

Low lying fistula-in-ano - fistulotomy or fistulectomy Vikash Katiyar¹, Abhineet Gupta^{2*}, Vivek Singh²

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Abstract

Background: Fistula-in-ano is very common benign anal condition in day to day surgical practice which is treatable. The treatment is challenging even for an experienced surgeons due to its chronic and recurring nature. There are various treatment modalities available for management of anal fistula. Our aim is to study the outcome of fistulotomy and fistulectomy in patients with simple low-lying fistula. **Methods:** A prospective Randomised clinical study was done on 55 patients, they were randomized into two groups of fistulotomy (n=25) and fistulectomy (n=30) in GSVM medical college over a period of two years. Aim of the study was to compare the operative time, healing time, treatment outcome, complications and recurrence rate. The results were analyzed using SPSS version 22 using tests like student's t test and chi square test. **Results:** The mean operative time of fistulotomy was 18.3 minutes and that of fistulectomy was 34.2 minutes, which is statistically significant (p-value =0.008). Duration of healing in fistulotomy group (11 days) compared to fistulectomy group (22 days), which is statistically significant (p<0.001). Incidence of incontinence in fistulotomy group observed in 2 cases and in fistulectomy group was observed in 3 cases, which is insignificant (p-value=.797). There was recurrence in one case in both the groups in six months of follow-up period. **Conclusion:** Fistulotomy is better for treating low fistula-in-ano in terms of high healing rate, shorter operating time, shorter healing time which ultimately reduces the hospital stay and incidence of complications is comparable in both the groups.

Key word: Fistula-in-ano, Fistulectomy, fistulotomy

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Introduction

Fistula-in-ano is a chronic abnormal communication, lined by unhealthy granulation tissue, runs from ano-rectum towards peri-anal skin presented as external opening on the perineum or buttock. Cryptoglandular anal fistulas arise from an inflammation of the proctodeal glands, which in humans are only rudimentary, and are situated in the intersphincteric space. In up to 90% of the cases, the origin of the fistula is cryptoglandular. In only 10% Crohn's disease, trauma, malignancies, infection, or radiation therapy can be the cause of disease. A communication forms between an opening at the level of the dentate line and one in the perianal region. A perianal abscess, not related to Crohn's disease, originates in one of the anal glands.

It is also called as cryptoglandular disease. These glands are located in the sub-epithelial layer of the anal canal at the level of the dentate line. The duct of each gland ends in one of Morgagni's crypts. Obstruction of a duct, caused by faecal material, foreign bodies or trauma may result in stasis and infection. In clinical routine, intersphincteric and distal transsphincteric fistula are called low fistulas and proximal trans-sphincteric and suprasphincteric fistula is called high fistulas. Most of the perianal fistula is easy to diagnose with good clinical examination and various available investigation modalities. Despite the ease of diagnosis establishing a cure is problematic due to, significant percentage of cases persisting or recurring when the right modality of surgery is not adopted. Due to the lack of a single appropriate technique for the treatment of fistula-in-ano, treatment must be navigated by the surgeon's experience and judgement. There are different treatment modalities available for the management of anal fistula. These include fistulotomy, fistulectomy, ligation of intersphincteric fistula tract (LIFT), seton

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placement, advancement flaps and use of biological agents like fibrin glue. Though fistulotomy and fistulectomy are the two common procedures performed for low anal fistulas. So this randomised control study was designed to compare the outcome and complications of fistulectomy and fistulotomy in patients with low lying fistula-in-ano.

METHODS

Total 55 patients suffering from simple fistula in ano, admitted at tertiary care government hospital from January 2018 to October 2019 were divided into two groups. The simple fistula is defined as the fistula with one external and one internal opening alongwith a palpable tract. The 25 patients from group A had undergone fistulotomy and 30 patients from group B had undergone fistulectomy procedure as a treatment modality for their low-lying anal fistula. The patients are matched according to their age, sex and other physical factors. The patients with recurrent fistula, complex fistula and fistula secondary to other diseases like tuberculosis, Crohn's disease and immune compromised status are excluded from the study population. The results were compared in terms of operative time, healing time, treatment outcome, complications and recurrence rate. The operations were performed under spinal anesthesia in lithotomy position. The surgery was performed by the consultant surgeon assisted by the residents. Proctoscopy was done for search of any abnormality of the anal canal like pus draining out of the internal opening or

hypertrophied anal papillae. The patients were asked to follow-up upto 6 months after surgery to check for recurrence and anal incontinence. Persistence discharge (purulent stool) more than 4 weeks after surgery or recurrent drainage; air leakage from external opening after the wound had healed was considered as treatment failure or recurrence. The results were analyzed using SPSS version 22 using tests like student's t test and chi square test.

RESULTS

Total 55 patients were take up for surgery after randomisation. The operative time for fistulotomy was ranging from 15 to 28 with a mean time of 18.3 minutes while the operating time for fistulectomy was ranging from 20 to 38 minutes with the mean time of 34.2 minutes, So the mean operating time of fistulotomy was significantly shorter than that of fistulectomy. The duration of wound healing was shorter in the fistulotomy group 11 days compared to the fistulectomy group 22 days which is statistically significant ($p < 0.001$) Pain on VAS(Visual Analogue Scale) Score was assessed 48 hours after operation and it was found to be more in patients treated with fistulotomy than fistulectomy(4.57 +/- 0.716 vs 4.34 +/-0.75) with p-value 0.084, which is non significant Incidence of incontinence in fistulotomy group observed in 2 cases and in fistulectomy group was observed in 3 cases , which is insignificant (p-value=.797). There was recurrence in one case in both the groups in six months of follow-up period.

