

CURRENT OPTIONS IN TREATMENT OF FISTULA-IN-ANO

Mohanlal Khadia¹, Iswar Chandra Muduli², Sworupa Nanda Mallick³

¹Junior Resident, Department of General Surgery, MKCG Medical College, Berhampur.

²Associate Professor, Department of General Surgery, MKCG Medical College, Berhampur.

³Assistant Professor, Department of General Surgery, MKCG Medical College, Berhampur.

ABSTRACT

Fistula-in-ano has long been notorious for its tendency to recur after operation. Although surgery remains the main modality of treatment, still no clear recommendations are available and its treatment is still debatable. Treating anal fistula remains a challenging issue because of the anatomical location, the potential risks of septic complications and postoperative stool incontinence. Nowadays several sphincter sparing procedures are preferred, but they carry their own risk of recurrence and some degree of incontinence. So here we will discuss current procedures used in treatment of different types of fistula-in-ano.

KEYWORDS

Fistula-in-ano, LIFT, Seton, Fistula Plug.

HOW TO CITE THIS ARTICLE: Khadia M, Muduli IC, Mallick SN. Current options in treatment of fistula-in-ano. J. Evid. Based Med. Healthc. 2016; 3(63), 3458-3461. DOI: 10.18410/jebmh/2016/744

INTRODUCTION: Fistula-in-ano is a chronic phase of anorectal infection and is characterised by chronic purulent discharge or cyclical pain associated with abscess re-accumulation followed by intermittent spontaneous decompression.^[1] Surgery remains the only modality for effective treatment for this condition and has always tested the patience even of the most experienced surgeons. The goals of surgery for fistula-in-ano are permanent healing and preservation of anal continence.^[2] Surgical techniques used in treating anal fistula can be divided into 2 groups: sphincter-sacrificing and sphincter-sparing methods. The sphincter-sacrificing techniques, with or without immediate repair, have a high healing rate but also a high post-operative incontinence rate, while the sphincter-sparing methods have varied healing rates but little or no resultant incontinence. The impairment of continence has an effect on quality of life, so the sphincter-sparing methods are now popular.^[3] Newer conservative surgeries like ligation of intersphincteric fistula tract (LIFT), fibrin glue injection, anal fistula plug or video-assisted anal fistula treatment (VAAFT) have mixed success rates and need more studies and long term followup to validate them. Setons are still widely used and may be cutting Seton or draining Seton. Cutting Seton and fistulotomy have good success rates, but one has to deal with the incontinence associated with it. Fistulectomy with primary sphincter reconstruction looks to be a promising surgery, but long term results are still awaited. Most of the studies have small sample size, and there is no equivalent comparison between the different surgeries to give a definite opinion as to the best surgery for different types of fistula-in-ano.

Cryptoglandular infection is responsible for causing almost 90% of all anal fistula. Several sphincter-sparing

methods carry their own risk of recurrence and some degree of incontinence. Most of these are complicated and difficult procedures, and require expertise, highly experienced surgeons, or high technology equipment. The existing options have not yielded satisfying results, hence, there is a need to discover new options. This article will discuss fistulas of cryptoglandular origin and will review the treatment trends in last decade.^[4]

REVIEW OF LITERATURE:

Fistulectomy and Fistulotomy: Fistulectomy has been performed since ancient times. The outcome is acceptable and usually recommended for low anal fistulas. This procedure has a high success rate with minimal incontinence. The success rates can be as high as 93% to 100% in experienced hands.^[5] Fistulotomy with sphincter reconstruction is an especially suitable technique for incontinent patients with recurrent fistulas. This procedure can also be done for transsphincteric fistula with similar satisfying results.^[6]

Abscess with Primary Fistulotomy: Doing a primary fistula surgery along with drainage of anorectal abscess has been a matter of much debate. The fear of causing incontinence, along with the fact, that more than half of all drained abscesses may not develop a fistula, has resulted in condemning a primary surgery for an anorectal abscess. However, a recent systematic review comparing outcome after primary fistula surgery done along with drainage of perianal abscess, compared with drainage alone, showed that fistula surgery with abscess drainage, significantly reduces recurrence or persistence of abscess/fistula, or need for repeat surgery.^[7] There is no statistically significant evidence of incontinence following fistula surgery with abscess drainage. This intervention may be recommended in carefully selected patients. A long term followup seems not to influence the results of fistulotomy group and confirms that fistulotomy is an efficient and safe treatment of anal abscess with good long term results.^[8,4]

Financial or Other, Competing Interest: None.

