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Original Research Article

Study of management of 25 cases of fistula-in-ano

Jignesh Jethva[1], Pallav Patel[1], Jaydeep Gadhavi[1], Hiren Parmar[2*]

[1]Assistant Professor, [2]Associate Professor
Department of Surgery, GMERS Medical College, Gandhinagar, Gujarat, India
[*]Corresponding author email: drhirenparmar@gmail.com

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Abstract

Background: Fistula-in-ano forms a good majority of treatable benign lesions of the rectum and anal canal. 90% or so of these cases are end results of crypto glandular infections. Despite the easy of diagnosis, establishing a cure is problematic on two accounts. Firstly, many patients tend to let their ailment nag them rather than being subject to examination, mostly owing to the site of this disease. The more important second factor is that a significant percent of these diseases persist or recur when the right modality of surgery is not adopted or when the post-operative care is inadequate.

Aim and objectives: To know the usefulness of investigative procedures in early and accurate diagnosis of fistula in ano. To study the efficacy of different modalities of surgical approach with reference to post-operative hospital stay and complications like pain, bleeding and sphincter incontinence and outcome in respect to persistence/ recurrence of fistulae.

Material and methods: A total of 25 patients with clinically diagnosed fistula in ano were included in the study. Clinical history was obtained in all the patients. Clinical examination including per rectal examination and proctoscopy was done in all the patients. All the patients were processed by routine investigations, ECG, chest X - ray etc. prior to surgery. Patients were followed up to a period of 1 year.

Results: 6 patients i.e. 24% had similar illness out of them two previously operated for fistula with recurrence, and four patients with similar illness and resolved without treatment. In this study, 72% of patients had low level of fistula and another 28% of patients had an internal opening situated above the ano rectal ring. Patients with low level fistula were treated with fistulotomy and fistulectomy and patients with high level fistula were treated with seton placement. In this study 60 % of patients underwent fistulotomy, 12 % of patients fistulectomy and another 28% seton placement. Patients with low level fistula were treated with fistulotomy and fistulectomy and patients with high level fistula were treated with seton placement.

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Conclusion: Fistula-in-ano is an important, commonest disease due to crypto glandular infection (anal glands) and has a complication of ano rectal abscess. It is curable disease by the treatment of surgery and higher antibiotics, local antibiotics with good post-operative wound management, like sits bath for twice a day without closing the wound.

Key words

Fistula-in-ano, Fistulotomy, Fistulectomy, Seton.

Introduction

Fistula-in-ano forms a good majority of treatable benign lesions of the rectum and anal canal [1]. 90% or so of these cases are end results of crypto glandular infections [2]. As such, the vast majority of these infections are acute but a significant minority is contributed by chronic, low-grade infections, hence pointing to varying aetiologies. The common pathogenesis however is the bursting open of an acute or inadequately treated ano-rectal abscess into the peri-anal skin. Most of these fistulas are easy to diagnose with a good source of light, a proctoscope, and a meticulous digital rectal examination [3]. Despite the easy of diagnosis, establishing a cure is problematic on two accounts. Firstly, many patients tend to let their ailment nag them rather than being subject to examination, mostly owing to the site of this disease. The more important second factor is that a significant percent of these diseases persist or recur when the right modality of surgery is not adopted or when the post-operative care is inadequate [4]. So these conditions affect a lot of young and middle aged persons causing loss of valuable productive man hours.

Aim and objectives

- To know the usefulness of investigative procedures in early and accurate diagnosis of fistula-in-ano.
- To study the efficacy of different modalities of surgical approach with reference to post-operative hospital stay and complications like pain, bleeding and sphincter incontinence and outcome in respect to persistence/ recurrence of fistulae.

