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Management of complex Fistula-in-Ano via Artificial window technique

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Abstract : A fistula-in-ano is an epithelial-lined tract connecting the anal canal to the perianal skin. Classification of the fistula is determined in relation to the anal sphincters (Park classification and St.James university hospital classification). Treatment focuses on making an artificial window so that the pus can be properly drained and ligation of ksharsutra. Many treatment modalities are available, and novel treatments are steadily proposed and tested. This article will review the fundamental principles of fistula-in-ano diagnosis and treatment with interception of fistula track with the application of ksharsutra.

***IndexTerms* - introduction , etiology, epidemiology , Pathophysiology, history and physical examination, evaluation , treatment and management** , follow up , conclusion , reference ,

I. INTRODUCTION

A fistula-in-ano is an epithelial-lined tract connecting the anal canal to the perianal skin. A fistula-in-ano is an epithelial-lined tract connecting the anal canal to the perianal skin. Anal fistulas can be caused by various factors but an anorectal abscess is the most common. Acharya Sushruta counted Bhagander among the eight diseases which are difficult to cure. Classification of the fistula is determined in relation to the anal sphincters. An anorectal abscess occurs when an anal gland becomes obstructed, resulting in infection and abscess formation. The infection is located near the sphincter complex, and therefore the fistula can traverse the sphincters. One-third of patients undergoing incision and drainage of an anorectal abscess will later develop a fistula.[1] Thirty to 70% of patients diagnosed with an anorectal abscess will already have a fistula present on exam.[2]

The prevalence of fistula-in-ano is estimated to be 1–2/10,000 patients.[3] Male-to-female ratio of this disease is 4:1.[4] According to park's classification, anal fistula may lie in inter-sphincteric, trans-sphincteric, supra-sphincteric, and extra-sphincteric planes.[5] The secondary trajectories of anal fistula often spread in the least resistant areas of the perineum. The sepsis usually spreads subcutaneously which further may lead to the formation of multiple openings but its exact incidence and prevalence is not reported till date. It was earlier thought that fistulas with multiple openings were most probably tubercular in origin but is not true in every case.[6]

The ideal surgical treatment for anal fistula should eradicate sepsis and promote healing of the tract, whilst preserving the sphincters and the mechanism of continence. Various modalities such as open surgery in the form of fistulectomy or fistulotomy; Seton treatment (chemical or cutting); chemical destruction of the tract by corrosives; application of fibrin glue or fistula plug are advocated for management of fistula-in-ano.

Ksharsutra is standard treatment modality for fistula in ano in terms of reoccurrence and incontinence. Application of chemical Seton named “Ksharasutra” (a medicated cotton thread coated with Ayurvedic medicines) is mentioned in the ancient Indian literature and is still practiced in some centers in India.[7] *Ksharasutra* therapy is now a days a very well-known technique for the management of anal fistula and is based on simultaneous cutting and healing of the tract.[8] *Ksharasutra* therapy is considered the most simple, safest, and effective treatment method for fistula-in-ano till date. The success rate of *Ksharasutra* therapy in curing *Bhagandara* (fistula-in-ano) is 96.76% with less complications and almost negligible recurrence.[9] In *Ksharasutra,* various alkaline and herbal drugs are coated over 20 No. Barbour's linen thread.[10] Application and follow-up of Ksharasutra are very easy, require lesser hospital stay, lesser pain, have very low rate of complications and most importantly cost of therapy is minimal.

Etiology

An anorectal abscess occurs when an anal gland becomes obstructed, resulting in infection and abscess formation. The infection is located near the sphincter complex, and therefore the fistula can traverse the sphincters. One-third of patients undergoing incision and drainage of an anorectal abscess will later develop a fistula.[11] 30% to 70% of patients diagnosed with an anorectal abscess will already have a fistula present on exam.[12]

Case report

A 40 year old male, came to Shalya OPD of VYDS Ayurvedic college ,Khurja , with chief complaint complaints of intermittent pus discharge from perianal region. Patient had no other major systemic illness. This was a reoccurrence case of fistula.

