



Using Thick Loose Seton Reduces the Incontinence and Enhances Healing Rate of High Type Fistula in Ano, a Retrospective Study

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Abstract: The recurrence of fistula in ano after operation is distressing for the patients. The aim of this study is to minimize the recurrence of fistula in ano after surgery and to protect from postoperative incontinence. 126 patients were presented to the clinic as a primary or a recurrent high fistula in ano. Only two cases of them were emergency. Fistulas due to malignancy, inflammatory bowel disease or tuberculosis were excluded. Thick loose silk suture was applied for 6 months. Healing rate was 91.26% after first operation, and 82% after second operation. No reported incontinence. Application of thick seton is associated with low recurrence rate and no fecal incontinence.

Keywords: High Type Fistula in Ano, Thick Loose Seton, Fecal Incontinence, Recurrence

1. Introduction

The most common cause of fistula in ano FIA is the infection of the crypto-glandular tissue with resultant abscess formation. The abscess represents acute inflammation and fistula is the chronic process [1-4]. Other causes include inflammatory bowel disease (mainly Cohn's disease), malignancy and tuberculosis [5]. Most of high type FIA and subsequent incontinence are iatrogenic and can be avoided by careful surgery [6]. Parks et al classified FIA into intersphincteric, trans-sphincteric, supra- sphincteric and extra- sphincteric which is the most widely used and taught classification [7]. Treatment of FIA remains a challenge. However, surgical treatment of drainage, removing fistula tract, preventing recurrence and sparing anal sphincter remains the method of choice [8]. Several types of operations are developed to achieve these goals. Fistulotomy (lay open technique) has high recurrence rate (9%) with 33% incontinence rate [9-14]. Advancement flap technique (AFT) may be considered if fistulotomy cannot be done. Success rate of AFT is about 64%-95% but this figure decreases with subsequent attempts, however, better outcome could be obtained when AFT is combined with application of fibrin glue [15-17]. Flatus and fecal incontinence rate with AFT

still relatively high (about 9-12% for fecal incontinence and 38% for flatus incontinence) [18]. Many reports showed no advantage of fibrin glue over fistulotomy. Success rates were about 14-85% [19-22].

2. Patients and Methods

This is a retrospective study of 126 patients of FIA managed at our tertiary coloproctology centre through January 2012 to February 2015, including primary and recurrent types. Patients with FIA due to inflammatory bowel disease or malignancy were excluded. Perianal and/or rectal ultrasonography and Magnetic Resonance Imaging were done for all cases. All operations were performed as day cases by a single consultant surgeon. Spinal anesthesia was used and excision of the subcutaneous tract was performed. A thick (No. 2 silk, double suture) is applied with a loose knot through the tract and is left for 6 months. Spontaneous extrusion of the suture is reported at 5-6 months. A second operation is planned to cut the remnant of the tract, if the seton still fixed after 6 months. In all cases, the sphincter complex remained intact. The postoperative care includes discharge in the same day. Patients are seen every two weeks then every month. Metronidazole 250mg, 8 hourly is given

for all patients; in addition to local wash with normal saline and antiseptic soap.

Table 1. Demographics and presentations.

	Patient demographic characteristic	No.	%
1	Gender		
	Male	118	94
	Female	8	6
2	Age		
	10-20 years	8	6
	20-30 years	32	25
	30-40 years	45	36
	40-50 years	27	21
	50-60 years	10	8
	60-70 years	4	3
3	Mode of presentation		
	First presentation	80	63.4
	Perianal abscess	18	14.3
	Previous surgery	28	22.2

3. Results

Patient demographic characteristics: the majority of patients were men (94% male and 6% female). 36% of patients were between 30-40 years old while 25% were between 20-30 years old and 21% were between 40-50 years old. (see table 1)

Mode of presentation: eighty patients (63.4%) were presented for the first time to the surgical clinic while 18 patients (14.3%) were presented with perianal abscess which was drained initially and then the patients were scheduled for elective FIA surgery. 28 patients (22.2%) had recurrent FIA. (see table 1)

Anatomical types of FIA included in this study: All cases were high type FIA with 63% of cases were inter-sphincteric, 26% were supra-sphincteric and 12% were trans-sphincteric. (see figure 1).

Outcome after first operation: total number of patients was 126. Those who had complete healing after 6 months were 115 patients (91.26%) and those who had recurrence and failure of first operation were 11 patients (8.73%).

Outcome after second operation: nine patients with recurrence had second operation for removal of the seton and excision of the fistula. Seven patients had complete healing (82%) and 2 patients needed more sophisticated approach (18%).

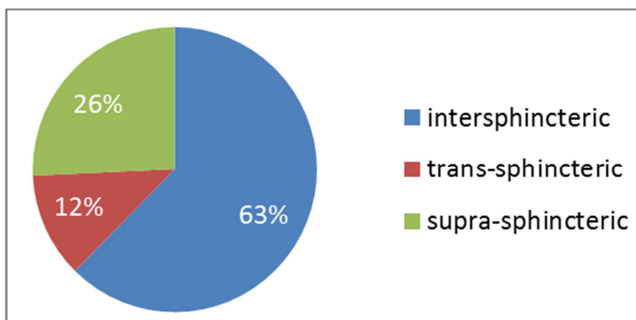


Fig. 1. Anatomical types of the fistula.

