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MANAGEMENT OF FISTULA IN ANO;

FIRM CUTTING SETON VS LOOSE SETON/FISTULOTOMY FOR SUPRASPHINCTERIC AND HIGH TRANS-SPHINCTERIC

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ABSTRACT... Aim: The aim of this study was to compare the efficacy and morbidity of two surgical procedures, firm cutting seton and loose seton / fistulotomy in the management of suprasphincteric and high trans-sphincteric fistula in ano. **Setting:** Jinnah Hospital / Allama Iqbal Medical college, Lahore. **Period:** June 1999 to January 2008. **Methods:** This is a prospective, randomized study of 50 consecutive patients (25 in each group) suffering from suprasphincteric and high trans-sphincteric fistula in ano. Patients were randomly allocated one of the two methods of treatment. In firm cutting seton, seton was repeatedly tightened with the interval of 15 days till the thread came out whereas loose seton / fistulotomy was a two staged surgical procedure. Follow up was made for 12months to record the fistula recurrence, anal incontinence, duration of complete wound healing and number of hospitalizations. Comparison was made using standard statistical methods. Chi-square and Fisher's Exact test was applied for comparison. **Results:** There was no significant statistical difference between the groups in age, sex and type of fistula. Patient treated with loose seton / fistulotomy required more than one hospitalization, more off work and more expenditures as compared to firm cutting seton method. The rate of anal incontinence was more in patients treated with loose seton / fistulotomy. Recurrence rate was almost the same in both groups. **Conclusion:** Both techniques are equally effective in eradication of fistula but the rate of postoperative anal incontinence and duration of complete healing of the wound is more in patients treated with loose seton / fistulotomy.

Key words: Fistula in ano, Seton, suprasphincteric.

INTRODUCTION

Management of supraspincteric and high trans-sphincteric fistula in ano is a surgical challenge[1]. Setons are the oldest of the surgical alternative developed over the years to respond to this problem[2]. The word 'seton' is derived from Latin 'seta', a bristle. Many different materials have been used as a seton, including silk, wire, elastic band, penrose drain, nylon and plastic tubings[3,4]. Setons have been used for years with different purposes in ano-rectal surgery[5]. The rationale of seton insertion in high fistula in ano is two folds. The first one is to stimulate fibrosis adjacent to the sphincter muscles causing fixation of muscle fibers and thus the muscles will not retract during subsequent laying opening of the tract, which will be done after 4-6 weeks[6]. The second rationale is to slowly drain and divide the fistulous tract resulting in eradication of fistula, healing of the wound without impairing the continent function of anal canal.

In this study we have compared the clinical out come of

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these two rationale by using silk no;2 as seton in the management of suprasphincteric and high trans-sphincteric fistula in ano.

MATERIAL METHODS

This study was carried out at Jinnah hospital / Allama Iqbal Medical college, Lahore from June 1999 to January 2008.In all cases of perinal fistula a detailed history was taken and complete clinical examination was made. Park's classification[7] was followed for inclusion of the cases in the suprashincteric and high trans-sphincteric variety.

Patients with inflammatory bowel disease and other concomitant ano-rectal problems like haemorrhoids were not included Fistulography was done in initial16 patients. Diagnosis of the type of the fistula was made on per operative findings of anatomy of tracts. During this study period, fifty patients with suprasphinteric and high trans-sphincteric fistula in ano presented in our department. Patients were randomly allocated the method of treatment. There were 25 patients in each group.

Operations were performed in spinal (saddle block) or general anesthesia with patients in lithotomy position. The lower part of the main tract and its ramifications were laid open. The laid open tracts were cleared with a curette. The skin and subcutaneous tissues were adequately excised to prevent the premature closure of the wound. The higher part of fistula were dealt in the following ways.

Group-1

With the help of a maleable probe, no,2 silk suture was passed through the tract and was tightened firmly. without strangulating the tissues. Repeated examinations were done in out patient department, fortnightly. At each visit the position of seton was assessed. After the first visit, tightening of the seton was started on every visit until it completely cut the sphincter and fistula. Previous operation notes were studied on each visit. Wound healing, anal incontinence and recurrence of fistula in ano was recorded.

Group-2

No.2 silk suture was passed just like group-1 patients and a knot was applied keeping thread loose around the sphincter muscles and fistulous tract. The seton was left in situ for 6-8 weeks Patients were re-admitted after 6-8 weeks, examination under anesthesia was done and secondary fistulotomy was undertaken.

Postoperatively, wound healing, recurrence and degree of anal continence to solid feces, liquid feces and flatus was assessed.

The data was entered and analyzed in SPSS 16.0 Software Statistical program. Chi-square and Fisher's Exact test was applied for qualitative variables. P-value of 0.05 or less was considered significant for the purpose of comparison.

RESULTS

This is a prospective, randomized comparative study of 50 consecutive patients of suprasphincteric and high trans-sphincteric fistula in ano treated at surgical unit-2 of Jinnah hospital/Allama Iqbal Medical college, Lahore from June 1999 to June 2006. There were 25 patients in each group and the results were as following;

Group-1

In these 25 patients 20 (80%) were male whereas 5(20%) were females. Age ranged from 31 to 54 years (median age 42 years). Five patients(20%) had past history of perianal abscess. Nine patients(36%) were suffering from recurrent fistula in ano. The fistula distribution was as following, suprashincteric=4(16%) and high trans-sphincteric=21(84%). Fourteen patients had multiple external openings and 11 had single external opening of fistula in ano. (Table-I). Eight patient had horse-shoe shaped tract, Three patient did not report for follow up The seton fall out time ranged from1 month to 3 months (median 3weeks).Twenty patients(90%) had complete healing. Complete healing time ranged from 6 weeks to 4 months (median 2 months). Three patients (13%) had incontinence to liquid feces and flatus. Two patients required repeat hospitalization for the drainage of abscess along the seton otherwise all patients were followed up in outpatient department. Two patient again developed fistula and were treated with the same

method.

