

Original Research Article

Management of anorectal reverse sinus diseases

Mahendra Pal Singh*

Department of General Surgery, Gian Sagar Medical College and Hospital, Ram Nagar, Rajpura, Patiala, Punjab, India

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***Correspondence:**

Dr. Mahendra Pal Singh,

E-mail: drmpsingh32@gmail.com

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ABSTRACT

Background: It is usual to face complexities in perianal abscesses, fistulas and perianal sinus diseases. Perianal sinus indicates to a blind tract in the perianal area with a discharging opening externally. We selected patients with perianal blind tracts with intra-luminal discharging openings (Reverse sinus) without any visible external opening. Treatment policy was altered accordingly.

Methods: We excluded sinuses with external discharging openings, fistulas, hemorrhoids, simple fissures and malignant pathologies. Study was conducted in 64 patients at city hospital, sector-8 Chandigarh. Ours is a hospital based descriptive study conducted between January 2020 to June 2021.

Results: Patients with reverse sinuses were divided into four groups based on their etiology. Chronic fissures with discharging opening at 6° clock position (18 cases). Primary anorectal abscesses with intraluminal opening and without any external opening (14 cases). Primary operated anorectal abscess with reverse sinus and no external opening (20 cases). Patients having previous fistula surgery presenting with reverse sinus (12 cases). Treatment in general was tricky yet local healing and long-term results were very good.

Conclusions: Once the internal opening is located retrograde probing was done. Perianal nick-incision over the tip of the probe helped to convert sinus into fistula. Subsequent fistulotomy was performed. In case of thick Sphincteric chunk loose seton was encircled around the sphincteric muscle. Subsequently the seton was tightened to achieve cutting and healing simultaneously. In cases of failed retrograde probing perianal nick-incision was given to perform usual probing of the fistula made.

Keywords: Fissure sinus, Post fistulectomy reverse sinus, Anorectal ring, Seton (Kshar Sutra), Perianal sinus, Perianal abscess

INTRODUCTION

More than 95% of all ano-rectal abscesses are caused by infections arising in the anal glands that communicate with the anal crypts (Cryptoglandular disease).^{1,2} As the abscess enlarges, it escapes the confines of the intersphincteric plane and spreads in any one of several possible directions. The most common of all ano-rectal abscesses is a peri-anal abscess, which presents as a tender, erythematous bulge at the anal verge. Incision and drainage alone will result in complete resolution of the infection in about half of patients.³ The drainage should

be performed as close to the anal verge as possible to shorten the length of any subsequent fistula.

Acute abscesses recur in about 10% of the patients and fistula in about 50% of patients. The appropriate treatment for anal fistula is dependent upon the anatomy and the location of the fistulous tract.⁵⁻⁷ Internal opening must be excised and wound should be left open to heal and drain.¹³ In some patient's external part of the wound closes in operated fistula and ano-rectal abscesses. Pus recurs with an intra-luminal opening draining the pus.

As per literature peri-anal sinus is a blind cavity with an opening in the peri-anal skin surface without any luminal connection. Present study includes cases having intra-luminal opening only.

Deep peri-anal abscesses might open intra-luminally due to rising pressure. Their progression is promoted in immuno-compromised patients. Pain is severe with coughing and bowel movements. Inflammatory signs and discharge of pus from rectum can be detected with endoscopy. MRI helps to locate the pus and its intra-luminal opening in 86-95.2% cases.¹² Recurrence in fistula surgery could be from 7% to 50%.¹⁵ To combine seton treatment along with fistulotomy in cases of reverse sinus helps to enhance healing, save sphincter and reduces incidence of recurrence.¹⁴

METHODS

Total 64 cases of reverse peri-anal sinuses were included in this ante-grade hospital based descriptive study. It was conducted from January 2020 to June 2021 at city hospital sector-8, Chandigarh. Sample selection was purposive as we intended to study cases of reverse sinuses only. Sample size was adequate as we included all 64 patients whom we treated during the stipulated period of our study.

Inclusion criteria

All the patients of ano-rectal sinus disease with intra-luminal discharging opening were included. No discrimination of age and sex was made and they were taken for treatment as and when they presented. Patients with chronic fissure at 6^o clock position with discharging opening internally and post-operative fistula patients with recurrence fulfilling our criteria were included. Primary perianal abscesses opening intra-luminally and operated patients of peri-anal abscesses where external part got obliterated were included.

Exclusion criteria

Patients with sinuses having external opening, fistulas, simple fissures, hemorrhoids and all sorts of Ano-rectal malignancies were excluded.

Sample size

Total numbers of 64 patients who came to our practice at city hospital Chandigarh during the stipulated period of our study were included. They were assigned into four groups:

Group 1

Eighteen patients (15 males and 3 females, M:F=5:1), aged 27-65 years with mean age of 43 years. They were having chronic fissure with internal discharging opening.

Group 2

Fourteen patients of primary ano-rectal abscess with intra-luminal opening (10 males and 4 female, M:F=2.5:1), Aged from 24-67 years with mean age of 45 years.

Group 3

Twenty cases of primary operated ano-rectal abscess with reverse sinus (16 male and 4 female M:F= 4:1) aged from 18-48 years with mean age 30 years.

Group 4

Twelve patients (8 males and 4 females, M: F=2:1), aged 28-62 years having mean age of 45 years. These patients were presenting with recurrence having reverse sinus after primary fistula surgery with no external opening.

Table 1: Sex ratio and mean age in different groups of patients.

