

Original article:

COMPARISON OF VARIOUS TECHNIQUES FOR MANAGEMENT OF FISTULA-IN-ANO

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ABSTRACT

Background:

Definition - A fistula-in-ano or Anal fistula is a chronic abnormal communication, usually lined by granulation tissue, which runs outwards from anorectal lumen (internal opening) to external opening on the skin of perineum or buttock (or rarely, in women, to the vagina). Fistula in ano most commonly follows an anorectal sepsis^[1].

The **basic principles of management** of anal fistula are closure of internal opening of fistula tract, drainage of infection or necrotic tissue, and eradication of fistulous tract with preservation of sphincter function.

The **objectives** were to compare the various aspects like per operative complications, post-operative complications, mean hospital stay in the treatment of fistula in ano using various modalities like fistulotomy, fistulectomy, setons and lift procedure.

Methods: This is a randomised, comparative, prospective study of 40 cases of fistula in ano, presenting at surgical opd of V.S.Hospital, Ahmedabad attached to NHL Medical College. Out of which, 10 cases are treated by fistulectomy, 10 by seton, 10 by fistulotomy and the rest 10 cases by LIFT procedure by random selection method, during period of NOVEMBER 1, 2017 to 31st October 2018.

Results: Most common age of presentation is 31-40 years and more common in males than females (M:F= 2.3:1). Per operative complications include bleeding seen more in patients undergoing fistulectomy. Per operative course of LIFT procedure patients was complication free. Postoperative pain seen more in patients undergoing setons procedure.

Conclusions:we conclude that LIFT procedure and Fistulotomy were acceptable procedures for simple, uncomplicated low lying and high lying fistula.

Keywords: Fistulotomy, Fistulectomy, LIFT procedure, Setons

INTRODUCTION

Fistula is an abnormal connection between two epithelial tissue.^[2] In cases of fistula in ano, it is a track that connects deeply the anal canal or rectum to the skin around the anus. The primary opening is deep in the anal canal or rectum and the superficial openings, which may be multiple, are around the perianal skin. Being a common surgical condition, fistula in ano most commonly follows an anorectal sepsis, puts a surgeon in challenging situation to decide about best option for the patient and to satisfy the patient. The main principles of

management of anal fistula are closure of internal opening of fistula tract, drainage of infection or necrotic tissue, and eradication of fistulous tract with preservation of sphincter function. Studies have revealed that high fistulae have low incidence. Low fistulae are the commonest anal fistulae and can be treated easily by conventional laying-open technique. High fistula-in-ano are difficult to treat since the conventional laying-open will lead to division of most of the anal sphincter muscles resulting in incontinence. To achieve the objective in high anal fistulae, different surgical techniques have been described in literature from time to time. These include Park's fistulotomy, insertion of a seton, two-stage fistulotomy, primary fistulectomy with occlusion of the internal ostium, fistulotomy with primary repair of the sphincter, endorectal advancement flaps, anocutaneous advancement flap, repair of fistula using fibrin adhesive glue and re-routing the fistula.^[3]

Anorectal fistulas are divided into four distinct types according to the **Parks' classification**: intersphincteric, trans-sphincteric, suprasphincteric, and extrasphincteric. The ultimate goal of fistula surgery is to eradicate it without disturbing or disturbing minimally the anal sphincter mechanism.

In present study we compare the various aspects in the treatment of fistula in ano using various modalities as fistulotomy, fistulectomy, setons and lift procedure.

Fistulotomy

Fistulotomy means laying open or unroofing of the fistulous tract. After retracting the anal canal, blunt ended probe is introduced through the external opening upto internal opening. Tissue that overlying the probe is divided. Then epithelial lining of the fistulous tract is curetted. Overhanging skin edges excised. If there is any additional tract identified, it is also laid open. Saline gauze is packed initially. Sitz bath is advised later.^[4]

