Original Research Article

New Indian Journal of Surgery
Volume 10 Number 6 / November - December 2019
DOI: https://dx.doi.org/10.21088/nijs.0976.4747.10619.4

A Clinical Study on Fistula-in-ano: A Comparative Study of Different Treatment Modalities in A Tertiary Care Hospital

G Kishore Babu[1], Shiva Prasad Naik N[2]

[1]Associate Professor, Department of General Surgery, Sri Venkateswara Institute of Medical Sciences, Tirupathi, Andhra Pradesh 517507, India. [2]Senior Resident, Department of General Surgery, Sri Venkateswara Medical College, Tirupathi, Andhra Pradesh 517507, India

How to cite this article:

G Kishore Babu, Shiva Prasad Naik N. A Clinical Study on Fistula-in-ano: A Comparative Study of Different Treatment Modalities in A Tertiary Care Hospital. New Indian J Surg. 2019;10(6):581-585.

Abstract:

Context: Fistula-in-ano is an abnormal communication, lined by granulation tissue between the anal canal and the skin, which causes chronic inflammatory response. Surgery for fistula-in-ano is considered essential for decompression of acute abscesses and to prevent spread of infection. Treating anal fistula is a complex task because of anatomical location of disease, recurrence rate, potential risk of septic complications and postoperative fecal incontinence. Main objective of surgery is to heal the fistula and minimize the morbidity of disease. Many surgical techniques, fistulotomy, fistulectomy, Seton, LIFT and others used for treatment of fistula. Eradication of sepsis and maintenance of continence are two great challenges for the success of surgery.

Aims: To study the incidence, etiology, clinical presentations and different treatment modalities for fistula-in-ano.

Settings and Study design: Prospective analytical study, Study subjects and setting: 75 patients presenting with fistula-in-ano in Dept. of surgery SVRRGGH Tirupati. Study period: October 2017 to October 2018.

Materials and Methods: In this study, 75 cases who underwent Fistula Surgery were taken Age, Sex, Complaints, Type of fistula, Type of surgery, Duration of hospital stay, Complications, Histo-pathological examination were noted for analysis.

Statistical analysis used: SPSS11

Results: 80% Fistula-in-ano occur in men and around 30–50 years. Simple fistula is 84%, complex fistula 16%. Most common type is simple, low-level, posterior fistulas. Commonest presenting symptom is Discharge & Pain. Fistulectomy is the commonly done. Pain is the most common postoperative complication. Mean Hospital stay is 4–6 days. 7% of patients had recurrence in 3 months. Common etiology is non-specific.

Conclusions: Fistula-in-ano is mostly due to crypto glandular infection. Diagnosis is by history, clinical examination, per rectal examination with discharging sinus and pain, histopathological examination of fistula tract. Most fistulas associated are non-specific etiology. Fistulectomy is better than fistulotomy because of complete healing and no recurrence after surgery.

Keywords: Fistula-in-ano; Fistulectomy; Fistulotomy; Seton; LIFT.

Corresponding Author: Shiva Prasad Naik N, Senior Resident, Department of General Surgery, Sri Venkateswara Medical College, Tirupathi, Andhra Pradesh 517507, India.

E-mail: siva.0467@gmail.com

Received on 24.10.2019, **Accepted on** 28.11.2019

Introduction

Fistula-in-ano is an abnormal communication, lined by granulation tissue between the anal canal and the skin, which causes chronic inflammatory response. Most commonly they develop following anal abscesses. It is the most common cause of seropurulent discharge in perianal region.[1–7]

If the outlet of the gland has been blocked secondary to fecal material, foreign bodies or trauma may result in stasis, infection and abscess can form which can eventually point to skin surface. The tract formed by this process is the fistula. Abscess can recur if a fistula seal over resulting in accumulation of pus, which may come to the surface and the process, is recurred again.

Surgery for fistula-in-ano is considered essential for decompression of acute abscesses and to prevent spread of infection. Fistula may be associated with the following disease like inflammatory bowel disease, diverticulitis, tuberculosis, HIV infection, previous radiation exposure or steroid therapy. These patients may present with abdominal pain, weight loss, change in bowel habits. Hence, associated disease should be investigated and ruled out before doing definitive treatment for fistula-in-ano.