Submission 27-04-2016, Peer Review 15-05-2016,

Acceptance 25-07-2016, Published 08-08-2016.

Corresponding Author:

Dr. Mohanlal Khadia,

Room No. 101, P. G. 2, MKCG Medical College, Berhampur.

E-mail: mohanlal.khadia@gmail.com

DOI: 10.18410/jebmh/2016/744

An exception is a high fistula, where fistulotomy may be associated with a risk of recurrence and incontinence.

Seton: Seton has been placed in anal fistulas either for the purpose of cutting the sphincter in a phased manner or to mature the tract for another definitive surgery. Cutting Setons have a high success rate with a higher rate of incontinence. The cause for the incontinence might be due to non-retraction of the cut sphincter end. If the sphincter end is sutured primarily, the success rates would be as high as 95.8% with an insignificant change in the continence status.^[6] Seton placement is thought to reduce postoperative faecal incontinence, but shown to have a great range of functional impairment after surgery as published.^[9]

Advancement Flap: The concept of advancement flap is to preserve the sphincter by closing off the primary opening by means of a mobilised flap. Though it is one of the method for treating fistula-in-ano, but not perfect one. The results with advancement flap as a standalone procedure range from 59 to 72%.^[10] Repeating this procedure multiple times can further increase the success rate to as much as 90%. Higher level evidence would be needed for comparison with other surgical techniques, as a meta-analysis comparing with fistula plug has revealed equivalent success rate, decreased risk of incontinence, less postop pain and a superior quality of life.^[11]

Anal Fistula Plug: Champagne et al. In 2006 published results of treating fistula using a biological plug derived from the submucosa of porcine small intestine (Surgisis® from Cook Surgical).^[12] They had an impressive success rate of 85% in 46 patients who followed up for a median time of 1 year. The Gore Bio-A® fistula plug is another bioprosthetic plug which is used with similar results ranging from 57.5 to 72.7%.^[13] The main advantage of the bioprosthetic plug is that the incidence of incontinence is very low with this technique. Using a plug increases the cost of the surgery, but the results are comparable or may be slightly inferior as compared to the other standard procedures.

Ligation of Intersphincteric Fistula Tract (LIFT): LIFT procedure was first proposed by Rojansakul in 2007 in 18 patients with success rate of 94%.^[14] The procedure was simple and consists of ligation of fistula tract in the intersphincteric space with curettage of the remaining tract. Subsequently, several studies have revealed a healing rate ranging from 68 to 83% with an average healing time from 6 to 7 weeks. Several modifications of the LIFT technique have been described to increase its success rate. Reinforcing the LIFT with a bioprosthetic graft has been used to significantly improve the success rate of LIFT (75 to 94 %).^[15] The LIFT procedure is relatively easy to learn and perform, with no high technology equipment required has a high healing rate and appears to be safe with low morbidity. With this method, fistula-in-ano could be easily treated even at primary health care level. Finally, the greatest advantage of this procedure is that there is no chance of incontinence

as the infective focus is removed without dividing any part of the anal sphincter complex. LIFT, due to its simplicity, is becoming the most popular technique for transsphincteric fistula worldwide.

