

MANAGEMENT OF LOW ANAL FISTULA: FISTULECTOMY ALONE VERSUS FISTULECTOMY WITH PRIMARY CLOSURE

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ABSTRACT

Objective: To compare fistulectomy with primary closure of the wound and fistulectomy alone in the treatment of low anal fistula in terms of healing time.

Study Design: Randomized control trial.

Place and Duration of Study: Department of General Surgery Combined Military Hospital (CMH) Rawalpindi, from Nov 2006 to May 2007.

Material and Methods: Total 60 patients of low anal fistula were enrolled in this study after informed consent and ethical approval. Patients were divided in two groups (A and B) each containing 30 patients. Patient of group A underwent fistulectomy alone whereas patients of group B underwent fistulectomy with primary closure of wound. All the patients were followed two weekly for 06 weeks. On each visit, healing was assessed by naked eye examination of epithelialization and noted on a Proforma. SPSS 17 was used to analyze the results. A p -value of <0.005 was considered statistically significant.

Results: At 02 weeks after surgery, none of the patient in group A and 6.6% of group B patients showed wound healing, p -value was not significant i.e. 0.492. At 04 weeks after surgery, 23.3% of group A and 86.6% of group B patients showed wound healing p -value <0.001 . At 06 weeks after surgery, 93.3% of group A and 100% of group B patients showed wound healing, p -value was not significant i.e. 0.492. Healing of wound was found more rapid in group B patients who underwent fistulectomy with primary closure of wound.

Conclusion: Fistulectomy with primary repair was a better treatment as compared to fistulectomy alone in terms of healing time of wound.

Keywords: Anal fistula, Fistulectomy.

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INTRODUCTION

Anal fistula represents one of the most frequent anorectal diseases¹. The prevalence in men is 12.3 cases per 100,000 population while in women, it is 5.6 cases per 100,000 population. The mean age of patients is 38.3 years^{2,3}. Patients most commonly present with discharge, but local pain due to inflammation is also frequent. However, some fistulas may be entirely asymptomatic⁴. Recurrence of fistula in ano is usually caused by the missed infection at primary surgery^{5,6}.

The challenge in the management of fistulas is to define the course of the track between these openings so that the appropriate surgical option

can be used⁷. The management options available for anal fistula includes simple fistulotomy, fistulectomy with or without primary closure, seton placement, advancement flap rotation and radiofrequency fistulotomy⁸⁻¹⁰. In one study conducted locally fistulectomy with primary repair was found to a better procedure, to fistulectomy alone for the surgical treatment of fistula in ano¹¹.

In troops of Pakistan Army a vast majority of soldiers present with perianal ailments among which fistula in ano is very common. Keeping all these patients admitted for long time after operative treatment of fistula in ano and keeping them off work was not worth convincing. To fulfill this aim, a comparative study was planned between fistulectomy with primary closure of the wound and fistulectomy alone in the treatment of low anal fistula, so that in future we may adopt

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the better modality of treatment in our troops in terms of rapid wound healing.

MATERIAL AND METHODS

This randomized controlled trial was carried out at department of General Surgery in Combined Military Hospital (CMH) Rawalpindi from Nov 2006 to May 2007. After taking the informed consent of patients and approval of

stool softener, sitz bath, dry dressing and NSAIDs, three times a day were advised. Record of wound infection and healing of wound was maintained on proforma at the time of discharge and at follow up visits.

Stitches were removed in patients in group B at first follow up visit. The patients were instructed to come for review at two, four and six

Table: Data of healing of wound at 2, 4 and 6 weeks.

Follow ups	Groups	Healed	Not Healed	p-value
2 weeks	Group A	0	30	0.492
	Group B	2	28	
4 weeks	Group A	7	23	=0.001
	Group B	26	4	
6 weeks	Group A	28	2	0.492
	Group B	30	0	

hospital ethical committee, 60 patients were enrolled in the study. Patients of either gender with low anal fistula only between 21-65 years of age were enrolled to avoid confounding co-morbidities associated with extremes of ages. Patients with diabetes mellitus, anaemia, ischemic heart disease, inflammatory bowel disease, tuberculosis, immunosuppression, cancer, recurrent and multiple fistulae were excluded from the study. Patients were divided into Group A & Group B with 30 patients each through random number table. Relevant initial information including perianal pain, perianal discharge, duration of symptoms, position of fistula, granulation tissue at external opening, type of discharge, induration of track, and internal opening were observed. Group (A) underwent fistulectomy and Group (B) underwent fistulectomy with primary closure of wound with non-absorbable suture prolene 2/0. Patients were followed up for six weeks duration.

All the patients were operated by the same surgical team. Intravenous broad spectrum antibiotics covering the anal canal flora were administered to all patients in peri operative and post operative period. After surgery in both modalities oral antibiotic cover, liquid paraffin as

weeks. On follow up visits, data were recorded in a structured proforma. Outcome was measured in terms of healing time of wound. Wound was considered healed when it was dry with intact epithelium and without any sign of inflammation.