Treating anal fistula is a complex task because of anatomical location of disease, recurrence rate, potential risk of septic complications and postoperative fecal incontinence. Main objective of surgery is to heal the fistula and minimize the morbidity of disease. Many surgical techniques, fistulotomy, fistulectomy, Seton, LIFT and others used for treatment of fistula. Eradication of sepsis and maintenance of continence are two great challenges for the success of surgery.

Materials and Methods

Method of study: Prospective analytical study.

Study subjects and setting: 75 patients presenting with fistula-in-ano in Dept of Surgery SVRRGGH, Tirupathi.

Study period: October 2017 to October 2018.

Inclusion Criteria: All patients having a clinical diagnosis of fistula-in-ano.

Exclusion Criteria: Patients with Severe comorbidities, fistulas due to IBD, active TB, HIV, previous radiation therapy, Malignancy, Perianal trauma.

Results

In this study, 75 cases, underwent fistula surgery were taken analysis of results according to Age, Sex, Complaints, Type of fistula, Type of surgery, Duration of hospital stay, Complications, Histo-pathological examination. 97.3% were shows non-specific etiology so predominant cause for fistula-in-ano is crypto glandular origin (Tables 1–13).

Table 1: Age wise distribution

Age in years	No. of patients	Percentage
16–20	1	1.30%
21–30	7	9.30%
31–40	21	28%
41–50	32	42.70%
> 51	14	18.70%

Table 2: Sex wise distribution

Sex	No. of patients	Percentage
Males	60	80%
Females	15	20%

Table 3: Mode of presentation

Complaints	No. of patients	Percentage
Pain	50	66.70%
Discharge	62	82.70%
Swelling	25	33.30%
Others	11	14.70%

Table 4: Number of external openings

No of external openings	No. of patients	Percentage
1	67	89.30%
2	6	8.00%
> 2	2	2.70%

Table 5: Situation of external opening

Position	No. of patients	Percentage
Anterior	5	6.70%
Posterior	70	93.30%

Table 6: Level of fistula

Level of fistula	No. of patients	Percentage
Low	71	94.70%
High	4	4.3%

Table 7: Nature of fistula

Type of fistula	No. of patients	Percentage
Simple	63	84%
Complex	12	16%

Table 8: Surgeries done for Fistula-in-ano

Type of surgery	No. of patients	Percentage
Fistulectomy	36	48%
Fistulotomy	29	38.60%
Seton	5	6.70%
Lift	5	6.70%

Table 9: Postoperative complications - Type of Surgery

			Type of Surgery				Total
			Fistulectomy	Fistulotomy	Lift	Seton	
Intra Post Comp	Bleeding	Count	2	0	0	0	2
		% within Intra/ Post op Comp	100	0	0	0	100
		% within type of surgery	5.4	0	0	0	2.7
	Discharge	Count	0	2	1	1	4
		% Within Intra/ Post op Comp	0	50	25	25	100
		% Within Type of Surgery	0	7.4	16.7	20	5.3
	No	Count	3	4	0	0	7
		% Within Intra/ Post op Comp	42.9	57.1	0	0	100
		% Within Type of Surgery	8.1	14.8	0	0	9.3
	Pain	Count	31	21	4	4	60
		% Within Intra/ Post op Comp	51.7	35	6.7	6.7	100
		% Within Type of Surgery	83.8	77.8	66.7	80	80
	Pain and discharge	Count	1	0	1	0	2
		% Within Intra/ Post op Comp	50	0	50	0	100
		% Within Type of Surgery	2.7	0	16.7	0	2.7
	Total	Count	37	27	6	5	75
		% Within Intra/ Post op Comp	49.3	36	8	6.7	100
		% Within Type of Surgery	100	100	100	100	100

Chi-square Value = 15.142, *p* - Value = 0.234 (Not Sig)

