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RESEARCH ARTICLE

POST OPERATIVE OUTCOME BY DIFFERENT SURGICAL PROCEDURES IN FISTULA IN ANO

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Abstract

Background: Fistula-in-ano is a commonly encountered clinical entity affecting the perineal region in patients which causes significant embaressment to the patient and affects their routine day to day life. This study was undertaken to study the clinical presentation, various surgical modalities of treatment and its outcome, post-operative recovery and recurrence.

Methods: 30 patients between the ages of 15 to 65 years who fulfilled the study criteria and admitted to Surgery ward, JMCH between June 2020 and May 2021 were part of the study.

Results: The mean age of presentation in our study was 35.2±11.32 years and males (83.3%) were more affected.56.7 % of the patients had a previous history ofperianal abscess.Perianal discharge was the most frequent presenting complaint (86.7%). Urine retention (UR)was the most common early post operative complaint in our study. (4 patients) (13.33%). In our study, Post operative Pain was least in Seton group (3.0) followed by LIFT procedure (3.25) using a visual analog scale (VAS). Shortest mean healing time (HT) and duration of hospital staywas in LIFT procedure (25.0 days) and (4.0 days) respectively.3 patients (10%) out of 30 patients had recurrence in our study. There was no incontinence reported in the study.

Conclusion: Incidence of fistula in ano is more in males at their 3rd and 4th decade of life with a previous history of perianal abscess. Urinary retention is a common post operative complication following fistula surgery. Recurrence is also an expected complication following fistula surgery. LIFT procedure is associated with lesser post operative pain and early discharge from hospital.

Introduction:-

Fistula-in-ano is a chronic abnormal communication, usually lined to some degree by granulation tissue, which runs outward from the anorectal lumen to an external opening on the skin of the perineum or buttock.(1) Fistula-in-ano form a good majority of treatable benign lesions of rectum and anal canal. 90% of these cases are as a result of cryptoglandular infections.(2)Fistulous illness has been mentioned since more than 2000 years ago.In the Indian subcontinent too the history of Fistula in Ano dates back to ancient times with treatment methods including surgical

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procedures for the same being aptly described in the classical renowned textbook of surgery of the Great Sushruta – The Sushruta Samhita.Because many individuals with anorectal symptoms do not seek medical help, the incidence of these diseases is difficult to estimate, and provided data frequently represent single-institution experiences. However, in the United States, it is believed that 100,000 instances of anorectal abscess occur each year.[3]

Fistula in ano seldom heal on their own and require surgical treatment to be healed. As a result, it is now feasible to acquire a more precise assessment of various anal fistula-treatment procedures.Modern radiological methods, including endoanal ultrasonography and magnetic resonance imaging, have been developed to characterise the fistulous tract in relation to sphincter architecture.[4][5][6]The clinical effectiveness of these investigations is currently being investigated.

Improved surgical methods have resulted in a more uneventful postoperative phase and a significant decrease in the risk of recurrence.

The purpose of this study is to investigate the presenting symptoms, clinical examination results, surgical methods, post-operative healing, and recurrence.

Methods:-

It was a hospital-based prospective study and was conducted at Jorhat Medical College and Hospital, Jorhat, Assam from June 2020 to May 2021.30 patients (male and female) fulfilled the eligibility criteria for the study.Patients aged 15 years and above and below 65 years of both the sexes having fistula in ano diagnosed clinically or by radiological examination after initial clinical examination were included.Patient with other associated co morbidities like Diabetes mellitus, hypertension, tuberculosis at present or in past were included in the study.

Patients having associated malignancies related to the rectum or anal canal, fistulae following radiotherapy for concomitant rectum or anal canal malignancies or traumatic fistula or fistula in ano due to prior operative intervention of the bowel, bladder or vagina (in females) or any operative procedure of the perineum other than for fistula in ano itself and patients opting out of the study were excluded from the study.

All patients after being subjected to the above mentioned criteria, if qualifying; were evaluated by detailed history including the past history of anorectal abscess, tuberculosis, diabetes and any operative intervention in past and clinical examination that included inspection and digital examination of the ano rectum in outpatient clinic. Any discharging pus from external opening found during the examination were sent for culture and sensitivity and ZN staining. Preliminary investigations included a complete hemogram, renal and liver function tests, random blood sugar assessment, thyroid profile and viral markers and an ECG and a Chest X ray. Imaging Studies for the fistulous tracts were in the form of Fistulography and MRI fistulography with MRI pelvis. All the 30 cases operated during the study period underwent histopathological examination of the excised fistulous tract and were followed up.

