



Outcome of Core out Fistulectomy with Anal Spincter Reconstruction and Primary Repair of Internal Opening in the Treatment of Complex Anal Fistula; A Experience of 30 Cases

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Article History

Received: 01.07.2022

Accepted: 04.08.2022

Published: 11.08.2022

Abstract: Background: The principal of management of anal fistula include closure of interior opening of fistula tract, drainage of contamination or necrotic tissue, and eradication of fistulous tract with maintenance of sphincter function. The selection of surgical operation (simple fistulotomy, fistulectomy, seton placement, development flap, fibrin glue or anal plug) is decided with the aid of the route of the fistula tracts and continence status. **Objectives:** The aim of the study was to determine the surgical technique "core out fistulectomy with anal sphincter reconstruction and primary closure of internal opening" in the treatment of trans-sphincteric fistula (high type or long tract) or supra-sphincteric fistula in terms of fistula healing, morbidity, recurrence and anal continence. **Methods:** This prospective observational study was carried out in the Department of Surgery Dr Amanat khan hospital and other private hospitals, Dhaka, Bangladesh, during 5th March 2020 to 10th April 2022. A total 30 patients between the age group 20 to 70 years who were diagnosed with Fistula-in-Ano(Complex Variety) which underwent Core out Fistulectomy with Anal Spincter Reconstruction and Primary Repair of Internal Opening. This analysis was done using SPSS 24 software version. The level of significance was set to 5% ($p < 0.05$). **Results:** There were 30 (91%) men and three (9%) women with a median age of 42 years. The common anal fistula type was high transsphincteric fistula in 31 patients with deep postanal abscess in two patients and two patients were suprasphincteric fistula. **Conclusions:** Core out fistulectomy with anal sphincter reconstruction and major closure of inner opening is a secure and nice method for excessive trans-sphincteric fistula. It has desirable useful results and no disturbance of continence. This has to be viewed in the cure of high trans-sphincteric fistula.

Keywords: Fistulecomy, Anal Spincter, Complex Anal Fistula.

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INTRODUCTION

A fistula is an unusual connection between two epithelialized surfaces and is lined with granulation tissue. A perianal fistula is a fistulous tract between the anal canal or rectum and skin round the anal verge (anal fistula). An anal fistula is one of the perianal sepsis conditions. Usually, it is

developed after an ano-rectal abscess which may additionally be reason of variety of signs and symptoms such as pain, itching and discharge [1]. Anal fistulae have an effect on 1 in 10,000 of the regular population each year [2]. Ninety percentages of anal fistulae are secondary to cryptogenic abscesses springing up from contaminated anal

Citation: Chowdhury Sazzad Hyder, Rakesh Shah, S M Akramuzzaman (2022). Outcome of Core out Fistulecomy, Anal Spincter Reconstruction and Primary Repair of Internal Opening in the Treatment of Complex Anal Fistula; A Experience of 30 Cases. *Glob Acad J Med Sci*; Vol-4, Iss-4 pp- 180-185.

glands which then can be unfold to different components of the perianal region. Infection can then spread in many directions to different epithelized surfaces such as the vagina forming ano-vaginal fistula and perianal skin forming a perianal fistula [2]. The cure of anal fistulas is a predominant therapeutic challenge. The most important project is to eradicate the inflammatory system to decrease the incidence of recurrence barring affecting anal continence. Normal continence is maintained with the aid of a complicated interplay of the anal sphincter muscle mass and pelvic flooring innervations [3]. Fistulotomy has been described as the remedy of desire for subcutaneous and intersphincteric anal fistulas with or besides marsupialization with very desirable restoration rates. However, the hazard of incontinence rises with the quantity of exterior sphincter muscle that has been divided [4]. For fistulectomy with most important sphincter reconstruction (FPSR) as a reducing procedure, promising results, in a small range of publications, have been located particularly for sufferers with pre-existing incontinence due to former therapies [5]. Nowadays sphincter-saving process is popularized due to minimal complication and no purposeful detriment [6]. Core out fistulectomy [7, 8] combining anal sphincter reconstruction and main restore of inner opening is one of sphincter saving methods that want no sphincterotomy so minimal chance of fecal incontinence and brief length of wound care are obtained.

