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Original Research Paper

Ligation of Intersphincteric Fistulous Tract(LIFT)- Prospective Study on it`S Outcomes

General Surgery

KEYWORDS : -

DR Ankush sarwal	M.S (General surgery),SENIOR Resident ,MAX SUPER SPECIALITY HOSPITAL NEW DELHI
DR R.K.Karwasra, M.S	(General surgery),Prof. and head, department of surgery and surgical oncology, Pt.B.D.Sharma, PGIMS, Rohtak. Haryana.
DR. Bhavinder arora	M.S (General surgery),Associate Professor, department of surgery, Pt.B.D.Sharma, PGIMS, Rohtak, Haryana
DR.Sourabh nandy	M.S (General surgery),SENIOR Resident ,department of surgery, Pt.B.D.Sharma, PGIMS, Rohtak. Haryana

ABSTRACT

***AIM**: To evaluate the outcomes of ligation of intersphincteric fistulous tract (LIFT) technique in fistula in ano.*

***METHOD**: This prospective study was conducted from feburary 2013 to november 2014 in the department of surgery,at a tertiary care hospital of North India. A total of 26 patients diagnosed with fistula-in-ano after clinical and imaging studies. All the patients were admitted in hospital and operated under similar pre-operative, intra-operative and postoperative facilities.Data collected included patient`s demographic profile,medical history,duration of surgery,days of hospital stay,wound infection,healing time,preoperarive and postoperative continence,success and recurrence rates.*

***RESULTS**: The study involved 26 patients whose mean age was 41.5+13.7 years. . The mean average duration of surgery was 44.7+8 mins.Patients were kept on follow up for 6 months(24 weeks). No patient had any kind of fecal and flatus incontinence and had a success rate of around 84%.*

***CONCLUSION**: Ligation of intersphincteric fistulous tract (LIFT) technique has shown high success rate with no effect on continence and thus should be started as a main treatment modality in patients of fistula in ano.*

INTRODUCTION

A fistula-in-ano, or anal fistula, is a chronic abnormal communication, usually lined to some degree by granulation tissue, which runs outwards from the anorectal lumen (the internal opening) to an external opening on the skin of the perineum or buttock.[1]Centuries have passed but the basic principles of management of fistula in ano remained the same which revolves around resolution of anorectal sepsis and treatment of fistula without hampering continence. Advent of antibiotics and drainage procedures has led to adequate management of anorectal sepsis but preservation of continence still remains a challenge and efforts are on to achieve an optimal treatment which attains both leading to improvement in patient care.[2,3] In the past, the options for treating fistula-in-ano were limited to fistulotomy, fistulectomy and seton placement. With the advent of anorectal physiologic testing, concern for complications of incontinence of gas or stool were raised following primary or staged fistulotomy. This led to the development of noncutting, or sphincter-sparing, techniques for fistulas. These treatment options include, endorectal advancement flap, Fibrin glue injection, porcine small intestinal submosa (SIS) plug, Video assisted anal fistula treatment (VAAFT), Ligation of intersphincteric fistulous tract (LIFT).[2,4,5]

LIFT procedure is based on secure closure of the internal opening and removal of infected cryptoglandular tissue through the intersphincteric approach.[6] The procedure was developed by a Thai colorectal surgeon, Arun Rojanasakul, Colorectal Division Department of Surgery, Chulalongkorn University in Bangkok, Thailand. This procedure does not affect the anal sphincters and postoperative anal function can remain intact. The preliminary healing result from the procedure in the first report was 94% in 2007.[7] However, later reports showed success rates varying from 68% to 82%.[8-10] Thus it appears that Ligation of intersphincteric fistulous tract (LIFT) is promising technique for management of fistula in ano with good results and preserving the continence. Hence this study was undertaken to identify the success of this technique in our setup.