Results:-

Of the 30 cases, 5underwent fistulotomy, 16 underwent fistulectomy, 4 underwent LIFT procedure and 5 underwent seton application.

Age:-

The **mean age** of presentation in our study was 35.2±11.32 years. Maximum incidence of fistula in ano was in age group of 30-40 years in our study (43.33) %.The mean age of Fistulotomy (FTMY) group subjects was 41.0±5.66years, Fistulectomy (F) group subjects was31.81±9.96years, Seton was 44.44±16.41 years, and LIFT was 30.0±6.78 years and p value= 0.062. There is no statistically significant variation in the age distribution across groups (p value >0.05).

Sex:-

In our study, 83.3% of the patients were men, whereas 16.7% were women. In our study, the M:F ratio is 5:1

Presenting complaints among the patients of fistula in ano:-

Presenting complaints	Present	Absent	Percentage
Peri Anal Abscess	17	13	56.7%

Discharge	26	4	86.7%
Pain	16	14	53.3%
Swelling	10	20	33.33%
Pruritis	17	13	56.7%
Fever	10	20	33.33%
Bleeding PR	8	22	26.7%

Location:-

In our study, 19 patients (63.3% of cases) had posterior location(P) of external opening of the fistulas, while 6 patients (20%) had anterior location (A) of external opening of the fistulas and 5 patients (16.7%) had multiple location (M). MRI fistulogram was able to identify the type of fistula- low or high accuratelyin 100% of the patients in the study.

Early post operative complications:-

	Present	**Absent**	**Percentage**
Urine Retention (UR)	4	26	13.33%
Bleeding (B)	3	27	11.11%
Hematoma (H)	3	27	11.11%

Post operative Pain was assessed using a visual analog scale (VAS) score on Day 1 for each group. Mean VAS Score of Fistulotomy (FTMY) was 5.8, Fistulectomy (F) group was 5.06, Seton group was 3.0 and LIFT procedure group was 3.25 in our study. The p value is 0.001 and this association was found to be statistically significant with $p < 0.05$.

Healing time:-

Procedure	**Healing Time (HT) in days**	**p= 0.013***
Fistulotomy	33.8	
Fistulectomy	35.69	
Seton	37.2	
LIFT	25	

LIFT was associated with lesser duration of healing time compared to fistulotomy, Fistulectomy and Seton. This was found to be statistically significant with p value < 0.05.

Hospital Stay:-

The mean duration of hospital study was compared amongst different procedures. It was statistically not signigicant with p>0.05

Procedure	**Stay Days**	**p = 0.173**
Fistulotomy	4.6	
Fistulectomy	4.62	
Seton	5.8	
LIFT	4	

Follow up:-

The study groups were assessed for Recurrence (R) and Incontinence during the post operative period in our study.

	Present	Absent	Percentage
Recurrence	3	27	10%
Incontinence	0	30	0%

Discussion:-

The mean age of presentation in our study was 35.2±11.32 years. Maximum incidence of fistula in ano was in age group of 30-40 years in our study (43.33) %.It was similar to the study by Vasilevsky et al where the majority of anal fistula patients presented in their third or fourth decade of life.[7]In our study, 83.3% of the patients were men, whereas 16.7% were women, the Male:Female ratio being 5:1. It is similar to the ratio reported in the studies by Rojanasakul A et al(4:1)and Khadia M et al(4:1).[8][9]

In our study, 17 patients (56.7 %) had a previous perianal abscess that either ruptured spontaneously or was drained.As a result, the findings of our study were comparable to those of DragerL Ferreria et al(54.8%) and Sileri P et al(52.8%).[10][11]It confirmed the previously observed conclusion that the most prevalent cause of fistula-in-ano is a poorly treated or spontaneously ruptured ano-rectal abscess. 26 patients (86.7%of the patients) reported discharge from the fistula and 16 patients (53.3%) complained of pain.

