

A prospective study of clinical outcomes of surgical management for Fistula in ano

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Abstract:-

Fistula in ano is a track that connects the anal canal or rectum to the perianal skin. Fistula in ano is a benign treatable lesion which seen frequently with perianal and perirectal suppuration due to cryptoglandular infection. The anal crypt gland penetrates the internal anal sphincter to varying degrees and once obstructed, the suppuration follows the path of least resistance. This determines the location of the abscess (perianal, intersphincteric, or ischioanal) and accordingly the type of fistula.

The perianal fistulous disease has significant implications for patient quality of life as sequelae range from minor pain and social hygienic embarrassment to frank sepsis. Anal incontinence, recurrence, persistent discharge are common complications after surgery so a proper surgical treatment is required to choose from available surgical options, so the study of various surgical modalities and their outcome is a matter of interest to study to provide the best option to the patient.

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I. CASE STUDY: -

Aim of Study-

-To study the clinical outcomes of different surgical management techniques for fistula in ano in our hospital.

Primary objectives-

-To study the various modes of surgical treatment for fistula in ano and their complications (Urinary retention, Temporary anal incontinence, delayed wound healing {after 8 weeks})

-To study the efficacy of different modalities of surgical approach concerning anal incontinence, anal stricture, and outcome in reference to cure/persistence/recurrence of fistula followed by surgery.

Secondary objectives –

- To study the Aetio-pathogenesis and clinical presentation of fistula in ano.

Material and methods :

A total of 60 patients of fistula-in-ano and its associated symptoms along with clinical outcomes and complications were studied.

This study had been approved by the Institutional Ethical Committee.

Study design:

This is a prospective **descriptive study** of a minimum of 60 cases diagnosed as fistula-in-ano.

Study Duration: 2year

The period of study was from 1st August 2018 to 31st July 2020 along with minimum 6 months follow up of patients.

Methods of collection of data: -

The study was conducted on patients with fistula-in-ano admitted to surgical wards in Sir H.N. Reliance Foundation Hospital and Research Centre, Mumbai.

1. Direct interview with the patient and obtaining a detailed history.
2. Each case was examined properly in clinically and in a systematic manner as per the proforma drafted for study.
3. Appropriate investigations were performed over the patients.
4. Cases were selected consequently with following inclusion and exclusion criteria.
5. Patients were followed up either in the OPD or by telephonic on Post-Operative 1st week, 3rd week, 3 months, and 6 months.

Inclusion criteria :

The patients in the age group between 18 – 90 years both male and female who are clinically diagnosed as fistula-in-ano and admitted to the surgical wards in Sir H.N. Reliance Foundation Hospital and Research Centre, Mumbai were included in this study.

Exclusion criteria:

- All fistulas due to perineal injuries were excluded.
- All congenital fistulas were excluded from the study.
- Fistula in ano is associated with Haemorrhoids and Anal fissures.
- Fistula in ano associated with uncontrolled systemic medical comorbidities (like chron’s disease, Tuberculosis and other systemic diseases which can presents with complex multiple tract fistula in ano)
- patients previously diagnosed with lax anal sphincters determined by per rectal examination
- patients undergoing additional procedures along with fistula surgery were also excluded from the study.
- Patient not willing for surgery when fistula in ano demonstrated Clinically.

Sampling method: Simple random sampling statistical Method.

After analysis, results will be drawn using X² (Chi-square test/Fisher’s exact Test) and conclusions were made.

II. RESULTS

In our study, a total of 60 cases who underwent fistula surgery were taken. Results were analyzed according to

1. Type of surgery
2. Post Operative Complications
3. Post Operative Result (After Minimum 6 Months Follow Up)

Table 1 : Distribution of the Participants in Terms of Type of Surgery (n = 60)

Type of Surgery	Frequency	Percentage
Fistulectomy	26	43.4%
Fistulotomy	16	26.6%
LIFT surgery	7	11.7%
Endorectal Advancement Flap	9	15.0%
VAAFT	2	3.3%
Total	60	100.0%

- 43.4% of the participants underwent Type of Surgery: Fistulectomy.
- 26.6% of the participants underwent Type of Surgery: Fistulotomy.
- 11.7% of the participants underwent Type of Surgery: LIFT surgery.
- 15.0% of the participants underwent Type of Surgery: Endorectal Advancement Flap.
- 3.3% of the participants underwent Type of Surgery: VAAFT.

