

# Comparative Study of Fistulectomy and Fistulectomy with Primary Repair for low Fistula-in-Ano.

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This prospective study was carried out in Department of Surgery Mayo Hospital Lahore from January 1998 to December 2000. 50 patients were selected for this study. These patients were randomly divided into two groups of 25 each. Group A patients were treated with Fistulectomy alone while group B patients were treated with Fistulectomy with primary repair. Peak incidence was between 21 and 40 years with second common incidence was between 41 and 50 years. Male to female ratio was 24:1. We concluded that the healing time is much shorter with Fistulectomy with primary closure, with the p-value of  $1.13 \times 10^{-7}$ . We can safely recommend that Fistulectomy with primary closure is a better choice than Fistulectomy alone.

**Key words:** Fistula-in-ano, fistulotomy, fistulectomy, primary repair.

Fistula-in-ano is an inflammatory tract lined by granulation tissue with primary opening in the anal canal or rectum and secondary in the skin around the anus<sup>1,2</sup>. It is a common cause of chronic irritation both to the patient as well as surgeons. Although fistula-in-Ano was recognized as a distinct entity hundreds of years ago, it will continue to be a difficult surgical problem not only due to the risk of recurrence in some cases but also due to the danger of producing incontinence<sup>3,4</sup>. At present two traditional methods, fistulotomy and Fistulectomy are popular among the surgeons for the treatment of low Fistula-in-Ano<sup>5</sup>. Fistulotomy is superior to Fistulectomy because the time of healing is significantly shorter after Fistulotomy than Fistulectomy<sup>6</sup>. Bennet et al<sup>13</sup>, advocated that Fistulotomy is superior choice for fistula-in-Ano. Kennedy et al<sup>7</sup> and Piazza et al<sup>8</sup> supported the view of Bennet. Although Adam et al (1991) have reported more and early recurrence after fistulotomy. None of the above methods restore the normal anatomy to prevent scarring, recurrence and other complications.

## Aims and objectives

1. Healing time after fistulectomy and fistulectomy with primary repair under antibiotic cover for low fistula-in-ano.
2. To see the recurrence rate in both type of operations.
3. To compare the benefits of both the procedures in terms of hospital stay, nursing care postoperative dressing and less postoperative pain.

## Materials and methods

This prospective study was carried out in Department of surgery mayo hospital Lahore from January 1998 to December 2000. 50 patients were selected for this study. These patients were randomly divided into two groups of 25 each. Group A patients were treated with Fistulectomy alone while group B patients were treated with Fistulectomy followed by primary repair under antibiotic cover. All the patients were admitted to the surgical floor.

Preliminary investigations were performed. In group A patients, the fistula tract was probed and then the fistulous tract was excised completely. The skin edges were excised and hemostasis secured. Dressing was removed in second postoperative day. Patient was advised to take sitz baths. In patients of group B where primary closure was planned after fistulectomy the bowel was prepared preoperatively. Fistula tract was probed and excised. Hemostasis secured. Skin and subcutaneous tissue is not excised to facilitate the final closure of the wound. Dead space was avoided. Free tissues were approximated tension free in layers. Antibiotics were given preoperatively period and postoperatively.

## Results

The ages were ranged from 4 years to 70 years with the peak incidence between 21 and 40 years. The second common incidence was between 41 and 50 years (Table 1)

Table 1. Age incidence

Age (years)	n=	Group A	Group B
1-10	2	1	1
11-20	5	2	3
21-30	15	7	8
31-40	15	9	6
41-50	9	4	5
51-60	2	-	2
61-70	2	2	-
Total	50	25	25

Table 2. Sex distribution

Sex	Group A	Group B	Total
Male	24	24	48
Female	01	01	02

Group A of the 25 patients in group A, 6 patients were of superficial fistulae, 14 were of low intersphincteric, 3 were of transphincteric below the Ano-rectal ring and 2 were of low transphincteric with high blind tracks. The results were as follow (Table 3).

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Table 3. Results in Group A patients

No of Patients	25
Male: female ratio	24:1
Healed	22 (88%)
Unhealed	03 (12%)
Mean healing time (days)	31.82
Recurrence	Nil

Group B: of 25 patients in group B, 4 were of superficial fistulae, 15 were of low intersphincteric and 6 were of transphincteric fistula with internal opening below the anorectal ring. They were treated with Fistulectomy followed by primary repair under antibiotic cover. The results were as follow (Table 4).

Table 4. Result of Group B patients

No of Patients	25
Male: female ratio	24:1
Healed	23 (92%)
Unhealed	02 (8%)
Mean healing time (days)	8.0 days
Recurrence	Nil

Comparison of the two groups were done to evaluate that which procedure was more beneficial in terms of healing time, post operative pain and cost effectiveness.

