

THE EFFICACY OF CUTTING SETON IN TREATMENT OF HIGH ANAL FISTULA***Dr. Saad Y. Ibrahim**

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ABSTRACT

Background: Fistula in- ano is a common conditions that facing thousands of patients. Different surgical methods are used for treatment of high anal fistula. The best surgical option of treatment is variable because they carry different rate of cure and incontinence. **Objective:** is to evaluate the efficacy and safety of seton in treatment of high anal fistula. **Methods:** a prospective study of 38 patients (36 males and 2 females) with high anal fistula above the dentate line which involve more than 30% internal sphincter treated with cutting seton from April 2013 to June 2016. The seton tightened every 2 weeks under general anesthesia for 2 times and removed after 6 weeks. Follow up after 1, 3, 6 months respectively for incontinence and recurrence. **Results:** from all 38 patients there were no postoperative flatus and liquid stool incontinence. No fecal incontinence in any patient. There was only one fistula recurrence with cutting seton with healing rate 100%. **Conclusion:** The use of Cutting seton in treatment of high fistula in ano is an effective and relatively safe with no rate of incontinence. Therefore it can be recommended as an option for treatment of high fistula-in-ano.

KEYWORDS: High anal fistula, seton.**INTRODUCTION**

Fistula-in-ano is one of the commonly encountered surgical problems with prevalence of 1.2 to 2.8/10,000.^[1] The classification of fistula-in-ano, as described by Parks et al. is based on the location of its tract in relation to anal sphincter muscle: intersphincteric, transsphincteric, suprasphincteric or extrasphincteric.^[2] The term complex fistula is modification of the Park's classification, which falls in any one of these conditions, that is, the track crosses >30% to 50% of the external sphincter, anterior in females, multiple tracks recurrent, or the patient has preexisting incontinence, local irradiation, or Crohn's disease. Due to the involvement of the anal sphincter, the treatment of complex fistula poses a high risk for impairment of continence^[3,4] the management of anal fistula must be depend on the experience of surgeon. The surgeon has to keep in mind the tradeoff between the extent of sphincter division, postoperative healing rate, and functional loss^[3] in any type and what the extent of fistula are, the principles of anal fistula surgery are to remove of the fistula, prevent recurrence, and preserve sphincter function. Most of anal fistula treated either by fistulotomy, or fistulectomy, which have been proven to be effective.^[5] Seton have been used to manage anal fistula from hundreds of years; however, in the literature, setons were commonly used only for high or complex anal fistula in order to avoid fecal incontinence and recurrence.^[6] Seton is any string-like material which when tied through the fistula tract causes an inflammatory reaction which stimulates fibrosis that

fixes and prevents retraction of the sphincter continuity when it is divided. In this way, it maintains sphincter continuity during cutting process.^[7] Different types of setons are used for this purpose like silastic tube, silk, linen, braided silk, rubber band, braided polyester, vascular loop, polypropylene, nylon, cable tie, and so forth^[7] the reported incontinence and recurrence rate ranges from 0% to 62%^[7] and from 0% to 16%^[8] respectively, with different materials used as seton. There are many surgical treatment options available for high fistula-in-ano. The cutting seton is available and cheap. They include draining Seton, cutting Seton, two stage Seton fistulotomy, fistulectomy, mucosal advancement flap (MAF), fibrin glue, fibrin plug,^[7,8,9] Radiological examination (fistulography, CTscan and MRI) are of value only in complex cases.^[10]

Patents and methods

A prospective study was conducted on 38 patients (36 males and 2 females) with high fistula in ano above the dentate line with > 30% internal sphincter involvement were treated with cutting seton from April 2013 to June 2016, in Baquba teaching hospital. The age of patients ranged from 17 to 62 years (median age 22 years). 24 Patients with history of failed previous surgery for fistula. 5 patients with multiple external openings. proctoscopy and fistulogram was done for all patients as preoperative assessment. 21 patients operated under Spinal anesthesia and 17 under general anesthesia.

In lithotomy position the anal canal and rectum were reexamined again, through the external opening a small, blunt-tipped, flexible metallic probe passed into tract. The seton was nylon No.1. The external portion of the tract and the skin overlying the fistulous tract were excised. This seton was then tied over itself on the sphincter. Retightening of the cutting seton was done every 2 weeks. This tying of seton results in fibrosis and gradual division of the sphincter, thus eliminating the fistula and keeping continuity of the sphincter. The patient advised to clean of area with tapped water several times a day especially after bowel motion. Complete information about postoperative serous and mucus discharge which will continue until healing of the wound. Postoperative examination of the patients weekly and monthly after drop of seton. Patients educated to visit the doctor or contact when he feels problem like recurrence, incontinence and whenever he recognized that the seton dropped. Follow up of patients for recurrence and incontinence for 6-12 months.

RESULT

This study was conducted on 38 patients, 36 males (94.74%) and 2 females (5.26%) with high anal fistula above the dentate line all were treated with cutting seton. All patients were followed for at least 12 months at weekly then at monthly interval even after complete healing. No patient was lost during follow-up. 16 (42.1%) patients did not have past history of perianal disease, while the rest had past history of either perianal or ischio-rectal abscess. 24(63.1%) patients had previous history of surgery for recurrent fistula-in-ano, whereas the rest presented without history of surgery for fistulae (Table 1).

Most of the patients were discharged on the first or second postoperative day. No patient was admitted again or needed narcotic analgesics at home. No patient complained from infection or significant bleeding. Gas and liquid stool incontinence were negative throughout the follow up period. Also there was no incidence of solid stool incontinence (Table2).

