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A Comparative Study on Various Techniques in the Management of Fistula in Ano

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Abstract : *Fistula in ano is the benign anorectal condition, but became a major problem for surgeon to cure he disease. Our review article focuses on many older techniques for fistula in ano(fistulotomy, fistulectomy, SETON treatment) and newer techniques (fibrin glue injection, fibrin plug, LIFT procedure, Endoanal advancement flap, stem cell therapy) and pitfalls.*
Keywords: *Fistula in ano, fistulectomy ,fistulotomy, LIFT procedure, SETON treatment ,*

I. Introduction

Hippocrates in 460 BC, first described the seton usage in the treatment of fistula in ano. Ayurvedically medicated seton, "kshara" was used by sushrutha for treating fistula in ano. Lay open technique for fistula in ano was first described in 1337 by John of Arderene. Barber surgeon Charles Felix in 1636, treated king Louis XIV with fistulotomy for fistula in ano. Frederik Salmon in 1835, founded Saint Marks Hospital primarily for the treatment of fistula in ano. He recommended a cut back technique to fistulous tract triangular, when it is laid open, so that mucosal edge healed earlier than skin wound. In British journal of surgery, Parks A.G.et al based on the level of fistula with respect to sphincter, classified fistula in ano into four types. In article published in Germany , Strittmatter B, described various form of fistula establishing the entire course of tract was the important factor in achieving cure of the disease and most of the fistula can be treated by fistulotomy or fistulectomy when tract is established.

II. Treatment

2.1 Fistulotomy[2]

Fistulotomy means laying open or unroofing of the fistulous tract. After retracting the anal canal, blunt ended probe is introduced through the external opening upto internal opening.

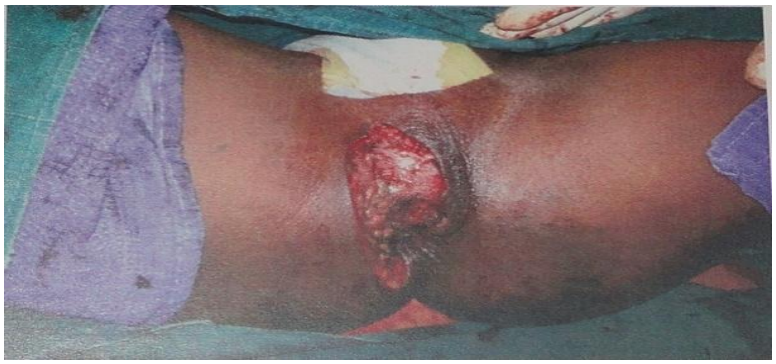

Fig 1 Fistulotomy

Tissue that overlying the probe is divided. Then epithelial lining of the fistulous tract is curetted. Overhanging skin edges excised. If there is any additional tract identified, it is also laid open. Saline gauze is packed initially. Sitz bath advised later.

2.2fistulectomy[3,4]

Surgery was done under spinal anaesthesia. An elliptical incision is made around the external opening and deepened and tissue dissected in either side of the tract. When methylene blue dye is injected, it acts as a guide that prevents the fistulous tract from accidental injury. If sphincter muscles comes across during dissection, it is separated from the tract. Dissection completed upto internal opening and finally mucosal defect closed with delayed absorbable suture materials. Sometimes tract ends abruptly and without internal opening, in

such cases dissection completed upto the level of methylene blue staining and tract excised. It is also done in three stages of dissection.

