



EVALUATION OF FISTULECTOMY AND FISTULOTOMY IN THE MANAGEMENT OF LOW ANAL FISTULA

General Surgery

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ABSTRACT

BACKGROUND: Fistula-in-ano (FIA) is an abnormal connection between the inner surface of the anal canal and the perineal skin. The treatment of FIA remains controversial. It can be treated either by fistulotomy or by fistulectomy. **METHODS:** The study had two groups, Group Fistulectomy (fx) and Group Fistulotomy (fo). Duration of the procedure was calculated for both procedures. Post operative pain was assessed based on Visual Analog Scale (VAS) on Day 1, 3 and 7. Each patient was followed up in the outpatient department with regard to time duration taken for complete wound healing. Each patient was followed up at 3 months, 6 months and 1 year after surgery with regard to recurrence. **RESULTS:** In group Fistulectomy, mean duration of the procedure was 7.36 minutes and in Fistulotomy group, it was 3.80 minutes. Mean difference between the mean duration was 3.56 minutes and was statistically significant ($p < 0.001$). **CONCLUSIONS:** For Low Anal Fistula, no procedure can be tagged as the absolute choice and is superior over the other. With respect to duration of the procedure and ease of the technique, fistulotomy is superior over fistulectomy. Fistulotomy wound has less postoperative pain and heals faster compared to fistulectomy wound. Apparently in this study, Recurrence rate is less for fistulectomy patients though it requires an elaborate larger study to prove it statistically.

KEYWORDS

Fistula in Ano, Perianal Abscess, Fistulotomy, Fistulectomy

INTRODUCTION:

Fistula in ano is a chronic abnormal communication usually lined by some degree of granulation tissue which runs outward from anorectal lumen" internal opening" to the external opening on the skin of the perineum or the gluteal region. Fistula is the latin word for a reed, pipe or flute. Fistulae in Ano forms a good majority of treatable benign lesions of the rectum and anal canal. 90% or so of these cases are end results of crypto glandular infections.¹ It denotes the chronic phase of anorectal sepsis and is characterised by chronic purulent drainage or cyclical pain associated with abscess reaccumulation followed by intermittent spontaneous decompression.

In recent times, there is increase in the incidence of Diabetes and other lifestyle diseases. Over the years, our unhealthy trend of food habits towards low fibre, high meat diet is evolving. Sedentary life style, prolonged sitting posture is a contributory factor for increase in the incidence of altered bowel habits. These factors had led to the increase in incidence of chronic, anorectal diseases though non life-threatening, still a cause of long-standing morbidity of the population.²

More important factor is significant percent of these diseases persist or recur when the right modality of surgery is not adopted or when the postoperative care is not adequate. The ultimate goal of fistula surgery is to eradicate it without disturbing or minimally disturbing the anal sphincter mechanism.³

Fistula-in-ano surgery has progressed slowly throughout the ages. Fistulotomy, the most performed operation for curing a fistula-in-ano, was performed and described precisely by John of Arderne in 1370, but it had been performed since ancient times.⁴ The use of seton also dates to ancient times; in fact, its forerunner, linen thread treated with vegetable caustics for the slow chemical sectioning of a fistula, dates to 1000 B.C. (Sushruta's procedure) Later, the "advancement flap" technique, based on mobilization of mucosa and part of muscular layer, has been used with success, with or without "core-out" fistulectomy.

This also is not a new technique, as it is a return of Marengo's, Chambouleyron's and Musiari's techniques which were especially used 30–40 years ago in South America and then disappeared, perhaps because of poor results. Another recent technical modification is the use of fibrin glue to seal the tract; this procedure is reminiscent of the introduction of silver nitrate, urea, quinine and bismuth paste into the tract, old methods branded as ineffective by Goligher.^{5,6}

Methodology:

The patients selected for this study were those who are admitted with primary diagnosis of Fistula In Ano.

Based on detailed history, thorough clinical examination including Per Rectal Examination and Proctoscopy, the diagnosis of Fistula In Ano was made. These patients were subjected to the required preoperative investigations to render him fit for surgery. Trans Anal Ultrasonography, Fistulogram and Culture and Sensitivity of fistula discharge were done only in few applicable cases. Specific investigations like Chest X ray, Sputum AFB, USG Abdomen and Pelvis, Colonoscopy, Lower GI Endoscopy and MRI anorectum done in selected cases only to rule out secondary causes. Patients with isolated primary single low fistula in ano were alternately taken up for Fistulectomy and Fistulotomy.