Table 2 : Distribution of the Participants in Terms of Postoperative Complications (n = 60)

Postoperative Complications	Frequency	Percentage
Present	11	18.3%
Absent	49	81.7%
Total	60	100.0%

- 18.3% of the participants had Postoperative Complications.
- 81.7% of the participants did not have Postoperative Complications.

Table 3 : Distribution of Post operative complication (n = 60)

Post operative complication	Frequency	Percentage
Absent	49	81.6 %
Urinary Retention	2	3.3 %
Flatus Incontinence	4	6.7 %
Delayed wound healing (after 8 weeks)	5	8.4%
Anal Stricture	0	0.0%
Total	60	100.0%

- 3.3% of the participants developed Urinary Retention.
- 6.7% of the participants had developed Flatus incontinence.
- 8.3% of the participants had Delayed Wound Healing (After 8 Weeks).
- None of the participants developed Anal Stricture.

Table 4 : Association Between Type of Surgery and Postoperative Complications (n = 60)

Postoperative Complications	Type of Surgery						Fisher's Exact Test	
	Fistulectomy	Fistulotomy	Endorectal advancement flap	LIFT	VAAFT	Total	χ^2	P Value
Present	5 (20.8%)	2 (11.1%)	1 (11.1%)	2 (28.6%)	1 (50.0%)	11 (18.3%)	2.870	0.580
Absent	19 (79.2%)	16 (88.9%)	8 (88.9%)	5 (71.4%)	1 (50.0%)	49 (81.7%)		
Total	24 (100.0%)	18 (100.0%)	9 (100.0%)	7 (100.0%)	2 (100.0%)	60 (100.0%)		

Type of Surgery	Adjusted P Values
Fistulectomy vs. Fistulotomy	0.969
Fistulectomy vs. Endorectal advancement flap	1.000
Fistulectomy vs. LIFT	0.969
Fistulectomy vs. VAAFT	0.969
Fistulotomy vs. Endorectal advancement flap	1.000
Fistulotomy vs. LIFT	0.969
Fistulotomy vs. VAAFT	0.969
Endorectal advancement flap vs. LIFT	0.969
Endorectal advancement flap vs. VAAFT	0.969
LIFT vs. VAAFT	1.000

Fisher's exact test was used to explore the association between 'Type Of Surgery' and 'Postoperative Complications' as more than 20% of the total number of cells had an expected count of less than 5. There was no significant difference between the various groups in terms of distribution of Postoperative Complications ($\chi^2 = 2.870$, $p = 0.580$).