Table 5. Comparison

S. No	Group A	Group B
Healing time (days)		
Range	21-90	7-14
Mean	31.82±3.056	8.0±0.462
Unhealed	3 (12%)	2 (8%)
Postoperative pain		
1st post opt day	Severe	Mild
2 <sup>nd</sup> post opt day	Severe while	Mild in some pts
3 <sup>rd</sup> post opt day	removing pack	None
	Mild	
Average Cost (post opt analgesia & dressings)	1600/=	200/=
Recurrence	Nil	Nil

**Statistical Analysis:**

Fifty patients were divided randomly in two groups named Group A and Group B. three patients in group A and two in group B had failure of treatment.

The observed age in both groups was 32.08±3.16 and 32.08±2.59 respectively. Student's T-test under the assumption of normality with unequal variances was used to test for the significance of mean differences. Observed p-value for t-test for equality of healing time was provided wherever appropriate. P-value observed to be as 1.13x10<sup>7</sup>, which was obviously very small statistically, confirmed that healing time of both groups differed significantly.

Table 6. Age (years) (Mean±S.E.M)

	Group A	Group B
Mean	32.09091	32.08696
SD	14.81926	12.42766
SEM	3.159476	2.591345

Table 7. P-Value (student's t-test)

Equal variances	Un-equal variances
6.85 E - 10	1.13 E - 07

**Discussion:**

Our goal in treating anal fistulae was to cure the fistula in shortest possible time and preserve continence. Sepsis from faecal contamination was the main objection regarding primary closure in anorectal surgery, but insufficient emphasis has been laid on the resistance of healthy tissues augmented by the use of effective antibiotics<sup>10</sup>. Almost the complete range of gastrointestinal bacteria can be controlled by the use of suitably selected antibiotics<sup>10,11</sup>. Macfie et al<sup>12</sup> reported excellent results even without antibiotics.

Healing by secondary intension needs a long hospital stay and prolonged postoperative care. Even recurrences are well known and the resultant scarring in large number of cases often leads to stenosis, incontinence, recurrent painful fissures and pruritis<sup>14</sup>.

Primary closure on the other hand ensures a reconstitution of the divided sphincters and their function resulting in painless and an uneventful healing with out scarring in the vast majority of cases<sup>15</sup>.

We achieved complete and permanent healing within 7 days in 18 (72%) patients and within 14 days in 5(20%) patients, treated by Fistulectomy combined with primary repair under antibiotic cover.

The majority of the patients were kept in the ward for observation till the removal of the stitches on seventh postoperative day and we found no hematoma formation or other complications. Three patients in group B complained of itching after healing of the fistula-in-Ano. In two patients (8%) it was in the perineal region and in one (4%) patient it was generalized probably due to the local reaction of the antiseptic preparations. By contrast in group A there was temporary and slight incontinence for flatus and faeces in 3(12%) patients. There was severe pain on first postoperative day and on second day while removing the pack.

Results of fistula surgery may vary considerably from surgeon to surgeon and also depends on the complexity of the fistula treated.

Bennett (1962) who treated 114 patients with Fistulotomy noted that the time of work loss varied according to the type and complexity of the fistula. It increased from about 4 to 5 weeks in low anal fistulae to 17 weeks in double horseshoe fistulae<sup>13</sup>. Kuypers (1982)

stressed intra anal approach to detect the internal opening, had average healing time of 2 months. In study of Sainio and Husa (1985) the recurrence rate was 11% after Fistulotomy<sup>16</sup>. Vasilevsky et al (1985) reported failure rate of 6.3% with Fistulectomy<sup>17</sup>. O' Kronborg (1985) who compared Fistulotomy with Fistulectomy stated that healing time was significantly shorter with Fistulotomy, while recurrence is still there<sup>1</sup>. Starr (1949,1953,1959) recorded very gratifying results with primary repair of anal fistulae and primary healing without complications being obtained in all cases. Goligher, the famous anorectal surgeon in his study of 20 cases of low anal fistula treated with Fistulectomy and primary repair secured uneventful healing in 12 patients<sup>21</sup>.

Satyaparkash et al (1985) treated 120 patients with Fistulectomy with primary repair and observed 88.3% success rate. Matos et al (1993) stated that primary wound closure offers the advantage of reduced healing time and less residual scarring and deformity.

Our present experience correlates with the international results of Fistulectomy with primary closure. We recommend that Fistulectomy with primary repair is a better choice in patients with low fistula in Ano because it not only decrease the morbidity of the patients but also is economically beneficial to the hospitals regarding short hospital stay and less nursing care.

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