Material and methods

A total of 25 patients with clinically diagnosed fistula-in-ano were included in the study. All patients were subjected to surgical intervention. The study was conducted at V.S. Hospital from June 2007 to November 2009. Clinical history was obtained in all the patients. Clinical examination including per rectal examination and proctoscopy was done in all the patients. All the patients were processed by routine investigations, ECG, chest X - ray etc. prior to surgery. Patients were followed up to a period of 1 year. Cases were selected by following criteria.

Inclusion criteria

- Age at time of admission between 20 years and 80 years.
- Patient complaint of recurrent discharge per rectum for a period greater than 15 days with demonstration of single/multiple external openings seen as an elevation of granulation tissue discharging pus in the perianal region and confirmed on digital rectal examination.

Exclusion criteria

- Patients with clinical and investigative evidence of ano-rectal malignancy.

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- Patients' refusal for surgical intervention when the fistula-in-ano was demonstrated on clinical examination.

Level of fistula [5]

The internal opening was demonstrated by digital rectal examination, proctoscopy, and injection of hydrogen peroxide or dilutes methylene blue through the external opening or fistulogram.

- Low level fistula had internal opening situated below the ano rectal ring.
- High level fistula had internal opening situated above the ano rectal ring.

Fistulogram [6] was performed in the following cases.

- Recurrent fistulas.
- Patients with clinical and investigative evidence of tuberculosis/inflammatory bowel disease.
- Demonstration of multiple external openings on inspection of perianal region and confirmed on digital rectal examination.
- The internal opening was not apparent on digital rectal examination and proctoscopy.

Treatment

- Patients with low level fistula were treated with fistulotomy and fistulectomy.
- Patients with high level fistula were treated with seton placement.

Post-operative outcome

Different modalities of surgical approach were studied with reference to

- Duration of hospital stay
- Complications
    - Bleeding
    - Pain
    - Urinary retention
    - Incontinence
    - Recurrence

Results

25 cases of fistula-in-ano were selected randomly and studied in detail and following results were obtained. Only patients with age at time of admission between 20 years and 80 years were included in the study as other age groups were less convinced for surgery. Age incidence was as per **Table – 1**.

Previous history for fistula-in-ano

6 patients i.e. 24% had similar illness out of them two previously operated for fistula with recurrence, and four patients with similar illness and resolved without treatment.

No. of external openings of fistula-in-ano

In present study, 88% of patients had only one external opening and 12% of patients had multiple external openings.

Fistulogram

Fistulogram was done in only 10 cases i.e. 40% of cases in this series. This was done where clinical impression of type of fistula could not be made confidently or fistula was associated with complicating factors.

Level of fistula

In this study, 72% of patients had low level of fistula and another 28% of patients had an internal opening situated above the ano rectal ring. Patients with low level fistula were treated with fistulotomy and fistulectomy and patients with high level fistula were treated with seton placement.

Types of surgical treatment

In this study 60 % of patients underwent Fistulotomy, 12 % of patients fistulectomy and another 28% seton placement. Patients with low

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level fistula were treated with fistulotomy and fistulectomy and patients with high level fistula were treated with seton placement.

Average duration of post-operative hospital stay (in days)

Seton placement was associated with the maximum duration of post-operative hospital stay (average 12 days) followed by fistulectomy with 11 days. Fistulotomy required the least days of post-operative hospital stay with an average of 5 days.

Post-operative complications

Post-operative complications were as per **Table - 2**.

Bleeding: Post-operative bleeding occurred in 7% of fistulotomy patients and 33% in the fistulectomy group. No clinical significant bleeding occurred in the seton group. Bleeding was controlled in all the cases with pressure dressing only and no further operative management was required.

Pain: 7% of fistulotomy patients, 67% of fistulectomy and 29% of seton group complained of severe pain. Pain incidence was significantly higher in fistulectomy and seton group as compared to fistulotomy group. Pain was treated by analgesics and local anaesthetic ointment application.

Urinary retention: Retention of urine was noticed in 7% of fistulotomy patients. No similar complaints were noticed in other groups. Retention was relieved by indwelling catheterization.