19 patients (63.3% of cases) had posterior location(P) of external opening of the fistulas, while 6 patients (20%) had anterior location (A) of external opening of the fistulas and 5 patients (16.7%) had multiple location (M) in the study which was similar to a study done by V. Abeysuriya et al. (2010).[12]

Urine retention (UR)was the most common early post operative complaint in our study. (4 patients) (13.33%). Zaheer S et al (5%), Toyonaga et al(6.3%)and Elsebai Olfat et al (13.3%) reported post operative urine retention in the range of 5-13%.[13] [14][15]In our study, Post operative Pain was assessed using a visual analog scale (VAS) score on Day 1 for each group. Mean VAS Score of Fistulotomy (FTMY) was 5.8, Fistulectomy (F) group was 5.06, Seton group was 3.0 and LIFT procedure group was 3.25. Jain BK et al did a study on pain VAS score the first postoperative day for Fistulectomy (F) vs Fistulotomy (FTMY) were (4.05 ± 1.47 vs. 4.50 ± 1.32, $P = 0.221$) for the two groups.[16]Our mean pain VAS score for seton procedure was 3 on Day 1 which was similar to another study by Ege B et al (3.23).[17]

The mean healing time (HT) between the four groups in our study were as follows:- Fistulotomy (FTMY) 33.8 days, Fistulectomy (F) 35.69 days, Seton 37.27 days LIFT 25.0 days. Our results were comparable to the studies byKronborg (34 days and 41 days for fistulotomy and fistulectomy respectively),Theerapol A et alby using setons(4 to 62 weeks)and Han Jia Gang et al (30 days), Vergara Fernandez et al(5.5 weeks) following LIFT procedure.[18][19][20][21]In our study the mean duration of hospital stay (in days) was 4.6 days in the fistulotomy group (FTMY), 4.62 days in the fistulectomy group (F), 5.8 days in Seton group and 4 days in LIFT group.Kumar Ravi et al reported the average duration of hospital stay between fistulotomy and fistulectomy as 4 days.[22]Huseyin and Enverdid a study in 44 patients having complex fistula in ano and treated using setons and reported the duration of hospital stay as 1 day except for 2 patients.[23]The median postoperative stay was 2 days (range: 1-14) days (mean = 2.4 days) in a study done byParthasarathi, R et al.in LIFT technique for fistula in ano .[24]

The study groups were assessed for Recurrence (R) and Incontinence during the post operative period in our study. 3 patients (10%) out of 30 patients had recurrence in our study. All of them had undergone fistulectomy. Murtaza, Ghulam et al. did a retrospective cohort study on 192 cases of fistula in ano operated from January 2007 to August 2012 and reported a recurrence rate of 4.16% in fistulectomy group.[25] Our study result was comparable to the study done by Kronborg O et al (1985) (9.52%).[18]There was no incontinence reported in the study.

Conclusion:-

Fistulotomy and Fistulectomy is the standard procedure of treatment for fistula in ano operations since long all over the world and remains so till this day in spite of the other procedures which show promising results and one has to carefully select the operation to be done for the particular type of fistula in ano and to get the optimum results.

The findings of our study confirm that LIFT technique for treatment of fistula in ano is associated with less postoperative pain, less post operative bleed, no urinary retention in post operative period, shorter duration of hospital stay and a quicker recovery with less wound healing time. LIFT procedure is not associated with major post-operative complications. There is no recurrence or incontinence in the follow up period in the study in LIFT group.

Seton continues to hold its value in treatment of high fistula in ano with good post operative results.

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Conflict of interest:-
None declared.

Ethical approval:-
The study was approved by the Institutional Ethics Committee, JMCH.