Video Assisted Anal Fistula Treatment (VAAFT): Video assisted anal fistula treatment (VAAFT) is a novel minimally invasive and sphincter shaving technique for treating complex fistulas. This technique basically consists of an initial diagnostic phase which is performed by an 18 cm long rigid fistuloscope with an 8° angled eyepiece, which is passed through the external opening. Glycine-mannitol solution is used to open the fistula tract. The fistuloscope is advanced till the internal opening. In the operative phase, a unipolar electrode is used to cauterise the lining of the fistula tract and an Endobrush is used to extract the necrotic material. A semi-circular or linear stapler or mucosal flap can be used to seal off the internal opening. Dr. P. Meinero conducted a study on 136 patients over a period of 5 years. In a mean followup of 13 months, primary healing was achieved in 72 (73.5%) patients at the end of 3 months. At the end of 1 year, 87.1% of fistulas had healed.^[16] The main advantage of this technique is that injury to the sphincter is avoided, so that the incidence of incontinence is very low, and postoperative pain is minimum. Since this is a relatively new procedure more number of studies need to be conducted to establish beneficial effect.

DISCUSSION: Whatever may be the type and extent of fistula the principles of fistula surgery are to get rid of fistula, prevent recurrence and preserve sphincter function. Most of the fistula-in ano has been conventionally treated by either fistulotomy or fistulectomy which have been proven to be effective, has been used to manage anal fistula for hundreds of years. The recurrent rate of "lay-open" fistulotomy was reported between 2-9% with functional impairment ranging from 0 to 17%.^[5,6] The use of a Seton had a recurrence rate between 0-8%. Minor and major incontinence was of 34-64% and 2-26%, respectively.^[6,9]

Currently, the recommended surgical techniques, for complex Fistula-in-ano, are endorectal advancement flap, anocutaneous advancement flap, and direct excision and closure of internal opening. The endorectal advancement flap has a healing rate of 55-98% with the minor and major incontinence of 31% and 12% respectively.^[10,11] The ano cutaneous advancement flap procedure has a healing rate of 78%. Deterioration of continence is 30%. Direct closure of the internal opening has a 22.5 percent recurrence rate and 6% minor incontinence.^[11] The healing rate after debridement and fibrin glue injection ranged from 14-60%. Fistula plug, the latest technique for complex Fistula-in-ano repair, had a reported failure rate of 13%.^[13] Fistula-in-ano does not heal spontaneously due to two main reasons. Firstly, faecal particles can enter the primary opening causing infection. Secondly, the intersphincteric fistula tract is compressed between internal and external anal sphincter, thus causing intermittent closed septic foci and persistent sepsis. The concept that ligation and excision of the

intersphincteric tract could close the entrance for faecal particles into the fistula tract and at the same time, eliminates the intersphincteric septic nidus.

This may result in healing of Fistula-in-ano. This procedure does not sever the anal sphincters and postoperative anal function can remain intact. A study was done by Shanwani et al in 2010 which included 45 patients with transsphincteric (n=33) or complex (n=12) fistulas were included in the study. Five patients (11.1%) had recurrent fistula-in-ano after prior surgery using other recognised treatment procedures. The median age was 41.5 (range 27-56) years; median followup 9 (range 2-16) months. Primary healing time of 7 (range 4-10) weeks. Eight patients (17.7% had recurrence of fistula between 3-8 months after the operation. No clinical significant morbidity was noted in any of the 45 patients.^[17]

In recent studies done by Abcarian et al and Van Onkelen et al in 2012, the results are very much promising. The success rate in both the studies was 74% and 82% respectively. In the former study, total patients included in the study was 40 and average followup period was 18 weeks. While study done by Van Onkelen et al half number of patients were included i.e. 22 patients while followup period was 19.5 months. In both the studies, none of the patients had incontinence following LIFT procedure. The LIFT procedure may convert a difficult-to-treat transsphincteric fistula into an easier-to-manage intersphincteric fistula.^[18,19]

CONCLUSION: In the last decade, new surgeries have been added to the existing list of surgeries for anal fistula. Advancement flaps and Seton placement have been widely used in the past and are still being used as a first line of treatment for anal fistula. However, newer technique like LIFT due to its simplicity and conservative nature is becoming popular. The anal fistula plug has success rates similar to advancement flap and has not proved to be very popular. VAAFT is a new technique but much data are not available about its success. Fibrin glue has moderate result with simple low fistula, but poor results with high or complex anal fistula. Cutting Seton and fistulotomy have excellent success rate, but one has to deal with the associated incontinence. At present there is no single technique appropriate for all types of fistula-in-ano, either simple or complex which has superior outcomes and surgeon has to decide the procedure based on his past experience and the type of fistula he/she is dealing with.