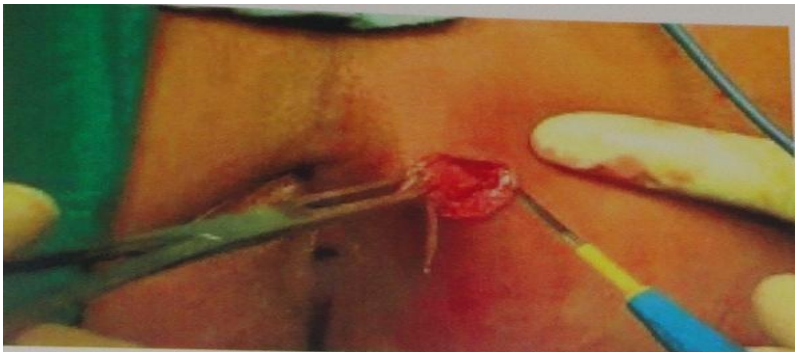

Fig 2 Fistulectomy

2.3 Seton Treatment[6]

Three types of treatment are Cutting, Draining and Medicated SETON. It is useful in treating high anal fistula. Thin silastic tubing/ monofilament non-absorbable material is used. Patient in lithotomy position, internal and external openings identified with blunt probe.Then the SETON is passed through the external opening through the fistulous tract into internal opening and the end was brought out through anal canal. Then the two ends knotted parallel with silk to avoid discomfort to the patient. Rodder's knot is used for this purpose. In case of cutting SETON, after a period of two weeks, the seton is gradually tightened , so as to cut through the anal sphincter progressively. Drainin seton is kept for two to three months to drain collection and to control infection. In case of medicated seton, ayurvedic medication increases cutting rate 1 cm per week, with mean cut out time is around 8.3 weeks.

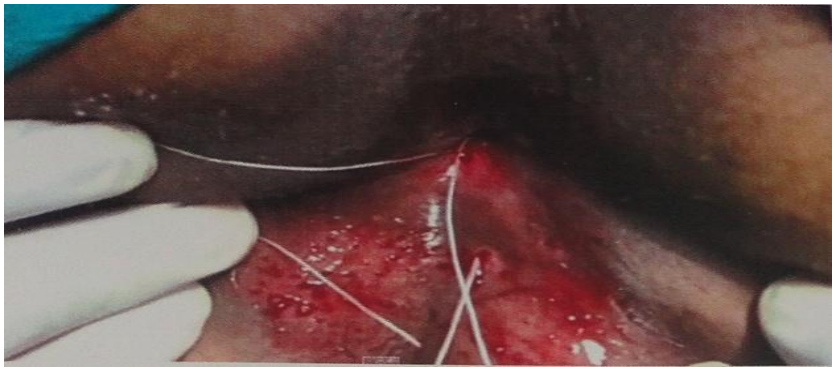

Fig 3 SETON Treatment

2.4 Lift Procedure[1,7.8,12]

Ligation of inter sphincteric fistulous tract. It is the simplest procedure with low recurrence rate and no anal incontinence. A 2cm incision is made parallel to anal verge in the inert sphincteric groove, inter sphincteric plane between external and internal anal sphincter is reached. Fistulous tract is identified and hooked out. Then wound sutured in layer.

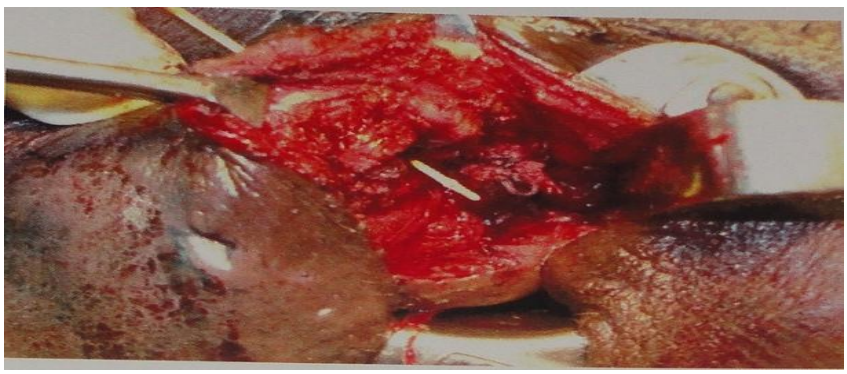

Fig 4: LIFT Procedure

2.5 Fibrin Glue[5]

Fibrin glue is mixture of fibrinogen, thrombin and calcium ion. When injected into the fistulous tract, it combines and forms fibrin clot by conversion of fibrinogen into fibrin. After 7 to 14 days of injection, tract is converted and filled with synthetic collogen.