References:-

1. Love B&. The anus and anal canal. In Norman S. Williams PROAWM, editor. Bailey & Love's Short Practice of Surgery. 26th ed.: CRC Press Taylor and Francis Group; 2012. p. 1259.
2. Goligher JC,DHL,&NHH. Surgery of the anus, rectum and colon. Tindall B, editor. London; (1984).
3. Foxx-Orenstein AE USCM. Common anorectal disorders. Gastroenterol Hepatol (N Y). 2014 May; 10(5): p. 294-301.
4. Youssef A. Imaging Classification of Perianal Fistula Using the Ultrasound. Journal of Gastroenterology and Hepatology Research. 2015 Jun; 4: p. 1653.
5. Waniczek Dea. Usefulness assessment of preoperative MRI fistulography in patients with perianal fistulas. Polish journal of radiology. 2011; vol. 76(4): p. 40-4.
6. Spencer JAea. Dynamic contrast-enhanced MR imaging of perianal fistulas. AJR American journal of roentgenology. 1996; vol. 167(3): p. 735-41.
7. Vasilevsky CA GP. The incidence of recurrent abscesses or fistula-in-ano following anorectal suppuration. Dis Colon Rectum. 1984; 27(2): p. 126-130.
8. Rojanasakul Aea. Total anal sphincter saving technique for fistula-in-ano; the ligation of intersphincteric fistula tract. Journal of the Medical Association of Thailand = Chotmaihet thangphaet. 2007; vol. 90(3): p. 581-6.
9. Khadia Mea. Management of Fistula-In-Ano with Special Reference to Ligation of Intersphincteric Fistula Tract. Nigerian journal of surgery : official publication of the Nigerian Surgical Research Society. 2016; vol. 22(1): p. 1-4.
10. Drager Luciano Ferreira AMNBCSACMJR. Perianal fistula: retrospective study of surgical treatment of 241 cases. Acta Cir. Bras. [Internet]. 1998 Apr; 13(2).
11. Sileri P CFDSea. Surgery for fistula-in-ano in a specialist colorectal unit: a critical appraisal. BMC Gastroenterol. 2011; 11: p. 120.
12. Abeysuriya V SLSD. The distribution of the anal glands and the variable regional occurrence of fistula-in-ano: is there a relationship? Tech Coloproctol. 2010; 14(4): p. 317-321.
13. Zaheer S RWPJID. Urinary retention after operations for benign anorectal diseases. Dis Colon Rectum. 1998; 41(6): p. 696-704.
14. Toyonaga T MMSNea. Postoperative urinary retention after surgery for benign anorectal disease: potential risk factors and strategy for prevention. Int J Colorectal Dis. 2006; 21(7): p. 676-682.
15. Elsebai Olfat I EAAAMSKAM. Fistulectomy versus fistulotomy in the management of simple perianal fistula. Menoufia Medical Journal. 2016; 29(3).
16. Jain BK VKGPGSMD. Comparison of a fistulectomy and a fistulotomy with marsupialization in the management of a simple anal fistula: a randomized, controlled pilot trial. J Korean Soc Coloproctol. 2012; 28(2): p. 78-82.
17. Ege B LSMBYUÖA. Hybrid seton for the treatment of high anal fistulas: results of 128 consecutive patients. Tech Coloproctol. 2014; 18(2): p. 187-193.
18. O. K. To lay open or excise a fistula-in-ano: a randomized trial. Br J Surg. 1985; 72(12): p. 970.
19. Theerapol A SBNS. Routine use of setons for the treatment of anal fistulae. Singapore Med J. 2002; 43(6): p. 305-307.
20. Han JG WZZYCCWXCXSWCJ. Ligation of Intersphincteric Fistula Tract vs Ligation of the Intersphincteric Fistula Tract Plus a Bioprosthetic Anal Fistula Plug Procedure in Patients With Transsphincteric Anal Fistula: Early Results of a Multicenter Prospective Randomized Trial. Ann Surg. 2016 Dec; 264(6): p. 917-922.
21. Vergara-Fernandez O EUL. Ligation of intersphincteric fistula tract: what is the evidence in a review? World J Gastroenterol. 2013; 19(40): p. 6805-6813.
22. Kumar Ravi RSGS. FISTULOTOMY VERSUS FISTULECTOMY FOR TREATMENT OF FISTULA-IN-ANO. Journal of Evolution of Medical and Dental Sciences. 2016 June; 5(50): p. 3217-20.
23. Bektasoglu H&KE. Elastic Seton Placement in Treatment of Complex Anal Fistula: Analysis of 44 Patients. Turkish Journal of Colorectal Disease. 2018; 28: p. 18-21.
24. Parthasarathi R GRRSSRPPSPPC. Ligation of the intersphincteric fistula tract for the treatment of fistula-in-ano: experience of a tertiary care centre in South India. Colorectal Dis. 2016 May; 18(5): p. 496-502.
25. Murtaza G SFCTRBSNAS. Fistulotomy versus fistulectomy for simple fistula in ano: a retrospective cohort study. J Pak Med Assoc. 2017; 67(3): p. 339-342.