Fistulectomy

Surgery was done under spinal anaesthesia. An elliptical incision is made around the external opening and deepened, and tissue dissected in either side of the tract. When methylene blue dye is injected, it acts as a guide that prevents the fistulous tract from accidental injury. If sphincter muscles come across during dissection, it is separated from the tract. Dissection completed upto internal opening and finally mucosal defect closed with

delayed absorbable suture materials. Sometimes tract ends abruptly and without internal opening, in such cases dissection completed upto the level of methylene blue staining and tract excised. It is also done in three stages of dissection.^{[5][6]}

Seton Treatment

Three types of treatment are Cutting, Draining and Medicated SETON. It is useful in treating high anal fistula. Thin silastic tubing/ monofilament nonabsorbable material is used. Patient in lithotomy position, internal and external openings identified with blunt probe. Then the SETON is passed through the external opening through the fistulous tract into internal opening and the end was brought out through anal canal. Then the two ends knotted parallel with silk to avoid discomfort to the patient. Rodder's knot is used for this purpose. In case of **cutting SETON**, after a period of two weeks, the seton is gradually tightened, so as to cut through the anal sphincter progressively. **Draining seton** is kept for two to three months to drain collection and to control infection. In case of **medicated seton**, ayurvedic medication increases cutting rate 1 cm per week, with mean cut out time is around 8.3 weeks.^[7]

Lift Procedure

Ligation of inter sphincteric fistulous tract. It is the simplest procedure with low recurrence rate and no anal incontinence. A 2cm incision is made parallel to anal verge in the inter sphincteric groove, inter sphincteric plane between external and internal anal sphincter is reached. Fistulous tract is identified and hooked out. Then wound sutured in layers.^{[8][9][10]}

METHODS

This is a randomised, comparative, prospective study of 40 cases of fistula in ano, presenting at surgical opd of V.S. Hospital, Ahmedabad attached to NHL Medical College and research Institute. Out of which, 10 cases are treated by fistulectomy, 10 by seton, 10 by fistulotomy and the rest 10 cases by LIFT procedure by random selection method, during period of NOVEMBER

1, 2017 to 31st October 2018. Clinical history and Clinical examination including per rectal and proctoscopic examination was done in all the patients. All the patients were processed by routine investigations, chest X-ray etc., prior to surgery. Pus culture sensitivity and Fistulogram was done in all cases. C.T. Scan and M.R fistulogram as per requirement. All patients, of age 20-60 yr with fistula in ano attending surgical OPD between NOVEMBER 1, 2017 to 31st October 2018 were included in the study.

EXCLUSION CRITERIA - Patients with other anorectal diseases, Ca rectum & IBD, crohn's disease, recurrent fistula in ano, less than 20 year and more than 60-year, other co-morbid condition like CCF, uncontrolled DM, and immuno-compromised status were excluded.

RESULTS

Out of 40 patients included in this study, most common age of presentation is 31-40 years and more common in males than females (M:F = 2.3:1). 30 (75%) patients give previous history of incision and drainage done for perianal abscess out of which history of incision and drainage done within 1 year of presentation of fistula in ano in 18 (45%) of the patients.

'Sex distribution'

MALE	12
FEMALE	28

PROCEDURES/ COMPLICATIONS	NUMBER OF CASES			
	FISTULOTOMY	FISTULECTOMY	SETON	LIFT
PER OPERATIVE BLEEDING	2 (20%)	3 (30%)	1 (10%)	NONE
POST OPERATIVE BLEEDING	1 (10%)	2 (20%)	NONE	NONE
POST OPERATIVE PAIN	NONE	2 (20%)	3 (30%)	NONE
FEVER AND WOUND INFECTION	1 (10%)	1 (10%)	1 (10%)	1 (10%)
CHRONIC PAIN	2 (20%)	1 (10%)	3 (30%)	NONE
RECURRENCE	2 (20%)	0	0	2 (20%)
PROCEDURES		MEAN HOSPITAL STAY		
FISTUOLO TOMY		5.6 DAYS		
FUSTULECTOMY		6.5 DAYS		
SETON		3.1 DAYS		

LIFT	2 DAYS
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DISCUSSION

Fistula in ano is very common surgical problem, posing great challenge in treatment. There are many treatments available at present namely fistulectomy, fistulotomy, LIFT, seton technique. As each procedure is associated with its own complications this study done here to compare the outcome of various surgeries of fistula in ano in terms of complications, duration of surgery, postoperative hospital stays. Patient satisfaction depends on factors like postoperative hospital stay, postoperative pain and bleeding, return to routine activity, wound healing time, interference with the anal continence and most importantly the recurrence of the disease.