2.6 Fibrin Plug[11]

It was first used in 2006 for anal fistula. Lipophilised small intestinal submucosa of the porceine. It is a conical shaped plug maintains stability within the fistulous tract prevents dislodgement during defecation.

2.7 Endo Advancement Flap[10,12]

Fistulous tract is identified and internal opening excised. Defect is then closed with advancement flap. The flap contains rectal mucosa, submucosa and part of the internal sphincter. The flap has an apex and base. The base of the flap is twice as thick as apex, placed beyond closed mucosal defect.

2.8 Stem Cell Theraphy

Adipose derived stem cells used. It is successfully used in complex anal fistula, results are promising.

III. Materials And Methods

The objective is to study the different modalities of treatment for fistula in ano.(Fistulotomy, Fistulectomy, Seton treatment and Lift procedure) In terms of per operative , post operative and complications on long term follow up. Patients admitted in Govt. Mohan Kumaramangalam Medical College Hospital, Salem with features of fistula in ano between the periods of June 12 to June 14 included in prospective study.

3.1 Previous Incision And Drainage

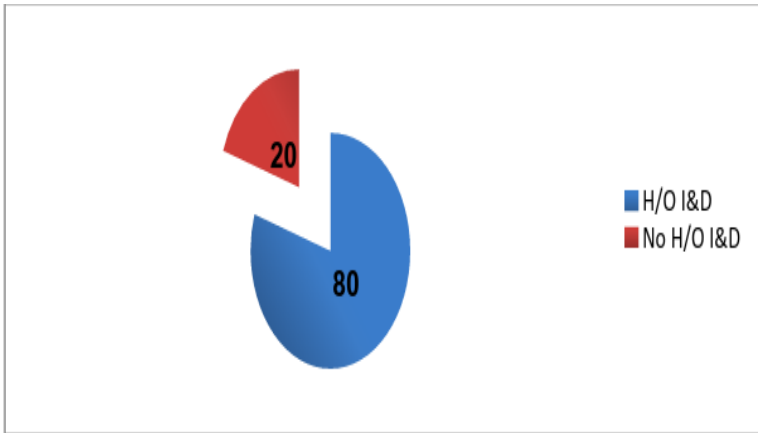