The seton dropped within 4-8weeks postoperative. The perennial Healing rates have been of 100%. Wound healing time ranged from 2 to 4 months.

Table (1): No. and percent of Patients according to previous surgical history for anal Fistula.

Surgical history	No.	%
Positive	24	63.1
Negative	14	36.9

Table (2): No. and percentage of patients with post-operative complications.

Complications	NO.	%
Gas incontinence	0	0
Fecal incontinence	0	0
Total	38	100

Table (3): Shows the outcome of treatment.

Outcome	Patients NO.	%
Complete healing	37	97.3
Recurrent fistula	1	2.7
Total	38	100

37 patients with high fistula in ano, were successfully eliminated by cutting Seton treatment (Successful rate =97.3%) Only 1(2.7%) patient with high fistula in ano, were failed to be treated.

The external opening of fistula from anal verge were found according to (Goodsall's rule) 21(55%) anterior and 17(45%) posterior (Table 4).

Table (4): External opening according to goodsall's rule.

Opening site	NO.	%
Anterior	21	55
Posterior	17	45

The majority type of fistula 23(60.5%) was high transsphincteric fistula and 70.9% had internal opening above dentate line. most recurrence was found in high transsphincteric fistulae.

DISCUSSION

In this study, we found 0% incontinence and 2.7% recurrence rate in 38 patients treated with cutting seton for high anal fistula. Treatment of fistula needs balance between cure and continence. There is a risk of sphincter damage through operation and may end with varying degree of incontinence which depend on damage muscle amount, sphincter damage and anal canal scar. many alternative treatment strategies have been practiced in order to preserve the sphincter mechanism, including draining setons, cutting seton^[11], rectal mucosal or full-thickness advancement flaps^[12], rerouting^[13], two-stage seton fistulotomy^[14], fistulectomy, anal fistula plug^[15], ligation of the intersphincteric fistula tract (LIFT)^[16], fistulotomy with reconstruction of the sphincter mechanism^[16], or fibrin glue.^[17]

In this study we aimed at treating of fistula with the minimal internal and external the sphincters damage. The use of setons permitted to respect the majority of internal and external muscular sphincters fibers involved by anal fistula. Setons are useful in the treatment of trans-sphincteric anal fistula because they permit the drainage of acute inflammation and preserve anal sphincters. A cutting seton acts slow by transecting the enclosed sphincter muscle as a result of pressure necrosis with the hope of minimal separation of the cut ends. After the first report of Hanley, several setons and tightening techniques, including silk, rubber braided silk, rubber band, chemically treated linen, silastic, penrose drain, and elastic, nylon have been used.^[18] The tightening was performed every second day, every week, every month, etc.^[18]

In our study we used nylon NO.1 and soft flexible stainless steel wire as a cutting seton and tightening was done every two weeks. Seton techniques still has an important role in the treatment of high anal fistulas. Hanley first reported the use of a rubber band seton in the surgical management of anterior abscess-anal fistula and anterolateral fistula in women, with good functional results.^[19] In his study, the elastic rubber seton was intermittently tightened with silk ligatures.

Dziki and Bartos reported good results with a similar rubber band seton which was tightened around the external sphincter by a thread tied around its ends.^[20] In this study, the slow, stable, and continuous 'cut through' provided by the nylon 1/0 seton led to a high healing rate and minimal complication.

Our results were better than the results of Ibister and AlSanea in 2001 as 47% of their patients developed incontinence (23 patients) 17 patients (36.2%) to gas, 4 (8.5%) patients to liquid, 1 patient (2.3%) to solid stool, and one patient developed recurrence.^[21]

Our results were comparable to Chuang-Wei C and his colleges who treated 112 patients with complex anal fistulas by applying cutting setons with elastic band from a surgical glove was used as the seton material. In their study recurrence was found in one patient (0.9%). Twenty-seven patients (24.1%) were noted with continence disorders, including gas incontinence in 21 patients (18.6%) and liquid stool incontinence in 6 patients (5.4%)(22), however our results was different from Karmava and Collins who used silk cutting seton for treatment of 47 patients with 2% of patients developed incontinence and 9% developed recurrence or persistence in the same place.^[23] Surgeons who preferred the use of complete fistulectomy and fistulotomy in high anal fistulas had an overall postoperative incontinence rates 35% 6, those who used fibrin-glue treatment of anal fistulas had recurrence in up to 40% of patients.^[17] And anocutaneous advancement flap repair was successful in 46% of patients only.^[24]

The 0% incontinence in our patients can be due to; careful dissection so decrease damage to the anal sphincter muscle complex and the sphincter muscle complex is gradually cut through because of the direct pressure effect of the seton on the tissues while the depth of the tissues have a chance of adhering to each other. The factors which included in recurrence are the complexity and level of the fistula, the presence or absence of a horseshoe extension, the degree of laterality of the external opening, failure by the surgeon to identify the internal opening at initial surgery, and the overall surgical experience of the operator in complicated proctologic practice.^[25] In a study performed by García-Aguilar et al.^[26] comparing a cutting seton versus a two-stage seton fistulotomy in surgical treatment of high anal fistula the authors concluded that both methods effective

equally in eradicating the fistula, and both carry same w rate of incontinence.

CONCLUSION

Cutting seton is an effective and safe method in treatment of high anal fistula with low rate of incontinence. The slow and stable cutting of the sphincter seems to have an excellent effect on the maintenance of continence.

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