Duration of the procedure is calculated from the time of the skin incision to the complete excision of the tract (Fistulectomy) and the time of the skin incision to the lay opening of the complete tract (Fistulotomy). Data were collected in minutes.

- Each patient was followed up in the outpatient department after discharge with regard to time duration taken for complete wound healing after the surgery.
- Each patient was followed up in the outpatient department after discharge at 3 months, 6 months and 1 year after surgery with regard to recurrence. Non reporting of the healed cases to the Outpatient department is considered as „No recurrence by default.
- The outcomes were documented using proforma and followed up for a period of 3 months, 6 months and 1 year after surgery.
- Totally 50 cases with the following inclusion and exclusion criteria were selected for the study and were allocated alternatively to each of the comparative study groups.

Inclusion Criteria :

- Low Anal Fistula.
- Age group > 20 yrs and < 60 yrs.
- Primary Fistula In Ano
- Single Fistula

Exclusion Criteria :

- High Anal Fistula.

- Age group < 20 yrs and > 60 yrs.
- Recurrent Fistula In Ano.
- Multiple Fistula.
- Fistula associated with other anorectal conditions.

RESULTS:

Table 1 : Comparison Of Duration (in Min) Between The Two Procedures (N=50)

Parameter	Procedure		Total Mean (SD)	P Value
	Fistulotomy (n=25) Mean (SD)	Fistulectomy (n=25) Mean (SD)		
Duration (in min)	7.36 (1.28)	3.80 (1.22)	5.58 (2.18)	<0.001**
Unpaired t Test, P Value ** Significant				

With respect to **duration of the procedure**, in Fistulectomy group, the range was between 10.32 minutes to 5.2 minutes with a mean duration of 7.36 minutes and in Fistulotomy group, the range was between 5.2 minutes to 2.58 minutes with mean duration of 4.2 minutes. The mean difference between two groups was 3.16 minutes with p value of < 0.001, thus making it highly statistically significant.

Table 2 : Comparison Of Post-operative Pain Between The Two Procedures (N=50)

Post-Operative Pain	Procedure		Total Mean (SD)	P Value
	Fistulotomy (n=25) Mean (SD)	Fistulectomy (n=25) Mean (SD)		
Day 1	7.36 (0.56)	6.24 (0.66)	6.80 (0.83)	<0.001**
Day 3	5.76 (0.77)	4.72 (0.79)	5.24 (0.93)	<0.001**
Day 5	4.60 (0.64)	3.68 (0.80)	4.14 (0.85)	<0.001**
Unpaired t Test, P Value ** Significant				

Comparing the **postoperative pain in terms of VAS scale**, in Fistulectomy group, mean VAS Score on day 1 is 7.36 with a range of 6.80 to 7.92; on day 3 is 5.76 with a range of 4.99 to 6.47; on day 5 is 4.60 with a range of 3.96 to 5.24.

Whereas in Fistulotomy group, mean VAS Score on Day 1 is 6.24 with range of 5.58 to 6.90; on day 3 is 4.72 with a range of 3.93 to 5.51; on day 5 is 3.68 with a range of 2.88 to 4.48. On day 1, 3 and 5, the comparative results are statistically significant with p value < 0.001.

Table 3 : Comparison Of Healing Time Between The Two Procedures (N=50)

Healing Time	Procedure		Total Mean (SD)	P Value
	Fistulotomy (n=25) Mean (SD)	Fistulectomy (n=25) Mean (SD)		
1 st wk	54.40 (10.23)	60.12 (8.11)	57.26 (9.58)	0.033**
2 nd wk	66.72 (11.94)	73.32 (8.71)	70.02 (10.86)	0.030**
3 rd wk	78.80 (10.31)	85.16 (7.62)	81.98 (9.53)	0.017**
4 th wk	88.16 (8.56)	94.36 (5.63)	91.26 (7.82)	0.004**
Unpaired t Test, P Value ** Significant				

In our study, mean percentage of wound healing after 1st week is 54.4 % for fistulectomy wound and 60.12 % for fistulotomy wound with a p value on comparison is 0.033. Mean percentage of wound healing after 2nd week is 66.72 % for fistulectomy wound and 73.32 for fistulotomy wound with p value on comparison is 0.030.