OBJECTIVE

The aim of the study was to determine the surgical technique “core out fistulectomy with anal sphincter reconstruction and primary closure of internal opening” in the treatment of trans-sphincteric fistula (high type or long tract) or supra-sphincteric fistula in terms of fistula healing, morbidity, recurrence and anal continence.

METHODOLOGY

A prospective observational Hospital based study was conducted at Dr Amanat khan hospital and other private hospitals, Dhaka, Bangladesh. A sample size of 30 subjects was calculated by assuming that the study. A total 30 patients aged 20 to 70 years who were diagnosed with Fistula-in-Ano (Complex Variety) which underwent Core out Fistulectomy with Anal Spincter Reconstruction and Primary Repair of Internal Opening were recruited in the study consecutively by convenient sampling till the sample size is reached. A signed informed consent was obtained for all subjects; confidentiality of the study participants was maintained. The data collection for the study was done 5th from March 2020 to 10th April 2022 for a period of 2 years

including follow-up. Clinical outcomes were assessed in terms of fistula healing, morbidity, recurrence, and anal continence. Proper history was taken regarding any previous illnesses or comorbidity especially immune compromised condition or chronic inflammatory bowel diseases and previous anal surgery. General examination to assess patient’s fitness for surgery then digital per rectal examination was commenced for assessment of anal canal continence and identification of external and internal openings. M.R.I. Fistulogram was used as a standard method for proper identification of the fistulous tract and its relation to the sphincter complex to select the patients which fall under our inclusion criteria. Any patient with impaired fecal continence was excluded from the study. This analysis was done using SPSS 24 software version. The level of significance was set to 5% ($p < 0.05$).

Inclusion Criteria

The study Patients with high complex trans-sphincteric anal fistula were included.

Exclusion Criteria

The patients were excluded of the study were given below:

- Patients with simple anal fistula.
- Patients with preoperative incontinence.
- Patients with comorbidity and chronic illness affecting healing process such as, patients diagnosed with any immune system compromising disease and patients diagnosed with chronic inflammatory bowel diseases.
- Patients diagnosed with acute anal sepsis.
- Intersphincteric fistula.

Operative-Technique

Patients were anaesthetized with spinal anesthesia, put in lithotomy position and the skin was then draped. After identification of the external fistula orifice probing of the fistula tract with identification of the fistulous tract and internal orifice by injecting of diluted methylene blue in the tract. Fistula was laid open and fistulectomy then conducted and dissected with diathermy. Then Primary repair-without overlap-of the sphincter with Vicryl 2/0 with proper hemostasis using diathermy then injection of local anesthetic for post-operative pain control was given. All excised tissue were sent for histo-pathological examination. All the surgeries were performed by one surgical team at Dr Amanat Khan hospital and other private hospitals.

Post-Operative

All patients were kept on antibiotic and proper analgesics during the post-operative period. Perianal cleansing was done with a sitz bath after each bowel motion. After discharge from the hospital, sitz bath continued every 8 hour on daily basis and after each bowel motion. Follow up was done every two weeks for the 1st 2 months and then followed by monthly for 1 year. Clinical assessment of recurrence and anal incontinence were done. After 1 year, assessment for fistula recurrence and anal continence was done by full clinical examination and by using Wexner score. Also at the end of the follow up period, MRI Fistulogram was done again for all patients to ensure the absence of hidden recurrences that cannot be detected clinically.

RESULT

There were 22 (73.3%) men and 8 (26.6%) women with a median age of 42 years (range 20-70 years). The common anal fistula type was high transsphincteric fistula in 27 patients with deep postanal abscess in two patients and two patients were suprasphincteric fistula. The age distribution and male predominance (90%) seen in this series are similar to most other series [9, 10]. There was one external opening and tract in 21 (70%) patients, two in six (20%) and multiple in three (10%) In eleven (36.6%) of the 27 patients in the transsphincteric group and in one (50%) of the two patients in the suprasphincteric group had more than one external opening and tract. The internal