Incontinence: Incontinence of flatus was noticed in 33% of fistulectomy patients and was absent in the other groups. None of the patients in our study developed incontinence of stools.

Recurrence: Recurrence was noticed in 7% of fistulotomy patients in follow up to 1 year. No similar complaints were noticed in other groups.

Discussion

In our study fistula-in-ano was more common (48%) in 20-30 years age group. Kyung Won Kang, et al. had majority of patients in the third to fifth decade of life (75.1%) [7]. Inadequately operated patient may show healing of wound from the superficial side of track but rectal and anal side of wound may persist leading to recurrence, so healing from depth is very necessary [8]. Kyung Won Kang, et al. demonstrated that the majority of patients had one external opening (88.0%) [7]. From this fact we can conclude that fistula-in-ano is present in majority of cases, with only one external opening. Fistulogram has high degree of inaccuracy and is invasive and potentially may result in the dissemination of sepsis, so it should be used judiciously in evaluation of fistula [9]. Rosa G, et al. had treated most patients by fistulotomy alone (594 patients, 70.4%) or by the combined fistulectomy-fistulotomy method (237 patients, 28.1%), with or without loose seton [10]. Kim JW, et al. had used fistulectomy in 4 cases (23.5%), fistulotomy in 11 cases (64.7%) and seton procedure in 2 cases (11.8%) [11].

Fistulectomy creates larger wounds significantly prolonging wound healing time and there is greater risk of injuring or excising underlying muscle thereby increasing the risk of incontinence. So fistulectomy was preferred in less number of patients. Seton when tightened cuts through the anal sphincter musculature gradually and also the tract cut under goes fibrosis with resultant healing of the fistula. As a result there is less chances of incontinence and hence was used in our study for management of high fistula. Knoefel WT, et al. had 4 of the 131 patients (3%) developing incontinence of liquid stool and flatus, but no incontinence of solid stool occurred in their study as well [12].

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Ritchie RD, et al. suggested that the average rate of incontinence following cutting seton use was 12% while as no incontinence was seen in our study group [13]. It can be suggested that fistulectomy causes more damage to the sphincter and underlying muscle than fistulotomy. Seton causes minimal damage to the sphincter mechanism and is preferred in high fistulas. Khalid Hussain Qureshi, et al. had demonstrated overall recurrence rate of 4.44% for low fistulae operated by laying open technique (fistulotomy) and 11.11 % for high fistula in-ano treated with seton cut-through technique [14]. Fistulotomy has higher incidence of recurrence than fistulectomy as more tissue is left behind. Seton has low rate or recurrence and was nil in the present study.

Conclusion

Fistula –in- ano is an important, commonest disease due to crypto glandular infection (anal glands) and has a complication of ano rectal abscess. It is curable disease by the treatment of surgery and higher antibiotics, local antibiotics with good post-operative wound management, like sits bath for twice a day without closing the wound. Diagnosis is by history, clinical examination, per rectal examination with discharging sinus and pains the complaints in majority of patients. All the cases should undergo surgery. Fistulotomy although has a slightly higher recurrence rate than Fistulectomy is preferred for low anal fistulas, as it is associated with less chances of incontinence, has significantly less incidence of post-operative complications and is associated with less hospital stay duration. Seton happens to be the procedure of choice in high anal fistula.

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Table – 1: Age incidence.

Age (years)	20-25	26-30	31-35	36-40	41-45	46-50	51-55	>55
No.	6	6	2	3	3	4	1	0
%	24	24	8	12	12	16	4	0

Table – 2: Post-operative complications.

Type of operation	**Post-operative complications rate (%)**				
	Bleeding	**Pain**	**Urinary retention**	**Incontinence**	**Recurrence**
Fistulotomy	7	7	7	nil	7
Fistulectomy	33	67	nil	33	nil
Seton placement	nil	29	nil	nil	nil