Table 10: First follow up - Type of Surgery

			Type of Surgery				Total
			Fistulectomy	Fistulotomy	Lift	Seton	
Post op Visit	Fecal incomtinence	Count	2	0	1	0	3
		% Within Post op Visit	66.7	0	33.3	0	100
		%With in Type of Surgery	5.4	0	16.7	0	4
	Persistent sepsis	Count	1	2	3	2	8
		% Within Post op Visit	12.5	25	37.5	25	100
		%With in Type of Surgery	2.7	7.4	50	40	10.7
	Wound healthy	Count	34	25	2	3	64
		% Within Post op Visit	53.1	39.1	3.1	4.7	100
		%With in Type of Surgery	91.9	92.6	33.3	60	85.3
	Total	Count	37	27	6	5	75
		% Within Post op Visit	49.3	36	8	6.7	100
		%With in Type of Surgery	100	100	100	100	100

Chi-square Value = 21.705, *p* - Value = 0.001 (Sig)

Table 11: Subsequent follow up - Type of Surgery

			Type of Surgery				Total
			Fistulectomy	Fistulotomy	Lift	Seton	
Follow Up	Recurrence	Count	1	1	2	1	5
		% Within Subsequent Followup	20	20	40	20	100
		%With In Type of Surgery	2.7	3.7	33.3	20	6.7
	Wound healthy	Count	36	26	4	4	70
		% Within Subsequent Followup	51.4	37.1	5.7	5.7	100
		%With In Type of Surgery	97.3	96.3	66.7	80	93.3
	Total	Count	37	27	6	5	75
		% Within Subsequent Followup	49.3	36	8	6.7	100
		%With In Type of Surgery	100	100	100	100	100

Chi-Square Value = 9.601, *p* - Value = 0.022 (Sig.)

Table 12: Recurrence Type of Surgery

		Type of Surgery				Total
		Fistulectomy	Fistulotomy	Lift	Seton	
Recurrence	Count	36	26	4	4	70
	% Within no Recurrence	51.4	37.1	5.7	5.7	100
	% Within Type of Surgery	97.3	96.3	66.7	80	93.3
	Count	1	1	2	1	5
	% Within no Recurrence	20	20	40	20	100
	% Within Type of Surgery	2.7	3.7	33.3	20	6.7
Total	Count	37	27	6	5	75
	% Within no Recurrence	49.3	36	8	6.7	100
	% Within Type of Surgery	100	100	100	100	100

Chi-square Value = 9.601, *p* - Value = 0.022 (Sig)

Table 13: Duration of hospital stay

Stay in hospital	No of patients	Percentage
3 days	9	12%
4–6 days	53	70.70%
Above 6 days	13	17.30%

Discussion

Fistula-in-ano is one which is easy to diagnose and difficult to treat, if the right kind of surgery is not performed, the disease tends to recur. So, establishment of right treatment modality is very important to prevent recurrence. Various treatment modalities: Fistulectomy, Fistulotomy, SETON[8,9], LIFT[10,11,12], VAAFT [13,14,] Fistula plug, Fibrin glue etc.

In this study, 42.70% patients were of age group 41–50 years, 28% patients were of age group 31–40 years, above 51 years age were 18.70%. It showed that most common age group involved is middle age around 40 years. In this study 80% of patients were male and 20% are female. This disease is more common in male. In this series 82.70% patients presented with discharge in perianal region. 33.30% patients presented with history of perianal abscess. 66.70% patients presented with pain. So, discharge is the most common presenting complaints in Fistula-in-ano. 89.30% patients presented with only one opening in perianal region, 8.0% patients are presented with 2 openings and 2.70% patients presented with > 2 openings.[15]So, patients with a single external opening is most common. 93.30% patients are presented with opening posterior and 6.70% patients presented with anterior opening. So, most common position is posterior. 94.70% patients have low-level fistula and 4.3% are having high-level of fistula. So, low-level fistula is most common presentation.[16] 84% patients had simple fistula and 16% had complex fistula. So, most common presentation was simple fistula. 49.30% patients are treated with Fistulectomy 36.0% patients are treated with Fistulotomy 8.0% patients are treated with LIFT 6.7% patients are treated with SETON Fistulectomy was the most common surgery performed. In my study, pain is the major complaint. Complete healing seen in 93.30% of patients. Recurrence was seen in 6.70% of patients. Patient had been followed on POD 10 and reviewed after 3 months. 70.70% patients have stayed 4–6 days, 17.30% patients stayed above 6 days and 12% stayed for 3 days 97.33% of patients are presented with non-specific crypto glandular infection, remaining 2.67% are associated with granulomatous lesions.