Clinical Findings

On examination there was external opening at 9 o'clock. On digital rectal examination tender dimpling noted at 6 o' clock at dentate line. According to MRI fistulogram it was a case of grade 3 fistula in ano. [Fig 1]

Treatment / Management

After obtaining informed consent, patient was placed in lithotomy position. Under local anaesthesia, probing was done to assess the fistulous tract. A small vertical incision was made at peri anal region at 6 o'clock approx. 1.0 cm away from anal verge at inter sphincteric space[fig 2]. Then normal saline was pushed from external opening and it came out from the intercepted areas (artificial window) to confirm the accuracy of track. Metallic probe was introduced through the external opening and taken out from window and then from window to internal opening. Two Ksharsutra was placed in the tract, antiseptic dressing and packing done with jatyadi taila. Patient was advised for regular hot sitz bath and cleaning of tracks with jatyadi taila two times a day. The patient was prescribed with *Triphlala guggulu* 1g TDS after food, tablet septilin 1g TDS after food, *Triphala Churna* 5g HS after food, and *Jatyadi taila* for local application.

Follow up and outcomes

Weekly follow up advised for Ksharsutra changing. The pus discharge was fluent in first week from the artificially made window, gradually reduced and completely disappeared after 2 months[fig 3]. Pain was also moderate in first week and later on gradually relieved and completed healing was achieved in 3 months after cut through[Fig 5]. There was no complication seen during and after treatments and patient got free from all the symptoms. After 4 months of follow up, no recurrence was noted. Total 5 weeks required for complete healing of the fistulous tract with minimal scar mark. On examination sphincter tone of the anus was found to be normal and anal mucosa was healthy. The patient was followed for the next 6 months and no recurrence reported till date.

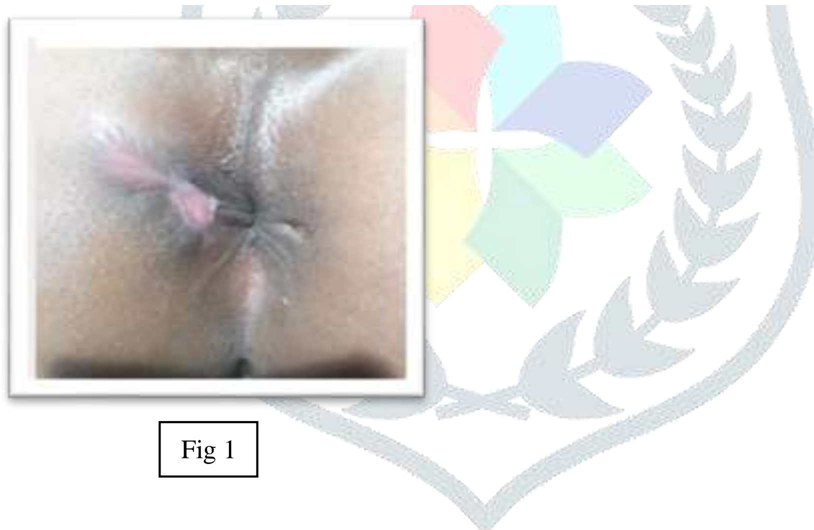
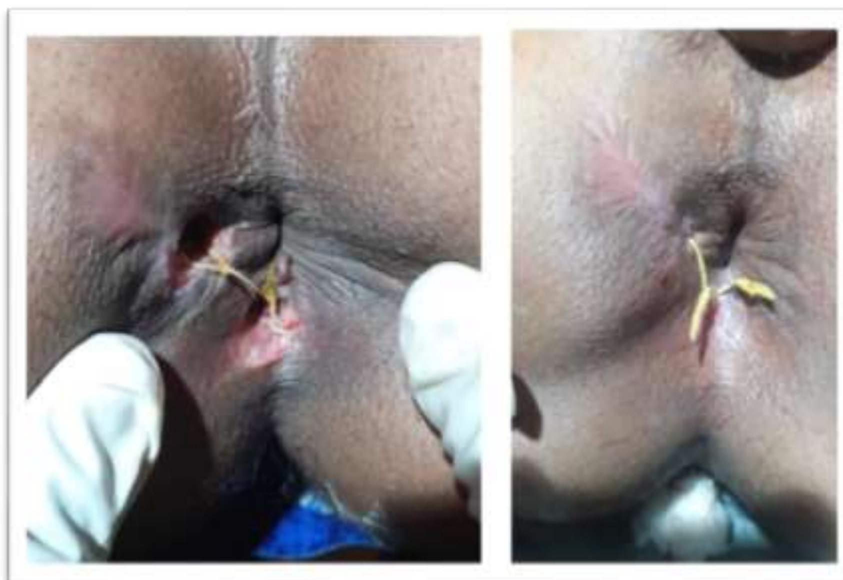