The data were analyzed using SPSS version 17. Chi-square test and Fisher's exact test was applied to know the statistical difference of

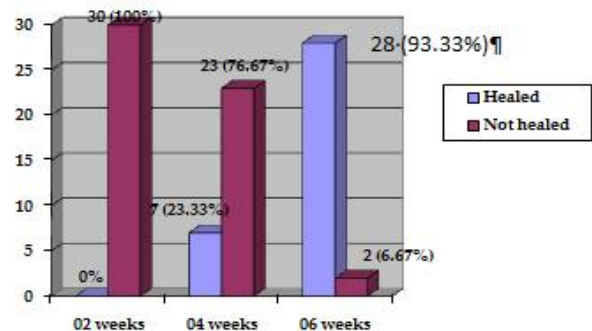


Figure-1: Healing trend in patients of group A.

outcome between two groups of patients. Mean ± S.D were calculated for age. Frequencies and percentages were calculated for gender.

RESULTS

In this study, in group A 24 (80%) patients were males and 6 (20%) were females. Mean age

in this group was 35.8 ± 9.88 years range of 21-59 years. Perianal discharge was seen in all 30 (100%) patients of group A and perianal pain noted in 7 (23.33%) patients (fig-1). Out of 30 patients 17 (56.67%) had purulent discharge and 13 (43.33%) had seropurulent discharge from external opening. Induration of track was seen in 24 (80%) patients out of total 30 patients. Internal opening was palpable in 13 (43.33%) patients and not palpable in 17 (56.67%) patients on digital rectal examination. However, on proctoscopy internal opening was visible only in 3 (10%) patients and was not visible in 27 (90%) patients.

Whilst in group B 26 (86.67%) patients were males and 4 (13.33%) patients were females. Mean age in group B was 38.4 years with standard deviation of ± 11.09 and range of 21-65 years. Perianal discharge was seen in all 30 (100%) patients of group B and perianal pain seen in 9 (30%) patients. Out of 30 patients 14 (46.67%) had purulent discharge and 16 (53.33%) had seropurulent discharge from external opening. Induration of track was seen in 24 (80%) patients out of total 30 patients. Internal opening was palpable in 19 (63.33%) patients and not palpable in 11 (36.67%) patients on digital rectal examination. However, on proctoscopy internal opening was visible only in 7 (23.33%) patients and was not visible in 23 (76.67%) patients (fig-2).

Assessment of healing experienced at 02 weeks showed non-significant difference in both groups (p -value >0.05) whereas at 04 week healing of wound in both groups showed significant difference (p -value <0.05) with more favorable results in Group B. At 06 weeks difference in wound healing was not statistically significant (p -value >0.05) (table).

DISCUSSION

Anal fistula is a common condition causing discomfort, pain, discharge and absence from work. Different therapies are being used to treat anal fistula world wide ranging from fistulotomy to fibrin glue plug and radiofrequency ablation¹². In third world countries, facilities for such modern treatments are not available due to

financial constraints. So, we have to stick to basic and simple techniques of fistulectomy. Traditionally, most surgeons believe fistulotomy to be adequate treatment for fistula in ano¹³. Very few surgeons go with complete excision of fistulous tract and even smaller number use the technique of primary repair after fistulectomy due to fear of infection and recurrence.

Shahbaz et al carried out a prospective study on the same subject from Jan 1998 to Dec 2000 comparing fistulectomy and fistulectomy with primary repair for low anal fistula. They elaborated that fistulectomy with primary closure is a better option than fistulectomy alone¹¹. Dash and Prakash Agarwal conducted a comparative study of surgical techniques for fistula in ano in 1997 on 50 patients. They showed that

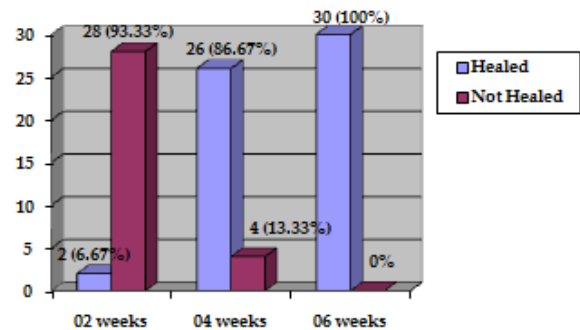


Figure-2: Healing trend among patients of group B.