Table 1: Fistulotomy and Fistulectomy

	Fistulotomy	Fistulectomy	
Mean operative time	18.3 min	34.2 min	P = .008
Healing time	11 days	22 days	P <.001
Post-op pain	4.57	4.34	P>.05
Incidence of anal incontinence	2 cases	3 cases	P>.05
Recurrence	1 case	1 case	

DISCUSSION

We conducted this randomized comparative study over a period of 2 years on patients admitted in surgery department, LLR & Associated hospital, Kanpur undergoing anal fistula surgery, those were fulfilling our inclusion. Our sample size consisted of a total of 55 patients and they were allocated into two groups randomly, using random allocation software. Finally we landed up 25 pts in fistulotomy group and 30 pts in fistulectomy group. The success rates of sphincter sparing methods in treating anal fistula have varied

considerably. Fibrin glue injection is simple but the results have been disappointing with success rates as low as 16-25%. Similarly anal plugs studies reported success rates 29-87%. Draining seton is also a simple technique but has a long healing time varying to about 3 - 9 months.^[1] LIFT success rate too varied from 57-94%.^[2] In our study we have compared two procedures mainly fistulotomy and fistulectomy for the treatment of low fistula. We will discuss the results of the individual procedure. According to our study healing rates for fistulotomy was 96% and for fistulectomy healing rate was 93% in primary surgery. Recurrence

rates for fistulotomy & fistulectomy were found to be 6.7% and 4% respectively. According to Meinoro (2005) study primary healing was achieved in 72 patients. The reason for recurrence might be whole tract is not explored So there might be some secondary tracts or abscess cavity left over. In order to preserve sphincter fistula tract was not destroyed extensively. The cases in which internal opening was not seen probing was used during the procedure which might have led to development of accessory tracts.^[3]According to Paiboon J (2005) after core out fistulectomy fistula recurred in 4 cases.^[4]Non healing fistula with persistent anal discharge developed in two patients due to suture line dehiscence or wound infection. Two patients recurred at 5 & 7 weeks later due to missed diagnosis of secondary tract and deep post anal abscess. The recurrent cases were more common in simple appositional closure of Internal opening than anorectal advancement flap closure that occurred in three of total four cases. A procedure with coring out of the fistulous tract and closure of internal opening was reported by Takano (1985) In 98 patients who went this procedure, there were only two recurrences, but alteration in continence was not mentioned. Miller GV (1998) used core fistulectomy with flap advancement and showed 97% healing rates. F. Perrez (2005) stated 6.25% recurrence in case of core fistulectomy.^[5]

Secondary outcomes

Operative time

In our study mean operative time for fistulectomy was longer than fistulotomy (34.2 versus 18.3 mins). Paiboon J (2009) According to him the median operative time for core out fistulectomy was 35 mins with a range of 20 to 60 min which supports our study.^[4] P. Meinero (2011) according to his study the operative time gradually decreased from 2hrs to 30 mins as the learning phase of the surgeon improved.

Healing time: According to our study mean healing time (primary healed wounds) for fistulotomy was found to be 27.89±3.77 days and for fistulectomy it was 39.11± 3.77 days. Francisco perez et al (2005) in his study found the mean time for healing in core out fistulectomy in fistula was 4.16±1.6 wks to heal which is less than as found in our study.^[5] P. Meinero (2011) in his study in which primary healing was achieved the time was 2 -3 months which was much more than our study.

Pain on VAS score: According to our study mean pain on VAS score 48 hrs after surgery was found to be 4.57±0.75 for fistulotomy and 4.34±0.716 for fistulectomy. This difference though was statistically insignificant but clinically significant difference was observed.

Symptoms persists

According to our study pain, discharge & inflammation persisted for longer duration after fistulectomy as compared to fistulotomy.

Anguilar *et al* (1985) observed 10% deterioration in anal continence in case of core out fistulectomy which correlates with our study^[6].Belmonte montes 1999 observed minor incontinence one out of 24cases treated by fistulotomy (4.16%) and 3 out of 21 cases of fistulectomy (14.28%). Meinoro (2005) study no worsening of continence was observed in any patient which also correlates with our study.^[6] Kornberg 1985 reported recurrence in 3 out of 24 cases(12.5%) treated by fistulotomy and 2 out of 21 cases(9.52%)of fistulectomy with no significant difference regarding recurrence rate in both groups.

CONCLUSION

Anal fistula remains a common & complex disease process. The objectives for treatment of this disease are (1) the successful elimination of current & recurrent disease & (2) the preservation of sphincter function. The treatment of anal fistula has evolved from simple cutting techniques to include a variety of complex non-cutting techniques primarily in response to concerns for unacceptable incontinence rates, associated with cutting procedures. With the advent of more sphincter sparing techniques the percentage of patients undergoing fistulotomy should continue to decrease over time. In our study we found fistulotomy is better for treating low fistula in ano in terms of high healing rate, shorter operating time and it take shorter period of time for wound to heal so reduces hospital stay and incidence of complications is comparable to that of fistulectomy.

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