MATERIAL AND METHODS

This prospective study was conducted from feburary 2013 to november 2014 in the department of surgery, at a tertiary care hospital of North India. A total of 26 patients were studied. All the patients were diagnosed fistula-in-ano from their medical history and physical examination.All the patients of fistula in-ano were included in this study. Patients associated with ulcerative colitis, tuberculosis and Crohn's disease excluded from the present study.

METHOD

All the patients of fistula in-ano were admitted in hospital and operated in under similar pre-operative, intra-operative and postoperative facilities.

A detailed history regarding the period of onset of disease, discharge from the tract, pain and any other associated symptom was taken. A complete clinical examination about the site and the number was done. A per rectal examination and proctoscopy to identify the site of internal opening was done.A MRI Perineum was done to identify the complex fistula and any other associated abcess.All routine tests and investigations to make patient fit from anaesthesia point of view and to identify any comorbid conditions were done. Large bowel preparation of the patient was done 12 hours and 4 hours before the surgery by Proctoclysis enema in ward. Patients were kept nil per oral for 12 hours before the surgery. Intraoperative Ligation of Intersphincteric Fistulous Tract technique was used and anal packing done with saline pack.

Patient was kept under lithotomy or jackknife position. The location of internal opening was identified by injection of hydrogen peroxide or water through the external opening or by gently probing the fistula tract. A 1.5 to 2.0 cm curvilinear incision was made at the intersphincteric groove overlying the fistula tract. The dissection was closed to the external sphincter to avoid cutting through the internal sphincter and breaching the anal mucosa. After the inter-

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sphincteric tract had been identified and dissected out, the tract was ligated close to the internal sphincter.(Fig 1,2)

Secure ligation of the intersphincteric tract abutting the internal opening was the key to success. The tract next to the suture site was divided, and the rest of intersphincteric tract was excised. After removal of the correct fistulous tract had been confirmed, infected granulation tissues in the rest of the tract and cavity were thoroughly removed with curettage. The open defect at the external anal sphincter sutured through the intersphincteric wound. Finally, the incision wound was closed. (Fig3,4)

Postoperatively saline pack was removed after 12 hours and self wound cleansing with tap water with $KMnO_4$ solution twice a day and after bowel movements. Intravenous antibiotics (ciprofloxacin and metronidazole) was given on operative day and then oral antibiotics (ciprofoxacin and metrnidazole) covering gram negatives and anaerobes was given for 2 weeks. These operated patients were discharged on 2nd postoperative day and were followed on outpatient basis for a period of 6 month. On follow-up of patients, the postoperative complaints mainly any recurrence or whether any anal incontinence and any other relevant complaint was taken into account. On the basis of this follow up the outcome of **LIFT technique** was evaluated in our setup.

Statistical analysis
At the end of the study, the data was collected and analysed by using appropriate statistical methods.

RESULTS
Youngest patient was 17 year old male and oldest was 65 male. Mean age was 41.5±13.7 years. 23were male and 3 were female. Male:Female ratio was 7.7:1 in present study. Male preponderance was a higher in our study than other studies probably because most of the female patients in rural area in state of Haryana are shy to report to doctor for ano-rectal diseases. Discharge was the most common symptom in patients of fistula in ano, which was present in all 26 patients of fistula in ano in present study. The mean time period between the appearance of discharge from perianal region and patient presenting for surgery was 5.4 months. Pain was present in about 42% of the patients preoperatively. Of the 26 patients taken in study 7(26.9%) of them had earlier undergone previous surgery in perianal region.2 patients in present study had more than 1 external opening with single internal opening. The mean average duration of surgery was 44.7±8 mins.Majority of patients (84.6%) were discharged on 2nd postoperative day, while few were discharged on 1st post-op day. The average post-operative stay was 1.85 days. Post-op wound infection was the most common complication of the surgery. It occurred in 16 patients. Four operated were Diabetic, all 4 patients developed wound infection postoperatively. The mean average wound healing time was 40.7 days (6 weeks). Minimum time period in which wound healing occurred was 21 days (3 weeks) in 3(11.5%) patients and maximum time period in which wound healing occurred was 56 days (8 weeks) in 4(15.4%) patients. Twenty six patients studied, were kept on follow-up for a minimum period of 6 months. 4 (15.4%) patients have developed recurrence on follow and 22(84.6%) patients are successfully treated. No patient had any kind of fecal and flatus incontinence postoperatively.