Table 4 : Comparison Of Complete Healing (in Weeks) Between The Two Procedures (N=50)

Parameter	Procedure		Total Mean (SD)	P Value
	Fistulotomy (n=25) Mean (SD)	Fistulectomy (n=25) Mean (SD)		
Complete Healing (in weeks)	5.62 (1.21)	4.78 (0.83)	5.20 (1.11)	0.006**
Unpaired t Test, P Value ** Significant				

Taking into consideration the **time taken for complete healing** of the operative wound, for Fistulectomy wound, mean duration for complete healing is 5.62 weeks with a range of 4.41 weeks to 6.83 weeks. Whereas for Fistulotomy wound, mean duration for complete healing is 4.78 weeks with a range of 3.95 weeks to 5.61 weeks. Comparative

results were statistically significant with p value of 0.006.

Table 5 : Comparison Of Recurrence At 3 Months Between Two Procedures (N=50)

Recurrence at 3 months	Fistulectomy (n=25) n (%)	Fistulotomy (n=25) n (%)	Total
Negative	25 (100.0)	22 (88.0)	47 (94.0)
Positive	0 (0.0)	3 (12.0)	3 (6.0)
Chi-Square Test, P Value = 0.074, Not Significant			

In this study, no recurrence (0%) cases were noted at 3rd month after fistulectomy, but there were 3 (12%) recurrence cases in fistulotomy group. Comparative results were not statistically significant as the p value = 0.074.

DISCUSSION:

In our study, fifty cases of fistula in ano requiring surgical intervention were included and was alternatively assigned cases for fistulotomy and fistulectomy. This study had two groups, Fistulectomy and fistulotomy comprising of 25 cases in each group. Each group was evaluated and compared with respect to Duration of the procedure, Postoperative pain severity assessed according to Visual Analogue Scale, Complete Healing time and Recurrence Rate. The results of our study is compared with similar studies done worldwide.

In our study, mean duration of the procedure was 7.36 minutes for fistulectomy and 3.80 minutes for fistulotomy. Whereas in Zuhair Bashir Kamal series⁷, it was 33 minutes for fistulectomy and 17.3 minutes for fistulotomy. In Sharma et al,⁸ mean duration is 15.9 minutes for fistulectomy and 13.9 minutes for fistulotomy. In Osama Abu Sreies⁹, it was 8.4 minutes for fistulectomy and 4.7 minutes for fistulotomy. The results are comparable and conclusions are similar with other studies.

In our study, mean postoperative pain in terms of VAS Scale was 5.76 after fistulectomy and 4.72 after fistulotomy. Irfan Ali Sheikh study⁹ revealed 6.24 for fistulectomy and 5.27 for fistulotomy. Sharma et al⁸ concluded no significant change in VAS pain scoring as it was 4.34 post fistulectomy and 4.10 post fistulotomy. In Osama Abu Series,¹⁰ it was 5.2 after fistulectomy and 3.68 after fistulotomy. The results are comparable and there is no significant difference between the results from other studies.

In our study, the mean healing time for fistulectomy wound was 5.62 weeks and it was 4.78 weeks for fistulotomy wound. In Zuhair Bashir Kamal study⁷, it was 5.52 weeks for fistulectomy wound and 3.76 weeks for fistulotomy wound. In Irfan Ali Sheikh series,⁹ it was 4.57 weeks for fistulectomy wound and 4.04 weeks for fistulotomy wound. In Osama Abu Series,¹⁰ it revealed 6.46 weeks as mean healing time for fistulectomy and it was 5.74 weeks for fistulotomy wound. Even though many individual factors plays a very important role in the healing of the wound, the results of other similar studies are comparable.

CONCLUSION:

There is no statistically significant difference in the recurrence rate after fistulectomy when compared to fistulotomy even though no recurrence was reported after fistulectomy in our study.

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