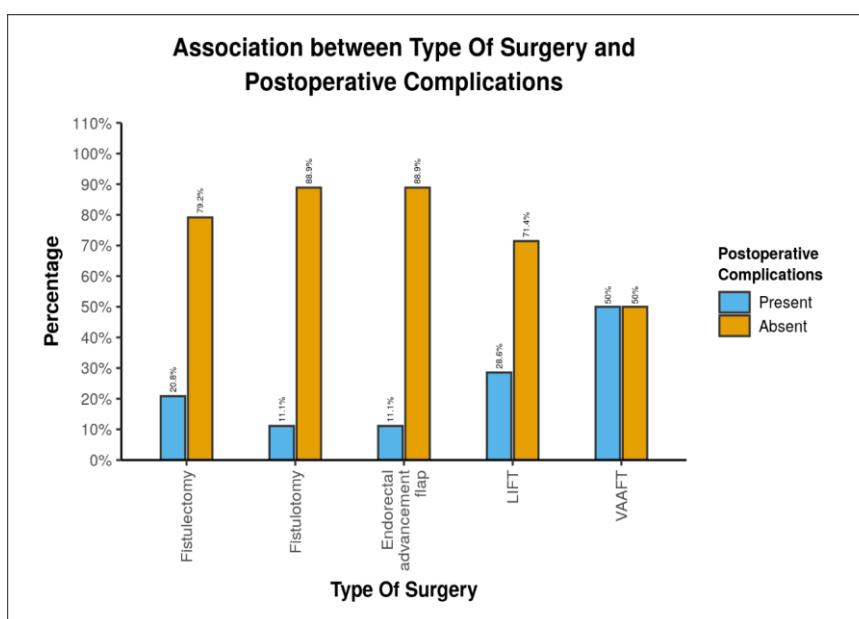


Figure 1: Association between type of surgery and postoperative complications

- In the group [Fistulectomy] had Postoperative Complications:
Present in 20.8% of the participants
Absent in 79.2% of the participants
- In the group [Fistulotomy] had Postoperative Complications:
Present in 11.1% of the participants
Absent in 88.9% of the participants
- In the group [Endorectal Advancement Flap] had Postoperative Complications:
Present in 11.1% of the participants.
Absent in 88.9% of the participants
- In the group [LIFT] had Postoperative Complications:
Present in 28.6% of the participants
Absent in 71.4% of the participants
- In the group [VAAFT] had Postoperative Complications:
Present in 50.0% of the participants
Absent in 50.0% of the participants

Table 5 : Distribution of the Participants in Terms of Postoperative Result (After Minimum 6 Months Follow Up) (n = 60)

Postoperative Result (After Minimum 6 Months Follow Up)	Frequency	Percentage
Cured	57	95.0%
Persistence	2	3.3%
Recurrence	1	1.7%
Total	60	100.0%

- 95.0% of the participants had Post Operative Result (After Minimum 6 Months Follow Up): Cured.
- 3.3% of the participants had Post Operative Result (After Minimum 6 Months Follow Up): Persistence.
- 1.7% of the participants had Post Operative Result (After Minimum 6 Months Follow Up): Recurrence.

III. Discussion: -

We studied 60 cases admitted in surgical wards with fistula in ano and its associated symptoms along with clinical outcomes and complications of various surgical techniques at Sir H.N. Reliance Foundation Hospital and research centre, Mumbai from 1st August 2018 to 31st January 2020 with six months follow up with mentioned inclusion and exclusion criteria.

76.7% of the participants were male and 23.3% of the participants were Female.

The maximum number of cases of fistula in ano are found in the age group of 31-40 years with a Male: Female ratio of 3.2:1, which is comparable with other similar studies Quazi et al and Yasmin Bhatti et al. ^[1]

Fistulectomy was the most performed surgery in our study.43.4% of the participants underwent Fistulectomy, 26.6% of the participants underwent Fistulotomy,11.7% of the participants underwent LIFT Surgery,15.0% of the participants underwent Endorectal Advancement Flap and 3.3% of the participants underwent VAAFT.

18.3% of all participants develop Postoperative Complications, in which 3.3% of the participants had Urinary Retention who underwent Fistulectomy. 6.7% of the participants developed flatus incontinence after surgery which improved gradually on the healing of the wounds. In which,2 participants underwent Fistulotomy for Trans sphincteric and Inter sphincteric fistula respectively and 1 participant underwent Fistulectomy for Inter sphincteric fistula and 1 participant underwent Endorectal Advancement flap for Trans sphincteric fistula who develops Flatus incontinence.

8.3% of the participants had Delayed Wound Healing (After 8 Weeks) .2 patients underwent Fistulectomy and had diabetes as comorbidities and 2 patients underwent LIFT surgery in which 1 patient had Diabetes and 1 patient underwent VAAFT with no comorbidities. None of the participants developed Anal Stricture.

Complete healing period range from 2 weeks to 8 weeks. 8.3% of the participants had Delayed Wound Healing (After 8 Weeks).

After Minimum 6 Months Follow Up of the participants, Fistula Cured in 95.0% of participants. Persistence in 3.3 %, and Recurrence in 1.7% participants as Postoperative Result. Fistula persists in 2 participants who underwent Fistulectomy for Inter sphincteric fistula and VAAFT for Trans sphincteric fistula, recurrence happens in 1 participant who underwent Fistulotomy for Trans sphincteric Fistula with Diabetes as comorbidity after initial healing of the wound.