opening was located at dentate line in all cases. Primary closer technique was done by simple appositional suture in 20(67%) case, remaining 10(33%) cases were done by endorectal advancement flap showed in Figure I. The median operative time was 35 (range 20-90) minutes. One patient developed postoperative perianal hematoma which was managed conservatively. The median follow up duration was 14 (range 6-20) months. The median healing time was 4 weeks (range 2-5 weeks). There was no fecal incontinence but anal fistula recurred in four cases. None healing fistula with persistent anal discharge developed in two patients due to suture line dehiscence or wound infection. Two patients had recurrence at 5 and 7 weeks 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 (75%) out of total four cases. In recurrent cases, two patients were managed by regular surgical toileting and drainage Setons were placed in the other two patient. The wound of all of these patients were healed. Figure II shows the Outcome of anal fistula's patients of n=30, among them 83 % patients healed in single attempt, 10% patients had recurrence, and 7 % patients had incontinence of stool after surgery. There was minimal morbidity with one perianal hematoma, three patients presented with perianal soiling and no patient had incontinence for gas in this study with primary closure and mucosal advancement flap closure.

Table I: Demographics of Patients with Complex anal fistula

Variable	n=30	%
Age		
20-40	9	30.0
41-60	14	46.6
61-70	7	23.3
Sex		
Male	22	73.3
Female	8	26.6
Wound healing (up to 8 weeks)	3	10.0
External Opening		
Single Opening	21	70.0
Two Opening	6	20.0
Multiple Opening	3	10.0
Type		
Transsphincteric type	27	90.0
Multiple / Horseshoe type	8	26.6
Intercavitary perianal abscess	3	10.0
Suprasphincteric type	2	6.6
Location of internal opening		
Anterior	11	36.6
Posterior	19	63.3

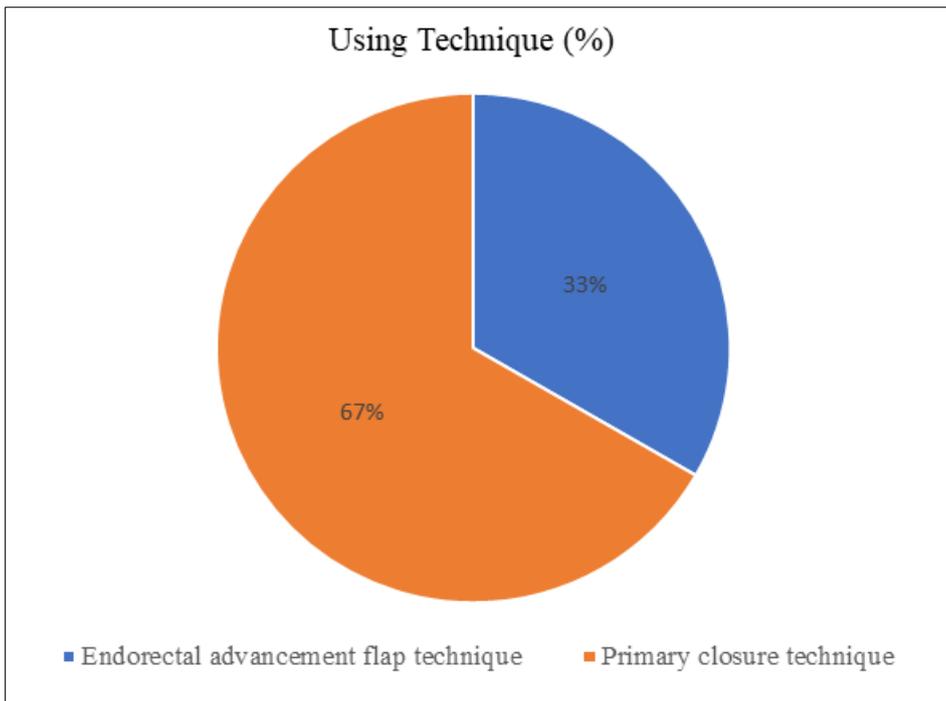


Figure I: Using Technique of Complex anal fistula

Table II: Complication of complex anal fistula’s patients

Complications	n=6	%
Perianal hematoma	1	3.33
Perianal soiling	3	10.0
Incontinence for gas	0	0.0
Wound infection	2	6.66