Fig 5

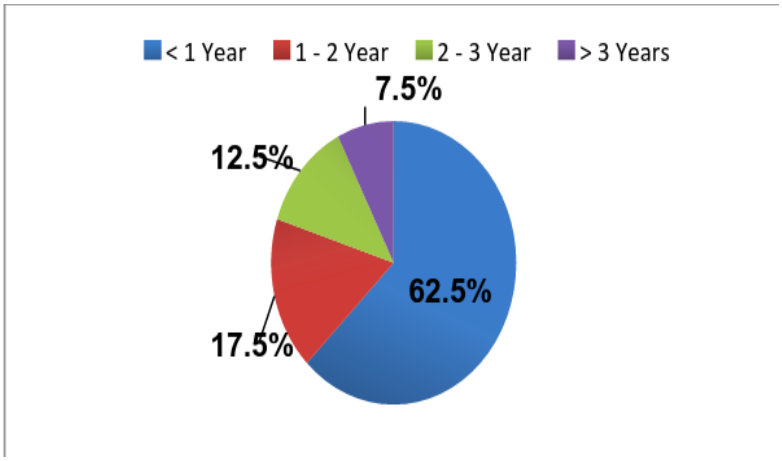

Fig 6

3.2 Sex Incidence

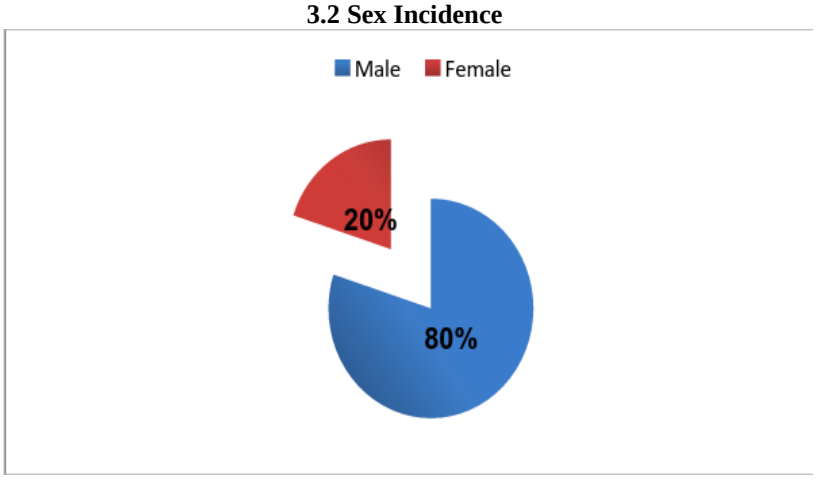

Fig 7

3.3 Procedure

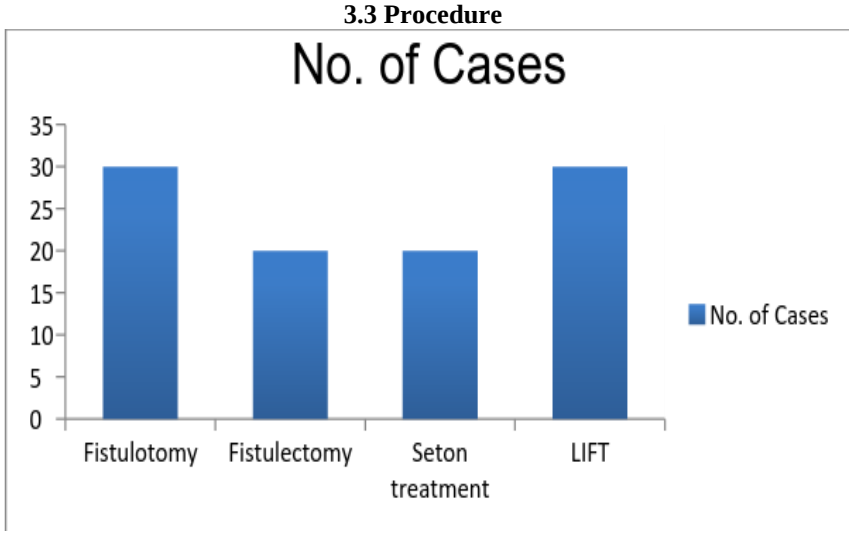

Fig 8

3.4 Per Operative Complications

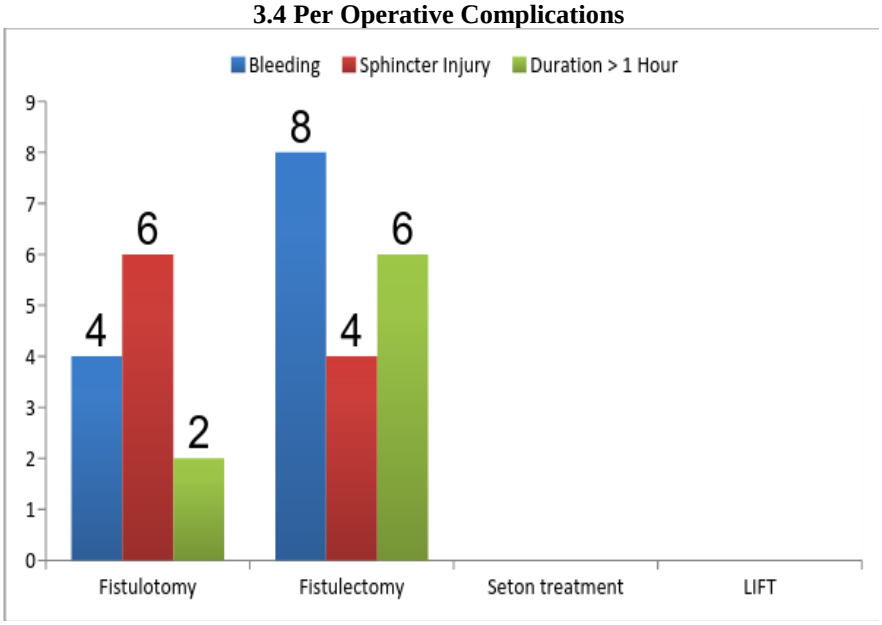

Fig 9

3.5 Post Operative Complications

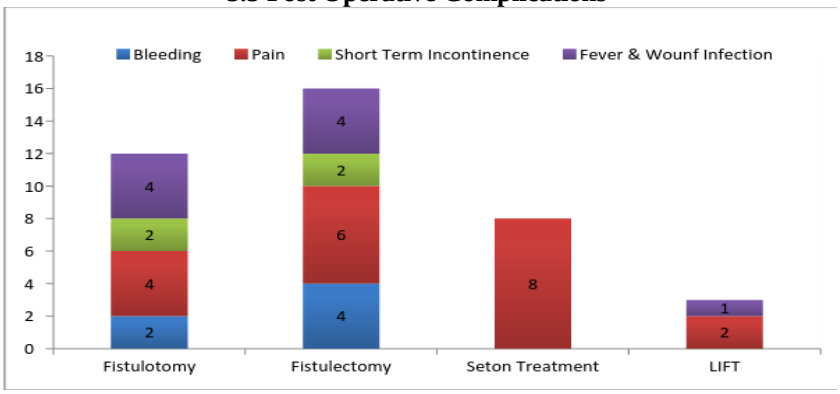

Fig 10

3.6 Mean Hospital Stay

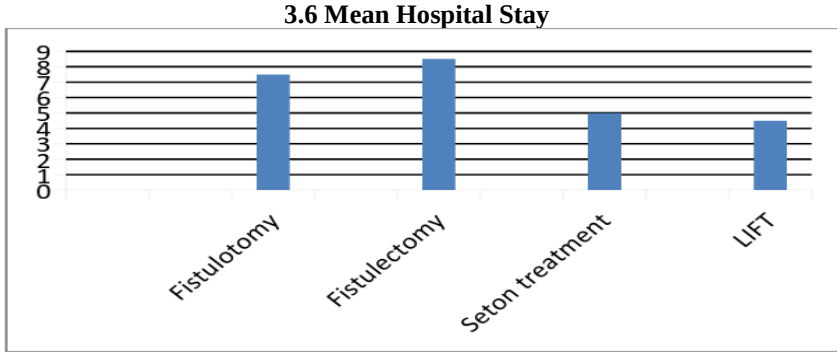

Fig 11

3.7 Long Term Follow Up

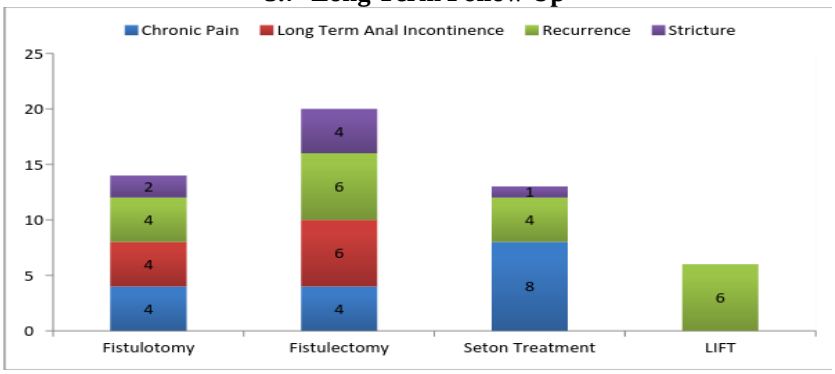

Fig 12

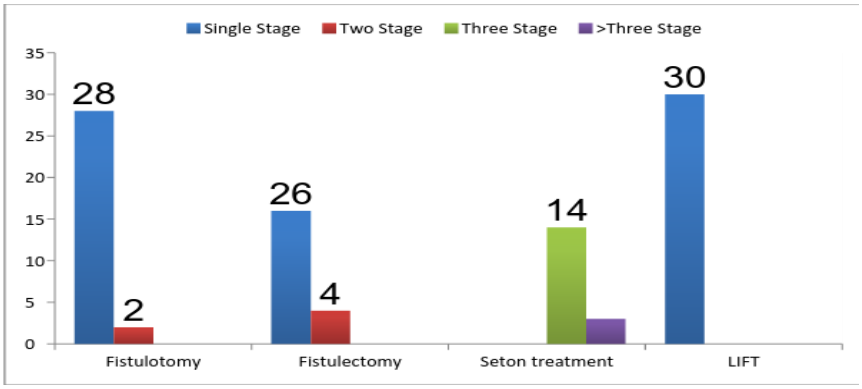

Fig 13

IV. Conclusion

Fistulotomy has moderate intra operative and post operative complication with less chance of anal incontinence and stricture with least chance for recurrence.

Fistulectomy has moderate degree of intra operative and post operative complications with moderate chance for recurrence, Stricture and incontinence moreover few cases required second setting for the completion of treatment.

Eventhough SETON treatment has no intra operative complications, less recurrence rate and incontinence rate. It has more post operative complications, high degree of inconvenience to the patient.It is a multistage procedure. We need intense cooperation and long term follow up and treatment of the patients for success.