fistulectomy with primary closure has the merits of short hospital stay for patients and early wound healing and recommended it to be the operation of choice of low anal fistula¹⁴. Toccaceli et al in 1993 concluded that fistulectomy with primary closure is a safe and effective procedure in terms of earlier healing and minor costs¹⁵. Prakash et al conducted a study on the treatment of fistula in ano in 1985 on one hundred and twenty patients by primary closure over a span of 11 years. This study showed that 83.3% of patients healed well in 02 weeks as compared with 04-05 weeks with conventional methods¹⁶. Bennett treated 114 patients by fistulotomy and found out that time for full recovery was variable according to the type and complexity of fistula ranging from 04

weeks to 17 weeks which is quite a long period for the post op wound to heal¹⁷. Fistulotomy was compared with fistulectomy by O’Kronberg, who showed shorter healing time in fistulotomy owing to smaller wound size¹⁸. Same principle was used in our study by approximating the edges of wound from deep to superficial to decrease the wound size and hence shorten the healing time. Goligher studied cases of low anal fistulae treated with fistulectomy and primary repair and showed rapid healing as compared to conventional treatment modalities¹⁹.

Our study clearly showed that wound healing is far rapid in fistulectomy with primary closure as compared to conventional fistulectomy without primary closure. This is well in accordance with the previously mentioned studies. But having said that there are a few shortcomings in our studies. First the sample size was not large, secondly we did not cater for the recurrence of fistulas and lastly we followed our patients on outdoor basis due to financial constraints whilst most previous studies were conducted with indoor patients.

CONCLUSION

Fistulectomy with primary repair is better treatment as compared to fistulectomy alone in terms of healing time. Rapid healing results in decreased morbidity and early return of patient to his work.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

REFERENCES

1. Filingeri V, Gravante G, Baldessari E, Casciani CU. Radiofrequency fistulectomy vs. diathermic fistulotomy for submucosal fistulas: a randomized trial. *Eur Rev Med Pharmacol Sci* 2004; 8: 111-6.
2. Welton ML, Varma MG, Amerhauser A. Colon, rectum, and anus Surgery. In: Norton JA, Bollinger RR, Chang AE, Lowry SF, Mulvihill SJ, Pass HI, et al. editors: Basic science and clinical evidence. New York: Springer 2001; 3: 667-762.
3. Inceoglu R, Gencosmanoglu R. Fistulotomy and drainage of deep postanal space abscess in the treatment of posterior horseshoe fistula. *BMC Surgery* 2003; 3: 10.
4. Farquharson M. Haemorrhoids, fissures and anal fistulae. *Trop Doct* 2002; 32: 196-201.
5. Williams NS. The anus and anal canal. Bailey and Love’s short practice of surgery. London: 24th ed. Arnold; 2004.
6. Halligan S, Stoker J. Imaging of fistula in ano. *Radiology* 2006; 239: 18-33.
7. Morris J, Spencer JA, Ambrose NS. MR imaging classification of perianal fistulas and its implications for patient management. *Radiographics* 2000; 20: 623-35.
8. Fucini C. One stage treatment of anal abscesses and fistulae. A clinical appraisal on the basis of two different classifications. *Int J Colorectal Dis* 1991; 6: 12-16.
9. Gupta PJ. Radio frequency "sutureless" fistulotomy-a new way of treating fistula in anus. *World J Gastroenterol* 2003; 9: 1082-85.
10. Malouf AJ, Cadogan MD, Bartolo DCC: Anal canal. In *Surgery*. London: Mosby 2001; 1-26.
11. Shahbaz CM, Ghazanfer A, Goraya AR. Comparative study of fistulectomy and fistulotomy with primary repair for low fistula-in-ano. *Ann King Edward Med Coll* 2002; 8: 87-90.
12. Gordon PH, Nivatvongs S. Anorectal Abscesses and fistula-in-ano. Principles and practice of surgery for the colon, rectum and anus. New York London Informa Health-care inc 2007; 3: 203-20.
13. Gupta PJ. Radiosurgical fistulotomy; an alternative to conventional procedure in fistula in ano. *Curr Surg* 2003; 60: 524-28.
14. Dash AC, Prakash A. Fistula-in-ano: A comparative study of surgical techniques. *Indian J Surgery* 1997; 60(4): 254-5.
15. Toccaceli S, Minervini S, Salvio A, Zarba ME, Mazzocchi P, Lepian P, et al. Fistulectomy with closure by first intention in the treatment of perianal fistulae. *Minerva Chir* 1997; 52(4): 377-81.
16. Parkash S, Lakshmiratan V, Gajendran V. Fistula in ano; treatment by fistulectomy, primary closure and reconstitution. *Aust N Z J Surgery* 1985; 55(1): 23-7.
17. Bennett RC. A review of results of orthodox treatment for anal fistulae. *Proc R Soc Med* 1962; 55: 756-7.
18. Kronborg O. To lay open or excise a fistula in ano: a randomized trial. *Br J Sur.* 1985; 72: 970-9.
19. Goligher JC: surgery of anus rectum and colon. Baillier Tindall and Cassel London 1968; 2: 91-110.