Conclusion

Fistula-in-ano is mostly due to crypto glandular infection. Diagnosis is by history, clinical examination, per rectal examination with discharging sinus and pain, histopathological examination of fistula tract. Most fistulas associated are non-specific etiology. Fistulectomy is better than fistulotomy, because of complete healing and no recurrence after surgery.

Acknowledgement: To my patients and the guide

Conflict of Interest: Nil

Source(s) of support: No

Presentation at a meeting: No

References

1. Shastri A. Sutra Sthana. 4th edition Vol 33. Varanasi: Chaumbika Sanskrit Sansthan; 2001. Sushrutacharya, Sushruta Samhita, Ayurved Tatva Sandipika; 2001. pp. 126–27.
2. Shastri A. Chikitsa Sthana. 11th edition. 03. Vol.

6. Varanasi: Published Chaukhamba Sanskrit Sansthan; Sushrutaacharya, Sushruta. Samhita Dalhanacharya Kaviraj; 1953. p. 35.

3. Singhal GD. Bhagandara Nidana Adhaya, 4th Chapter. Sushrutha Samhitha Ancient Indian Surgery, Part I. Delhi: Chaukambha Sanskrit samsthana; p. 530.
4. Pankaj S, Manoranjan S. Efficacy of Kshar Sutra (Medicated Seton) therapy in the Management of fistula-in-ano. World Journal of Colorectal Surgery 2010;2(6):01-10.
5. Zimmerman. Great ideas in the History of Surgery. Norman Publishing. 2003; p.158.
6. History of Africa otherwise, Franch: From the anal fistula Louis XIV to Modern Surger. Dimanche 2011 19 June; 77.
7. Donald Hawes. British Library Cataloging in Publication Data, 2007.
8. McCourtney JS, Finlay IG. Setons in the surgical management of fistula-in-ano. Br J Surg 1995 Apr; 82(4):448–52. [Medline] 83.
9. Hammond TM, Knowles CH, Porrett T, et al. The Snug Seton: Short and medium term results of slow fistulotomy for idiopathic anal fistula. Colorectal Dis 2006 May;8(4):328–37. [Medline].
10. Lunnis PJ. Invited commen, LIFT procedure: A simplified technique for fistula-in-ano. Tech Coloproctol 2009;13:241–242.
11. Outcomes with the use of bioprosthetic grafts to reinforce the ligation of the intersphincteric fistula tract (Bio LIFT procedure) for 78 the management of complex anal fistulas. Dis Colon Rectum 2010 Oct;53(10):1361–364. Ellis CN1.
12. Vergara-Fernandez O and Espino-Urbina LA. Ligation of intersphincteric fistula tract: What is the evidence in a review? World J Gastroenterol 2013 oct 28;19(40):6805–13.
13. VAAFT Surgery: Best painless anal fistula treatment Delhi, Dr. Ashish Bhanot, Chief of Bariatric surgery and Surgical Gastroenterlogy Nova Hospitals.
14. VAAFT Surgery: Video Assisted Anal Fistula Treatment Dr. Rajeev Premnath, Ramakrishna Super Speciality Hospital 806, 15th Cross, III Block Jayanagar, Bangalore - 560011.
15. Types of Anal Fistula, Fistula-in-ano - Fistula Care India - Dr. Manoharan Nanda Kishore, Sr. Consultant - Minimal Access, Gi and General Surgeon, Chennai - 79.
16. Anorectal anatomy and physiology. Bailey and Love's Short Practice of Surgery; Chapter 72, pp. 1242.