Case Report

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Lift procedure for long complex ano-scrotal fistula and review of literature

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ABSTRACT

Ano-rectal sepsis can be complicated by anal fistula during the acute phase of sepsis or within 6 months thereafter. An anal fistula is characterised by chronic purulent drainage or cyclical pain associated with abscess formation, followed by intermittent spontaneous decompression. A fistula-in-ano can be "simple" or "complex". The goal of surgical management is to effectively eradicate current and recurrent septic foci, associated epithelialized tracts and preserve continence. Study present a case of 22 year old male with long recurrent complex ano-scrotal fistula which was treated by ligation of the intersphincteric fistula tract (LIFT) procedure, preserving the anal continence without leaving any residual septic foci that may lead to recurrence.

Keywords: Complex, Fistula-in-ano, LIFT

INTRODUCTION

Ano-rectal sepsis can be complicated by anal fistula during the acute phase of sepsis or within 6 months thereafter. An anal fistula is characterized by chronic purulent drainage or cyclical pain associated with abscess formation, followed by intermittent spontaneous decompression.^{1,2} A fistula-in-ano can be "simple" or "complex".

Fistula-in-ano is considered complex if found to have any of the following characteristics: tract crossing more than 30 - 50% of external sphincter, anterior fistula in a female, presence of multiple tracts, recurrent fistula, pre-existing incontinence, local irradiation and Crohn's disease. The goal of surgical management is to effectively eradicate current and recurrent septic foci, associated epithelialized tracts and preserve continence. An ideal procedure for treating a fistula in ano should be minimally invasive with minimal failure rates and morbidity. Ligation of the intersphincteric fistula tract

(LIFT) has been described by Rojanasakul et al. from Thailand.⁵

METHODS

A 22 year old male presented with chief complaint of scanty serous discharge from his scrotal sinuses for last 5 months. There was no associated history of fever, bleeding per rectum or constipation. Patient had history of discharging sinus for one year for which he had undergone surgery one year back. The patient was asymptomatic for seven months. All the previous investigations were within normal limits. Histopathology of tissue excised during previous surgery confirmed a fistulous tract with chronic inflammation. There was no history of any major illnesses apart from present illness. On local examination, there were two visible external openings on the under surface of scrotum, one opening 2 cms to the right of median raphe about 15 cms from the anal verge, the other to the left of median raphe 1.5 cms lateral to it and about 17 cms from the anal verge (Figure 2, 3). A small dimple in the centre of an indurated area was palpable on per rectal examination at 12' O clock position on dentate line. Induration was noted around both the openings over scrotum.



Figure 1: MCU.



Figure 2: External openings of fistula.



Figure 3: External opening of fistula.

Routine investigations were within normal limit. Because of its close proximity with urethra, the diagnosis of urethra-cutaneous fistula was made. To confirm the diagnosis, micturating cystourethrogram (MCU) was done. As the MCU was not showing any communication between fistulous openings and urethra, patient was

advised MRI - fistulogram to know the path of fistula tract within the perineum. MRI - fistulogram revealed - "a 15 to 17 cms tract extending from the orifices at scrotal region to the anal canal at 12' O clock position on dentate line" (Figure 4, 5).



Figure 4: Mr fistulogram coronal view.

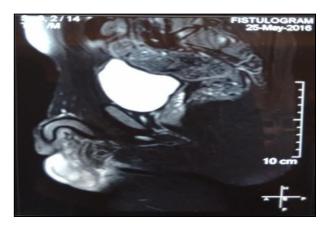


Figure 5: Mr fistulogram saggital view.



Figure 6: Fistulous tract with in-situ feeding tubes.

As the tract was already matured, the patient was posted for surgery after giving a 7 days prophylactic antibiotic course. Presence of two tracts opening through a single opening on dentate line at 12' O clock position was confirmed by passing 2 different infant feeding tubes through the fistulous openings in scrotum under spinal anaesthesia in operating room (Figure 6). Intersphincteric tract was identified and intersphincteric tract was ligated close to the internal opening (Figure 7).

Intersphincteric tract was removed between the 2 sutures applied over the fistulous tract close to the internal and external sphincters, followed by curetting all the granulation tissue in the rest of the fistulous tract up to the level of scrotal openings. The defect in the external sphincter muscle was sutured. Injected hydrogen peroxide through the external openings didn't make through the internal openings, including the ligated tract after the completion of procedure and it confirmed the ligation of fistulous tract. The tracts were allowed to heal by secondary intention. Spontaneous closure of tracts occurred by 6 weeks postoperatively. Patient has been under follow up for last 1 year and no recurrence observed.

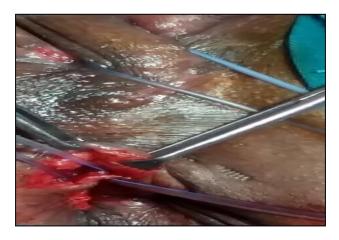


Figure 7: Fistulous tract in intersphincteric plane.