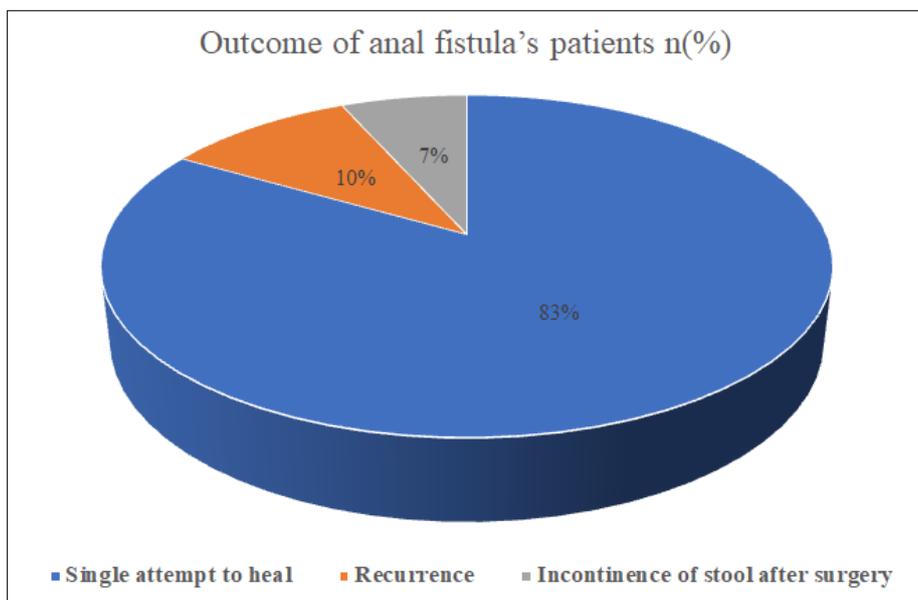


Figure II: Outcome of anal fistula’s patients

DISCUSSION

Fistulotomy or fistulectomy is a frequent technique carried out by most surgeons. Low type of anal fistula responds nicely to these techniques. However, administration of complicated anal fistula

with fistulotomy or fistulectomy and the cutting-seton technique, which divides an element of the internal sphincter and external anal sphincter, have been mentioned an excessive rate of incontinence and prolonged recovery time. Aguilar *et al.*, (1985)

[12] has encouraged protection of the sphincter muscle by way of extrasphincteric fistulectomy, closure of the sphincteric defect, and endorectal mucosal development flap closure of internal opening. The motive of this approach is to shut the internal opening, accordingly stop the egress of contamination from the rectum. If the internal opening can be healed, the fistula will heal. This method has a pretty excessive preliminary recurrence rate due to surgical wound contamination that an abscess can reform and disrupt the suture line, inflicting a recurrence of the fistula, so it is vital to make certain sufficient drainage of the fistula through the exterior opening. This was once taking place in two (50%) of four failure instances in this record due to ignored analysis of deep postanal abscess with insufficient drainage and used to be modified to drainage seton treatment. The different two cases, suture leakage brought on with the aid of anxiety of the suture line that carried out direct appositional suture method had to have repeated surgery. Although the direct appositional closure is protected and high quality [13], it is inferior to flap closure [14, 15]. There was once minimal morbidity with one perianal hematoma and no patients introduced with perianal soiling or incontinence for gasoline in this file with mucosal development flap closure. Although endorectal development flap preserves continence functions, and prevents deformity of the anal verge, many authors have stated a wide range of incontinence 0-42%. Endorectal development flap is a full thickness flap, which consists of interior anal sphincter, the division of interior anal sphincter, may be a thing to limit in continence. Manometric effects in this method propose that this is related with an impaired inside anal sphincter function [16].

Limitation of the Study

This was a small sample size prospective comparative hospital-based study. As a result, the findings of this study may not accurately reflect the situation in the entire country.

CONCLUSION

Core out fistulectomy with anal sphincter reconstruction and major closure of inner opening is a secure and reliable method for excessive trans-sphincteric fistula. It has desirable useful results and no disturbance of continence. This has to be viewed in the cure of high trans-sphincteric fistula.