Groups	Group wise no. of cases	Males	Females	Male female ratio	Age (years)	Mean age (Years)
1	18	15	03	05:01	27-65	43
2	14	10	04	2.5:01	24-67	45
3	20	16	04	04:01	18-48	33
4	12	08	04	02:01	28-62	45

Table 2: Usual symptoms encountered in the patients (64 subjects).

Symptoms	Constipation	Rectal/ anal discharge	Peri-anal pain	Peri-anal swelling	Per-rectal bleeding
No. of patients	28	64	49	26	18

All the patients under went clinical assessment by thorough history, digital rectal examination and proctoscopy. History included purulent anal discharge, peri-anal pain and tenderness and occasional bleeding

P/R. Sigmoidoscopy was done to exclude any lesion higher up in selective cases. Tuberculosis was excluded.

Treatment policy

Lords' anal dilatation was done in all the patients prior to definitive surgery in order to reduce the post-operative pain. Thorough ano-rectal preparation was performed a day before surgery. Patients were given spinal anesthesia and operated in lithotomy position. Retrograde probing of the peri-anal cavity was done after identifying the internal opening. A surgical nick was given over the tip of the probe externally near to the anal verge. Thus, sinus was converted into a fistula. Now either of two modalities were adopted. 1: Fistulotomy of the artificially created fistula alone. 2: Fistulotomy combined with encircling the sphincteric part of the sinus along with internal opening with the help of a seton. Seton is kept loose and changed weekly till healthy granulation develops and size of the wound is reduced. Now we can tighten the seton slowly to cut and heal the sphincter simultaneously.

In few of the cases retrograde probing was not possible so we gave the perianal surgical nick over the fluctuant part externally and probed the artificially made fistula in a conventional ante-grade manner.

Initially patients were followed every 5th day for 6 weeks then 2 weekly visits were continued for 2 months. Later patient visited us on monthly basis for next three months. Final assessment was done at end of 6 months.

RESULTS

We divided our 64 subjects into four groups:

Group 1: Patients with chronic fissure with internal opening were 18 in number. They were treated with just fistulotomy to heal and cure.

Group 2: Patients of primary ano-rectal abscess with reverse sinus were 14 in number. Combined treatment was required in 09 patients (64%).

Group 3: Patients of primary ano-rectal abscess operated previously and later they presented as reverse sinuses since outer part of the wound healed and closed. They were 20 in numbers and combined treatment was required in 12 patients (60%).

Group 4: The 12 patients of post operative fistula surgery with reverse sinus needed combined treatment in 10 cases (83%).

All the patients were followed for six months after surgery. They resulted in complete healing with no-recurrence and complications.

Assessments at six months follow up revealed the following facts: All patients had symptomatic relief in the form of absent pus discharge, no local pain or tenderness or no bleeding per-rectum, none of the patients has anal incontinence for either stools or flatus, local examination revealed complete healing of the wound with no external opening, DRE revealed no tenderness or pus discharge or any induration in the anal canal and anoproctoscopy showed no signs of inflammation or presence of any internal opening.

Table 3: Percentage of combined treatment (fistulotomy and seton) group wise.

Groups	No. of cases	Fistulotomy only	Fistulotomy + seton treatment	Percentage of combined treatment (%)	Cure rate (%)
Group-1	18	18	None	Nil	100
Group-2	14	05	09	64	100
Group-3	20	08	12	60	100
Group-4	12	02	10	83	100

DISCUSSION

Patients presented with definite perianal reverse sinus cavity with spontaneous discharge in 90% cases. In rest of the 10% cases discharge appeared on peri-anal pressure. The 77% patients were male with a mean age in the 4th decade. Disease was found to be more common in 3rd, 4th and 5th decade of life. Sinuses due to post operated fistula surgery were probably due to missed internal opening in the primary surgery. These cases are mostly due to wrong anatomical assessment of internal opening and missed out inner part of the fistulous tract.^{13,15} Patients in our series were having peculiar clinical status.^{8,11} Best possible treatment was chosen on the basis of correct anatomical, clinical and MRI based diagnosis. Etiology in all the cases was established prior to

surgery.¹² Recurrence and in-continece factor was kept in the focus during surgery. Concomitant use of seton with fistulotomy prevented unwarranted mutilation.^{5,9,10,14}

Use of seton was combined in 31/64 cases (48%). Table 3 clearly depicts the use of seton in different groups of patients. Since retrograde probing was not possible in all the cases so we adopted anti-grade conventional probing of the cavity in five cases of group-2 and 3 case each of group-3 and group-4.

Our results were comparable to the existing studies in group-1. In other groups we could achieve better results due to combine use of seton and fistulotomy. It resulted in complication free healing and cure.^{14,16,17}

Limitations

At times it was difficult to succeed in retrograde probing so in such cases we adopted the usual probing method by creating a small hole in the peri-anal skin. We had to perform such maneuver in 5 cases (36%) in group-2 and in 3 patients each of group-3 (15%) and group-4 (25%). Reason behind could be depth of internal opening and visibility.

CONCLUSION

Ano-rectal sinus disease as such is neglected subject and less talked about because of its complexity. Since fistulous tracts and sinuses traverse the sphincteric muscle mass, their cure lies in laying open the tracts completely which is not always free of complications. This can lead to sphincteric injury and subsequently incontinence. In the present study we were able to establish the etiological factors in each of our patients that helped in understanding the local anatomy better. We could establish that these cases were different from usual peri-anal abscess, fistulas or sinuses (those with an external opening) and each case had to be treated according to its etiology and the involved anatomy. The combined use of surgery and seton (kshar-sutra) resulted in complete healing and prevented complications like recurrence and incontinence.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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