Lift procedure least or literally no intra operative or post operative complication, with very short hospital stay, no risk of anal incontinence or stricture and mild risk of recurrence. Patient was able to proceed normal day to day life as soon as possible without inconvenience.

So we conclude that LIFT procedure and Fistulotomy were acceptable procedures for simple, uncomplicated low lying and high lying fistula.

References

[1]. Tan KK, Tan IJ, Lim FS, Koh DC, Tsang CB. The anatomy of failures following the ligation of intersphincteric tract technique for anal fistula 2011; 54: 1368-1372 [PMID: 21979180]
[2]. Tang GL, Chew SP, Seow-Choen F. Prospective randomized trial of drainage alone vs drainage and fistulotomy for acute perianal abscesses with proven internal opening. Dis. Colon Rectum 1996; 39: 1415–17.
[3]. Jivapaisarnpong P. Core out fistulectomy, anal sphincter reconstruction J Med Assoc Thai 2009; 92: 638-642 [PMID: 19459524]
[4]. Miller GV, Finan PJ. Flap advancement and core fistulectomy for complex rectal fistula. Br J Surg 1998; 85: 108-110 [PMID: 9462397]
[5]. Ho KS, Tsang C, Seow-Choen F, Ho YH, Tang CL, Heah SM, Eu KW. comparing ayurvedic cutting seton and fistulotomy for low fistula-in-ano. Tech Coloproctol 2001; 5: 137-141
[6]. Bleier JI, Moloo H, Goldberg SM. Ligation of the intersphincteric
[7]. fistula tract: an effective new technique for complex fistulas. Dis Colon Rectum 2010; 53: 43-46
[8]. 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: 39-42
[9]. 8.. Barillari P, Basso L, Larcinese A, Gozzo P, Indinnimeo M. Cyanoacrylate glue in the treatment of ano-rectal fistulas. Int J Colorectal Dis 2006; 21: 791-794
[10]. Han JG, Wang ZJ, Zhao BC, Zheng Y, Zhao B, Yi BQ, Yang XQ. Long-term outcomes of human acellular dermal matrix plug in closure of complex anal fistulas with a single tract. Dis Colon Rectum 2011; 54: 1412-1418 [PMID: 21979187]
[11]. 10 . Abbas MA, Lemus-Rangel R, Hamadani A. Long-term outcome of endorectal advancement flap for complex anorectal fistulae. Am Surg 2008; 74: 921-924 [PMID: 18942614]
[12]. 11. Jarrar A, Church J. Advancement flap repairDis Colon Rectum 2011; 54: 1537-1541 [PMID: 22067182]
[13]. 12. Rojanasakul A, Pattanaarun J, Sahakitrungruang C, Tantiphlachiva K. the ligation of intersphincteric fistula tract. J Med Assoc Thai 2007; 90: 581-586 [PMID: 17427539]