The maximum number of cases of fistula in ano are found in the age group of 31-40 years with a Male: Female ratio of 2.3:1. Perianal discharge being the most common presenting. Post-operative bleeding was more among fistulectomy group about 20% compared to 0% in seton group because seton technique uses technique of pressure which is a slow and gradual process.

The major worry for the patient and the surgeon in fistulectomy is incontinence which was about 5%, which was a minor incontinence only to flatus in fistulectomy group and there was absolutely zero number of incontinence with seton group, supporting the results of various other studies.^{[12][13]} Post-operative pain seen in 3 (30%) patients undergoing setons procedure and 2 (20%) patients undergoing fistulectomy.

CONCLUSION

Fistulotomy has moderate intra operative and post-operative complication with less chance of anal incontinence and stricture with least chance for recurrence. **Fistulectomy** has moderate degree of intra operative and post-operative complications with moderate chance for recurrence, Stricture and incontinence moreover few cases required second setting for the completion of treatment.

Even though **SETON** treatment has no intra operative complications, less recurrence rate and incontinence rate. It has more post-operative complications like postoperative pain, high degree of inconvenience to the patient. It is a multistage procedure. We need intense cooperation and long term follow up and treatment of the patients for success. **Lift** procedure least or literally no intra operative or post-operative complication, with very short hospital stay, no risk of anal incontinence or stricture and mild risk of recurrence. Patient was able to proceed normal day to day life as soon as possible without inconvenience. So, we conclude that LIFT

procedure and Fistulotomy were acceptable procedures for simple, uncomplicated low lying and high lying fistula.

REFERENCES :

1. Bailey & Love's Short Practice of Surgery, 27th Edition 2018 ; page no. 1363
2. Bailey & Love's Short Practice of Surgery, 27th Edition 2018 ; page no. 616
3. Sabiston Textbook of Surgery, The Biological Basis of Modern Surgical Practice, First South Asia Edition; page no. 1407
4. Gurer A, Ozlem N, Gokakin AK, Ozdogan M, Kulacoglu H, Aydin R. A novel material in seton treatment of fistula-in-ano. American Journal of surgery 2007;193:794-6.
5. Tang GL, Chew SP, Seow-Choen F. Prospective randomized trial of drainage alone vs drainage and fistulotomy for acute perianal abscesses with proven internal opening. Dis. Colon Rectum 1996; 39: 1415-17. 6. Jivapaisarnpong P. Core out fistulectomy, anal sphincter reconstruction J Med Assoc Thai 2009; 92:638-42.
7. Miller GV, Finan PJ. Flap advancement and core fistulectomy for complex rectal fistula. Br J Surg 1998;85:108-10.
8. Tan KK, Tan IJ, Lim FS, Koh DC, Tsang CB. The anatomy of failures following the ligation of intersphincteric tract technique for anal fistula 2011; 54:1368-72.
9. Bleier JI, Moloo H, Goldberg SM. Ligation of the intersphincteric fistula tract: an effective new technique for complex fistulas. Dis Colon Rect. 2010;53:43-6
10. Shanwani A, Nor AM, Amri N. Ligation of the intersphincteric fistula tract (LIFT): a sphincter saving technique for fistula-in-ano. Dis Colon Rect. 2010;53:39-42
11. Jarrar A, Church J. Advancement flap repair Dis Colon Rectum. 2011;54:1537-41.
12. Gonzalez-Ruiz C, Kaiser AM, Vukasin P et al. Intraoperative physical diagnosis in the management of anal fistula. Am Surg. 2006;72:11-5.
13. Poon CM, Dennis CK, Cheung MH, Raymond SK, Leong HT; Recurrence Pattern of Fistula-in-Ano; J Gastrointest Liver Dis. 2008;17:53-7