RECOMMENDATION

This study can serve as a pilot to a much larger research involving multiple centers that can provide a nationwide picture, validate regression models proposed in this study for future use and

emphasize points to ensure better management and adherence.

FUNDING

No funding sources.

CONFLICT OF INTEREST

None declared.

ACKNOWLEDGEMENT

The wide range of disciplines involved in Outcome of Core out Fistulecomy, Anal Spincter Reconstruction and Primary Repair of Internal Opening in the Treatment of Complex Anal Fistula research means that an Editor needs much assistance from referees in the evaluation of papers submitted for publication. I am very grateful to many colleagues for their thorough, helpful and usually prompt response to requests for their opinion and advice.

REFERENCES

1. Jain, S. K., Kaza, R. C. M., Pahwa, M., & Bansal, S. (2008). Role of cyanoacrylate in the management of low fistula in ano: a prospective study. *International journal of colorectal disease*, 23(4), 355-358.
2. Leaper, D. J. (2001). Surgery JD Corson, RCN Williamson (eds) 297x 254 mm. Pp. 1660. Illustrated. 2001. London: Mosby.
3. Corson, J. D., (2001). Surgery, Williamson RCN (eds.). London: Mosby, 12e14.
4. Rojanasakul, A., Pattanaarun, J., Sahakitrungruang, C., & Tantiphlachiva, K. (2007). Total anal sphincter saving technique for fistula-in-ano; the ligation of intersphincteric fistula tract. *Journal-Medical Association of Thailand*, 90(3), 581-586.
5. Arroyo, A., Pérez-Legaz, J., Moya, P., Armañanzas, L., Lacueva, J., Pérez-Vicente, F., ... & Calpena, R. (2012). Fistulotomy and sphincter reconstruction in the treatment of complex fistula-in-ano: long-term clinical and manometric results. *Annals of surgery*, 255(5), 935-939.
6. Perez, F., Arroyo, A., Serrano, P., Candela, F., Sanchez, A., & Calpena, R. (2005). Fistulotomy with primary sphincter reconstruction in the management of complex fistula-in-ano: prospective study of clinical and manometric results. *Journal of the American College of Surgeons*, 200(6), 897-903.
7. Gustafsson, U. M. (2002). Excision of anal fistula with closure of the internal opening. *Diseases of the colon & rectum*, 45(12), 1672-1678.
8. Ortiz, H., & Marzo, J. (2000). Endorectal flap advancement repair and fistulectomy for high trans-sphincteric and suprasphincteric

- fistulas. *British journal of surgery*, 87(12), 1680-1683.
9. Miller, G. V., & Finan, P. J. (1998). Flap advancement and core fistulectomy for complex rectal fistula. *Journal of British Surgery*, 85(1), 108-110.
 10. McCourtney, J. S., & Finlay, I. G. (1995). Setons in the surgical management of fistula in ano. *British journal of surgery*, 82(4), 448-452.
 11. Seow-Choen, F., & Nicholls, R. J. (1992). Anal fistula. *British Journal of Surgery*, 79(3), 197-205.
 12. Williams, J. G., MacLeod, C. A., Rothenberger, D. A., & Goldberg, S. M. (1991). Seton treatment of high anal fistulae. *British journal of surgery*, 78(10), 1159-1161.
 13. Aguilar, P. S., Plasencia, G., Hardy, T. G., Hartmann, R. F., & Stewart, W. R. (1985). Mucosal advancement in the treatment of anal fistula. *Diseases of the colon & rectum*, 28(7), 496-498.
 14. Athanasiadis, S., Helmes, C., Yazigi, R., & Köhler, A. (2004). The direct closure of the internal fistula opening without advancement flap for transsphincteric fistulas-in-ano. *Diseases of the colon & rectum*, 47(7), 1174-1180.
 15. Thomson, W. H. F., & Fowler, A. L. (2004). Direct appositional (no flap) closure of deep anal fistula. *Colorectal disease*, 6(1), 32-36.
 16. Jivapaisarnpong, P. (2009). Core out fistulectomy, anal sphincter reconstruction and primary repair of internal opening in the treatment of complex anal fistula. *J Med Assoc Thai*, 92(5), 638-42.