Table-I.			
Parameters / Groups	**Group-I**	**Group-II**	**P-value**
Age	31-54yrs	28-56yrs	-
Sex Male Female	 20 (80%) 5 (20%)	 22 (88%) 3 (12%)	 0.702
H/O perianal abscess	5 (20%)	5 (20%)	1.00
H/O previous surgery	9 (36%)	5 (20%)	0.208

Group-2

In these 25 patients 22 (88%) were male and 3(12%) were female patients. Age ranged from 28 years to 56 years (median age=40 years) Five patients (20%) were suffering from recurrent fistula in ano and fve patients (20%) had past history of perinal abscess. The anatomical distribution of fistulous tract was as following, surasphincteric =6 (24%), high trans-sphincteric =19(76%). Five patients had horse shoe shaped tract and multiple external openings were in 7 patients .Eighteen patients had two hospital admissions whereas three patient required three hospitalization. Nineteen patients (90.4%) had complete healing and duration of healing ranged from 2 months to 6 months(median 2.15months) One patient(4.1%) had recurrence of fistula. Six patients (28%) had incontinence to liquid feces and one of them suffered from incontinence for solid feces as well and had to wear pad permanently. Four patients were lost during follow up.

There was no significant statistical difference of age, sex and anatomical distribution of fistulous tract between two groups. Number of hospitalizations were more in group -2 patients, so the expenditures were. Time taken for complete healing of the wound was more in patients treated with loose seton/fistulectomy. Similarly more patients suffered from postoperative fecal incontinence in group-2 (loose seton/fistulectomy).Patients treated with firm cutting seton required single surgical procedure whereas patients treated with loose seton/fistulectomy had more than one operation, all under spinal or general anesthesia.

DISCUSSION

Fistula in ano is believed to originate from an infection of the anal gland situated in the intersphincteric space at the level of dentate line. The majority of the anal fistula are low and are treated by either laying open (fistulotomy) or excising the tract (fistulectomy) without any danger of anal incontinence.

The management of high fistula in ano is difficult because of the fear of division of anal sphincters and high incidence of recurrence .A number of techniques have been described to treat the high anal fistula. These include; Park's fistulectomy[3], er-routing the fistulous tract[8], surgical closure of internal opening[9], fistulectomy with primary repair of sphincters[10], use of endorectal mucosal advancement flap[11] and placement of seton[12]. Setons have been used to manage all types of anal fistula for hundreds of years[13]. Presently setons are used for the high and complex high anal fistula, in order to avoid fecal incontinence and recurrence[14]. The purpose of seton is to provide drainage, to induce fibrosis acting as a foreign body and to cut the fistulous tract with the preservation of sphincter mechanism. There are various ways of using the seton[15,16]. Two common techniques are firm cutting seton and the two staged loose seton/fistulectomy[17]. For the cutting seton , fistulous tract outside and below the anoerctal junction is either excised or laid open and seton is placed around the rest of the tract and is tied firmly. It will gradually cut the fistulous tract along with the sphincters by pressure necrosis and the inflammatory fibrosis will fix the muscles and will prevent their retraction. In the loose seton/fistulotomy , seton is tied loosely similar to the previous method and fistulotomy is performed as a second procedure, four to six weeks after the insertion of seton.Advantages and disadvantages of these two methods of using seton techniques have not been clearly established and are totally based upon personal believes, experiences and preferences.

In this study the recurrence is almost the same in two method of treatment (Table-II) We agree with various authors that recurrence is not related with method of treatment but is dependent upon the surgeon performing the operation[18]. The main factor to prevent the recurrence of anal fistula is to clearly identify, understand

and treat the internal opening and all the vertical and horizontal ramifications of fistula.

The rate of anal incontinence is less in firm cutting seton method as compared to loose seton/fistulotomy. (Table-II) Firm cutting seton acts as a blunt knife and foreign body, inducing fibrosis and preventing the retraction of muscle. In two staged method somehow or other some unfixed sphincters muscle fibers are divided producing change in the postoperative anal continence.

It can also be observed that in firm cutting seton method only one hospital admission was required and rest of the treatment was completed on outdoor basis. This greatly reduced the cost of treatment and days off from the job. This can also be seen that total duration of treatment was 2 months (median) in firm cutting seton method as compared[2].15 months (median) in loose seton/fistulotomy.

Table-II.

Parameters / Groups	Group-I	Group-II	P-value
No of external opening Single Multiple	 12 (48%) 13 (52%)	 16 (64%) 9 (36%)	 0.254
Type of fistula Supra sphircteic High trans sphircteic	 4 (16%) 21 (84%)	 6 (19%) 19 (76%)	 0.480
Complete healing	20 (80%)	19 (76%)	0.733
Duration of healing	1.5-4months	2-6 months	-
No. Of patients having complete followup	22 (88%)	21 (84%)	0.684
Recurrence	1 (4.5%)	2 (9.52%)	0.552
Incontinence (spell) for liquid faeces and flatus	3 (12%)	6 (28.57%)	0.269

In conclusion, firm cutting seton and loose seton/fistulotomy, both methods are effective in eradicating the suprasphincteric and high trans-sphinctreic fistula in ano.The postoperative anal incontinence is quite significant in both methods of treatment but is less in firm cutting seton as compared to loose seton/fistulotomy. Duration of complete healing of wound is less in first group Similarly the first method requires less hospitalization and expenditures.

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Old enough to know better, young enough to try it again

Anonymous