REFERENCES

- Whiteford MH, Kilkenny J, Hyman N, et al. Practice parameters for the treatment of perianal abscess and fistula-in-ano (revised). *Dis Colon Rectum* 2005;48(7):1337-1342.
- Abbas MA, Jackson CH, Haigh PI. Predictors of outcome for anal fistula surgery free. *Arch Surg* 2011;146(9):1011-1016.
- Sirikurnpiboon S, Awapittaya B, Jivapaisarnpong P. Ligation of intersphincteric fistula tract and its modification: results from treatment of complex fistula. *World Journal of Gastrointestinal surgery* 2013;5(4):123-128.
- Sheikh P, Baakza A. Management of fistula-in-ano—the current evidence. *Indian Journal of Surgery* 2014;76(6):482-486.
- Tozer P, Sala S, Cianci V, et al. Fistulotomy in the tertiary setting can achieve high rates of fistula cure with an acceptable risk of deterioration in continence. *Journal of Gastrointestinal Surgery* 2013;17(11):1960-1965.
- Ratto C, Litta F, Parello A, et al. Fistulotomy with end-to-end primary sphincteroplasty for anal fistula: results from a prospective study. *Dis Colon Rectum* 2013;56(2):226-233.
- Malik AI, Nelson RL, Tou S. Incision and drainage of perianal abscess with or without treatment of anal fistula. *Cochrane Database Syst Rev* 2010;(7):CD006827.
- Benjelloun EB, Jarrar A, El Rhazi K, et al. Acute abscess with fistula: long-term results justify drainage and fistulotomy. *Updates Surg* 2013;65(3):207-211.
- Vial M, Parés D, Pera M, et al. Faecal incontinence after Seton treatment for anal fistulae with and without surgical division of internal anal sphincter: a systematic review. *Colorectal Dis* 2010;12(3):172-178.
- Mizrahi N, Wexner SD, Zmora O, et al. Endorectal advancement flap: are there predictors of failure? *Dis Colon Rectum* 2002;45(12):1616-1621.
- Leng Q, Jin HY. Anal fistula plug vs mucosa advancement flap in complex fistula-in-ano: a meta-analysis. *World Journal of Gastrointestinal Surgery* 2012;4(11):256-261.
- Champagne BJ, O'Connor LM, Ferguson M, et al. Efficacy of anal fistula plug in closure of cryptoglandular fistulas: long-term follow-up. *Dis Colon Rectum* 2006;49(12):1817-1821.
- Ratto C, Litta F, Parello A, et al. Gore Bio-A® fistula plug: a new sphincter-sparing procedure for complex anal fistula. *Colorectal Dis* 2012;14(5):e264-e269.
- Rojanasakul A. Lift procedure: a simplified technique for fistula-in-ano. *Tech Coloproctol* 2009;13(3):237-240.
- Ellis CN, Rostas JW, Greiner FG. Long-term outcomes with the use of bioprosthetic plugs for the management of complex anal fistulas. *Diseases of the Colon & Rectum* 2010;53(5):798-802.
- Meinero P, Mori L. Video-assisted anal fistula treatment (VAAFT): a novel sphincter-saving procedure for treating complex anal fistulas. *Tech Coloproctol* 2011;15(4):417-422.

17. Shanwani A, Nor AM, Amri N. Ligation of the intersphincteric fistula tract (LIFT): a sphincter-saving technique for fistula-in-ano. *Dis Colon Rectum* 2010;53(1):39-42.
18. Abcarian AM, Estrada JJ, Park J, et al. Ligation of intersphincteric fistula tract: early results of a pilot study. *Dis Colon Rectum* 2012;55(7):778-782.
19. Van Onkelen RS, Gosselink MP, Schouten WR. Is it possible to improve the outcome of transanal advancement flap repair for high transsphincteric fistulas by additional ligation of the intersphincteric fistula tract? *Dis Colon Rectum* 2012;55(2):163-166.