DISCUSSION

Fistula in ano is a common condition but a potentially complex disease process. A fistula can be found in 26 -38% of all anorectal abscesses and is characterized by chronic purulent drainage or cyclical pain associated with abscess re-accumulation followed by intermittent spontaneous decompression.⁶⁻⁸ Fistula-in-ano is more common in men than women.^{9,10} Most are of cryptoglandular origin that result in an abscess in the acute stage and in a fistula in its chronic stage. 11,12 Pus from this abscess contains intestinal microorganisms. From the intersphincteric space, the infection can spread in three directions - downwards to the perineal space; laterally piercing the external sphincter to the ischiorectal fossa and upwards in the intersphincteric plane to the supralevator space. From the above-mentioned spaces, infection can spread anteriorly to scrotum/vulva and groin; posteriorly to pre- and post-sacral spaces and then, rarely, to the gluteal region and thigh, and superiorly to pre- and retroperitoneal spaces.

In the year 1900 David Henry Goodsall described a rule regarding relationship of 'external opening to the tract' in cases of Fistula-in-ano. According to Goodsall's rule 'if the external opening is anterior to the transverse anal line and within 3 cm. from the anal verge, the internal opening will be in straight radial line. But, if the external opening is behind the transverse line or more than 3 cms from the anal verge, the internal opening will be at the posterior midline of the anal canal.¹³ In such cases the tract will be a tortuous one. In our case external opening and fistula tract was not in accordance to Goodsall's rule that is, both the tracts were communicating and opening into a common opening at 12'O clock position over dentate line.

The goals in the treatment of an anal fistula are to eliminate the primary fistula opening, any associated tracts, and any secondary openings without a change in continence. Most anal fistulae are simple and can be treated using conventional surgical options like fistulotomy and a fistulectomy. A fistulectomy involves complete excision of the fistulous tract, thereby eliminating the risk of missing secondary tracts and providing complete tissue for histo- pathological examination. A fistulotomy lays open the fistulous tract, thus leaving smaller unepithelized wounds, which hastens the wound healing. Marsupialization of the fistulotomy wounds can reduce the healing time further. However, the treatment of a complex anal fistula, which is defined as a fistula whose treatment poses an increased risk for a change in continence, still represent a challenge. The recurrence rate for a complex anal fistula managed with a cutting seton is reported to be 0 to 8%, with minor and major incontinence being reported in 34 to 63% and 2 to 26% of patients, respectively. Because of the risk of a change in continence with these conventional techniques, sphincter-preserving techniques for the management of complex anal fistulae have been evaluated.¹⁴

Anal fistula plug is one of the novel techniques to treat fistula-in-ano, as it preserves anal continence. The main limitation of application of the anal fistula plug in the treatment of anal fistulae is the high cost. ¹⁴ The relatively more recent use of endoanal rectal advancement flaps and subsequently Perianal dermal-island anoplasty has shown some promise. Major limitation of endoanal rectal advancement flap is that it frequently results in a mucosal ectropion, which produces mucus and gives patients the false sensation of incontinence due to spontaneous discharge and soiling. ¹⁴

A success rate of 57% to 94.4% was reported for LIFT procedure in various studies. ^{15,16} This technique prevents the entry of faecal material into the fistula tract and eliminates the formation of septic nidus in the intersphincteric space to allow healing of the anal fistula. The advantages of the LIFT procedure may include preservation of the anal sphincter, minimal tissue injury, shorter healing time and its being a procedure that is relatively easy to perform. Additionally if the fistula is

not healed successfully, the LIFT procedure may convert a difficult-to-treat transsphincteric fistula into an easier-to-manage intersphincteric fistula. The indication for the LIFT procedure seems to be limited to the transsphincteric fistula. The LIFT procedure for a high transsphincteric or supra-sphincteric fistula may be technically difficult.

Conventional surgeries like fistulectomy, fistulotomy, cutting seton were not done in our case, as it was a complex fistula with a lengthy tract. The chances of injuring urethra, testis and anal sphincters were high with conventional surgeries. Incontinence is also a major problem with conventional surgeries. Ligation of intersphincteric fistulous tract (LIFT) was done in our case. In our case, once the unhealthy tissue and septic foci within the tract were cleared by LIFT procedure, healthy granulation tissue began to appear and the tracts were healed by secondary intention. Success rate is comparable to other new techniques like anal fistula plug, endoanal rectal advancement flaps, perianal dermalisland anoplasty. The LIFT procedure is relatively easy to learn and perform; with no high-technology equipment required, has a high healing rate and appears to be safe with low morbidity. With this method fistula-in-ano could be easily treated even at primary health care level.¹⁷ After discharge, patient is on regular follow-up for the last 1 year and he is absolutely fine.

CONCLUSION

Surgery for a complex fistula should be minimally invasive, sphincter preserving and should clear all the septic foci within the tract for the fistula to heal. We recommend LIFT procedure whenever such a complex recurrent fistula is encountered in our daily practice. New techniques in the treatment of complex fistula in ano are costlier when compared to LIFT procedure. The LIFT procedure is relatively easy to learn and perform; with no high-technology equipment and appears to be safe with low morbidity.

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