Fig 1



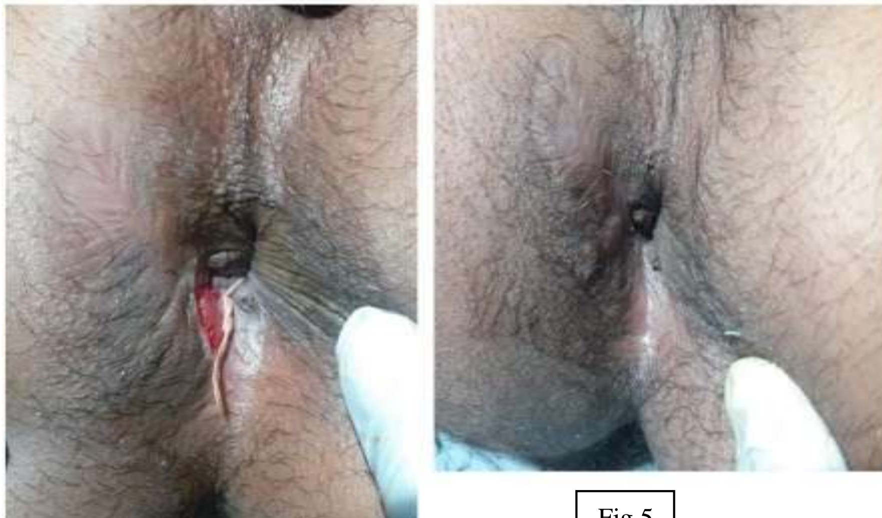


Fig 5

Fig 4

Fig 3

Discussion

Use of Ksharasutra for treatment of fistula-in-ano is reported in ancient Indian texts.[13] Such setnos are made from plant extracts impregnated in layers onto a cotton thread using latex. The Kshara applied on the thread are antiinflammatory, anti-slough agents and in addition, have chemical curetting properties. The Ksharasutra remains sin direct contact of the tract and, therefore, it physically and chemically curettes out the tract and sloughs out the epithelial lining, thereby allowing the fistulous tract to collapse and heal.

The case described here was of external opening at 9 o'clock. On digital rectal examination tender dimpling noted at 6 o' clock at dentate line. *Ksharasutra* was tied from the intercepted area to the internal opening which has minimized the length of tract thus mitigating the number of hospital visits. The overall duration of treatment was reduced with minimal postsurgical pain, small scar mark, and better compliance was observed by the patient.The action of *Ksharasutra* is by simultaneous cutting and healing of the fistulous tract and free drainage of pus from the tract. The high alkaline content does not allow the growth of pathogens inside the tract and gradually the tract becomes sterile. The duration of treatment of fistula by conventional *Ksharasutra* therapy is prolonged in case of the complicated fistula which leads to a repeated hospital visit and thus causes more discomfort to the patients. Anal fistula can be cured by destroying the infected crypt, so that rest of the tract will heal by itself. Adjuvant drug *Triphala guggulu* has antimicrobial properties and helps in wound healing by inhibiting hyaluronidase and collagenase activity.[14] Septilin stimulates phagocytosis and thereby helps in controlling infections[15] and has been tested for anti-inflammatory, analgesic, and wound healing effects in albino rats which showed promising results.[16] In addition to the laxative action of *Triphala churna*, research has found the formula to be potentially effective for several therapeutic uses such as anti-inflammatory, immunomodulating, and antibacterial activities.[17] In classical texts, Jatyadi oil is indicated in Bhagandara (fistula-in ano) and Dushta Vrana (infected wound) due to its Shodhana (cleaning) and Ropana (healing) properties.[18] It reduces local inflammation and facilitates smooth passage of feces thus preventing the chance of infection also.

Conclusion

Artificial Window formation is a safe, effective for the track which are very long, curvilinear or associated with cavity (abscess).

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