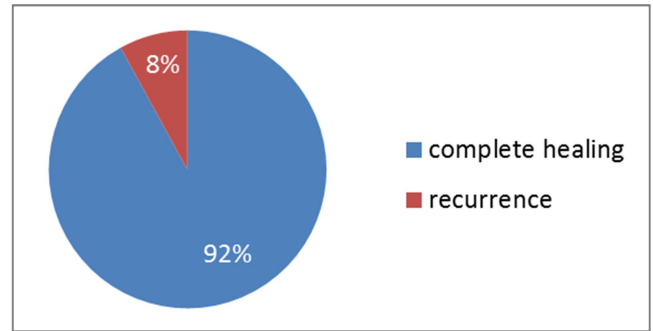


Fig. 2. Outcomes after first operation.

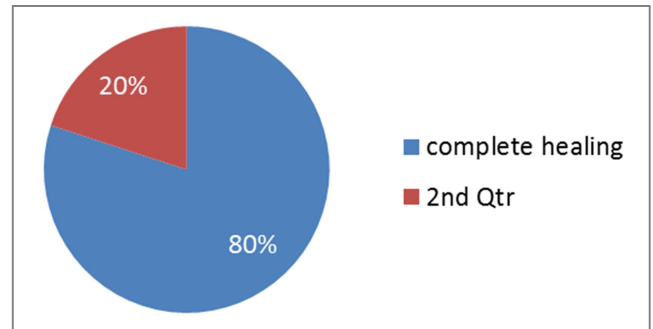


Fig. 3. Outcomes after second operation.

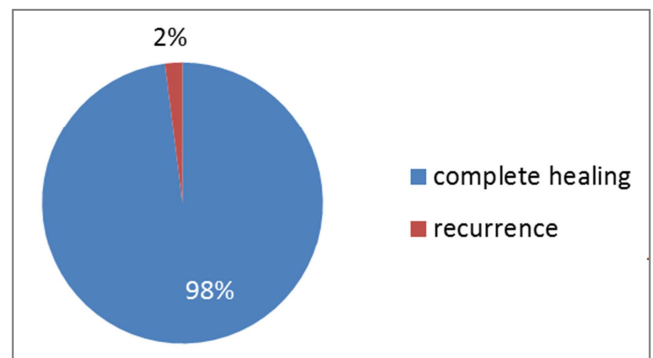


Fig. 4. Final results after first and second operations.



Fig. 5. Thick seton in place.



Fig. 6. Lower part of fistula is excised.



Fig. 7. After excision of lower fistula tract and placement of the seton.

4. Discussion

Setons are well known option in the management of high FIA. The term seton is derived from Latin word seta, which means bristle. Seton may be loose or cutting [23, 24]. With the use of cutting procedure, the risk of division of anal sphincter is high while the use of loose seton carries less risk of cutting anal sphincter with subsequent incontinence [25]. Chemical seton was also used [26] and involves cutting seton, soaked in a caustic solution of 3 herbs, which have an anti-inflammatory, antibacterial and wound healing properties. It has recurrence rate of about 4% versus 11% with conventional techniques [27]. If seton is left in the tract for months, it may lead to fibrosis [28]. This is based on the well-known concept of foreign body granulomatous reaction results from using thick non-absorbable silk suture as a component of chronic immunological reaction [29]. This will

eventually lead to formation of foreign body granuloma with subsequent fibrosis and closure [30, 31].

The recurrence of fistulas after operations led to refining the techniques to choose a procedure that prevents recurrence and incontinence [24]. Surgeons have used different ways of treating FIA including fibrin plug or mesh plug while others practiced closing the intersphincteric part of the fistula with or without mesh insertion. Others applied the open method with loose seton suture with different periods of follow up [32].

There are different approaches to repair complex fistulas, from local repairs to transperineal and transabdominal approaches [33]. dermal collagen injection, the anal fistula plugs, and stem cell injection offer alternative approaches worthing of consideration [34].

The use of a loose seton technique with thick silk suture in this study had led to healing by fibrous tissue with fast extrusion of the seton in majority of patients after a fixed time for follow up which was 6 months, otherwise the patient will undergo second stage operation. This approach was different from other studies in which follow up may exceed 40 months.

For those patients with recurrence or the seton suture remained in the place after 6 months, re-exploration of the tract, had shown that most of them were changed from deep intersphincteric type into low subcutaneous type. The success rate of the second stage operation was 80% with 20% failures, which needed further follow up, and another seton suture insertion.

5. Conclusions

Thick silk suture can be used successfully as a seton resulting in a high closure rate for high fistula in ano and no incontinence. Management of high fistula in ano is evolving and several techniques are currently used with variable success rates.

Conflict of Interest

Author declare no conflict of interest in relation to this study

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