In our study we found no significant difference between the various surgical modalities in terms of the distribution of Postoperative Complications ($\chi^2 = 2.870$, $p = 0.580$), the observed p-value is >0.05 . Available studies, trails and meta-analysis are still not conclusive to determine a superior surgical treatment for anal fistula. According to

Meta-analysis published in 2016 by Yansong Xu et al [2] there is no conclusive evidence to show which method is better for simple anal fistula.

IV. CONCLUSION

This study gives an insight into the clinical presentation of anal fistula and the various investigative and conventional treatment modalities which can be offered to the patients. A digital anorectal examination and Proctoscopy were sufficient to establish the diagnosis in approximately 85% of the patients. MRI is advisable in cases of complex and recurrent fistulas. Fistulotomy and fistulectomy were the most commonly performed operations and had comparable and acceptable rates of fistula healing & recurrence. There was no significant difference between the various surgical modalities in terms of the distribution of Postoperative Complications ($\chi^2 = 2.870$, $p = 0.580$), the observed p-value is >0.05 .

Three factors determine the outcome of patients with anal fistula:

- a) fistula-related characteristics,
- b) patient-related features, and
- c) surgical factors

While the first two factors are not modifiable, the surgeon can have a significant impact on the outcome. The decision to treat medically in some patients such as those with inflammatory bowel disease or atypical infections as well as the choice of the right operation for an individual patient is critical in order to optimize the result and avoid failure and complications so the outcome depends on all 3 factors which are inter correlated.

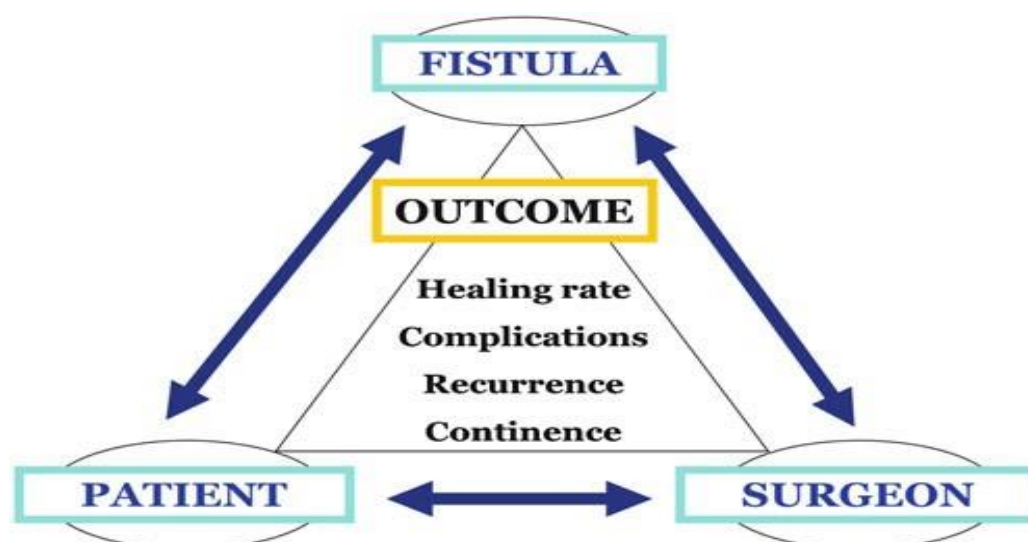


Figure 2: The impact of various factors on the outcome of anal fistula Surgery

We relied largely on conventional surgical procedures and had acceptable outcomes in terms of postoperative complications like urinary retention, anal incontinence, anal stricture and delayed wound healing with final results of fistula as cured, persistence and recurrence. However the limitations of this study were less number of complex fistula included and less number of newer methods for fistula treatment performed with non-availability of other new alternative treatment modalities like fibrin glue, fistula plug, and Fistula Laser Closer techniques in our study so well powered, well-conducted randomized controlled trials are needed for further comparison of outcomes of various modalities.

References

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