieve constipation.

Conclusion

Study concluded that partial fistulectomy with window technique and *ksharsutra* application is a minimal invasive integrated approach for the management of complex horse shoe fistula-in-ano.

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