DISCUSSION
The sucess rate of various procedures for treating fistula-in-ano have varied considerably.Fistulotomy and fistulectomy has shown a sucess rate of around 80% but incontinence rates have been high ranging from 25-50%.[11-13] The recurrence rate for a anal fistula managed with a cutting seton is reported to be 0 to 8%, with minor and major incontinence being reported in 34 to 63% and 2 to 26% of patients, respectively.[14]Success rates with this procedure have been as high as 70%. However, this procedure is technically demanding and although the sphincter mechanism is not divided during advancement flap repair of the fistula, minor incontinence has been found[15]. Fibrin sealant (Fibrin glue) is a simple technique but results have been disappointing, with a success rates as low as 14–40%.[16,17]Anal Fistula Plug have shown success rate of 50-60%.[18] Video assisted anal fistula treatment (VAAFT) has shown a success rate of around 67-70% over a period of 6 months, but is a costly procedure and a high learning curve.[19]

Currently, there is a growing interest in ligation of LIFT because the procedure is minimally invasive,anal sphincter sparing, easy to learn and perform and can be used on recurrent cases. The early results of the LIFT procedure were quite impressive with a success rates ranging from 68% to 94% with minimal morbidity and little or no impact on continence status.[7-10]

Our study showed that majority of the patients took around 36-45 mins for surgery to complete. Minimal time taken was 29 mins while maximum time taken was 65 mins. The mean average duration of surgery was 44.7±8 mins.Majority of patients (84.6%) were discharged on 2nd postoperative day.The average postoperative stay was 1.85 days.4 (15.4%) patients have developed recurrence on follow and 22(84.6%) patients are successfully treated. Mean average time for recurrence to occur was 18 weeks. Out of the 26 patients operated in study, No (0%) patient had any kind of fecal and flatus incontinence. Post-op wound infection was the most common complication of the surgery. It occurred in 16(61.5%) patients. Four operated were Diabetic, all 4 patients had wound infection postoperatively. 7(26.7%) patients had pain post-operatively. The mean average wound healing time was 40.7 days (6 wks). Minimum time period in which wound healing occurred was 21 days in 3(11.5%) patients and maximum time period in which wound healing occurred was 56 days in 4(15.4%) patients. In Diabetic patients average wound healing time was 50.8 days, while in Hypertensive and COPD patients it was 46.7 days and 42 days respectively.These results are in concordance with other studies on LIFT.(Table 1)

Recurrence of anal fistula is mainly due to infection and technical errors. Infection was one of the reasons for non-healing of internal opening wounds, because it caused the breakdown of the closure wound on the internal sphincter. So, in cases with persistent anal abscess or infected incisional wounds, infection could be a factor for treatment failure,technical errors for recurrences after LIFT procedure are failing to identify the internal opening, failing to secure the suture of the internal opening or Slippage of the ligature, not adequate curettage of the distal tract and creating a false tract by forceful probing.

In conclusion, Ligation of intersphincteric fistulous tract (LIFT) technique has shown high success rate with no effect on continence. LIFT is an easy to learn procedure. Additionally having short hospital stay and less frequent dressings. Wound healing time being shorter and post-op pain being less.Ligation of intersphincteric fistulous tract (LIFT) is promising technique for management of fistula in ano and should be started as a main treatment modality in patients of fistula in ano.

Table 1: Overall LIFT success rates

AUTHOR,Year	No.of patients	Success Rate	Incontenence	Follow-up
Rojanasakul et al[7],2007	18	94%	0	4wk

Shanwani et al[8] ,2010	45	82%	0	36wk
Tan et al[9],2011	93	78%	NA	23wk
Aboulian et al[10],2011	25	68%	0	24wk
Present study	26	84%	0	24wk

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