

# Recurrent Anorectal Abscesses\*

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A prospective study of 100 recurrent anorectal abscesses in 97 patients was carried out to elucidate the cause of recurrence. Sixty-four patients had had one, 12 had had two, and the rest had had more than two prior abscesses. In 32 patients, the previous diagnosis was erroneous; the patients had hidradenitis suppurativa which was excised. In 68 patients, the cause of recurrence was insufficient prior treatment. Thirty-one patients (45 per cent) had fistulous abscesses requiring fistulotomy. Twenty-two patients (32 per cent) had large abscesses associated with fistula necessitating unroofing of the abscess along with fistulotomy. In 15 patients (22 per cent), no associated fistula was detected, but they were found to have missed components (*i.e.*, ischiorectal, supralelevator, postanal abscesses) and were successfully treated with drainage of the missed abscess component. All recurrent abscesses must be examined carefully under anesthesia to identify associated fistulas or missed components, or to exclude hidradenitis suppurativa. [Key words: Fistula; Abscess, supralelevator, ischiorectal, perianal, hidradenitis, recurrent; Fistulotomy]

RECURRENT ANORECTAL ABSCESSES continue to present a problem to the surgeon treating anorectal diseases. In an effort to learn the causes of recurrence, we prospectively studied 100 cases of recurrent anorectal abscesses in patients who presented to the Colon and Rectal Surgery Service at Cook County Hospital from 1977 through 1980.

## Materials and Methods

This group consisted of 100 cases of recurrent abscesses in 97 different patients, three patients having presented twice, each time with different abscesses. Upon admission, each patient was carefully examined and questioned to determine that the abscess was indeed recurrent, *i.e.*, that at an earlier date an abscess had been present in the same anatomic location. The fate of the previous abscess was then queried and recorded.

Slightly more than half of the patients were male (53) and the great majority were black (89), reflecting

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the patient population of our hospital (Table 1). Ages ranged from 16 to 64 years (average 32).

Patients were symptomatic from one to 30 days, with an average of 7.3 days. Ninety-nine per cent of our patients presented with pain, 26 per cent with drainage, and 19 per cent had fever. One patient presented with urinary retention. Few of our patients had significant associated medical problems. Eight patients had diabetes mellitus. One patient presented with anal Crohn's disease and one with anal tuberculosis.

Sixty-four patients had had only one prior abscess. Twelve had had two previous abscesses, four had had three, six had had four, and 14 had had five or more. One patient who ultimately was found to have an associated fistula had had a total of 12 recurrences of the same abscess (Table 2).

The average interval between the first abscess and the present one was 4.5 years. The average time between the last abscess and the present one was two years. This difference is explained by the different number of previous abscesses in our patient group.

The patients with anorectal abscesses were treated by a method described earlier by Abcarian.<sup>1</sup> All abscesses were drained by a stab incision under local

TABLE 1. *Recurrent Anorectal Abscesses*

Total patients	97
Total recurrent abscesses	100
Sex	
Male	53
Female	44
Race	
Black	89
White	8
Age range	16-64
Average	32

TABLE 2. *Recurrent Anorectal Abscesses*

Number of Prior Abscesses	Patients
1	64
2	12
3	4
4	6
5 or more (12)	14 (1)
TOTAL	100*

\* One hundred abscesses seen in 97 patients.

anesthesia shortly after arrival on the ward. The patients were then examined under regional (caudal or spinal) anesthesia in the operating room at the next regular operating period, usually the following day. A careful search was made for any internal fistulous opening. If one was found, either primary fistulotomy or first-stage fistulotomy with placement of seton was performed, depending upon the type of fistula. A careful inspection was also made for an associated component (or extension of abscess) involving ischioanal, supralelevator, or other spaces. External drainage was established by means of single or multiple radial incisions. Hemostasis was assured with electrocoagulation. The abscess cavity was packed with iodoform gauze, which was removed over the next one or two days. Sitz baths were started on the first postoperative day and were continued until all wounds had healed.

A number of patients were identified at surgery as having recurrent hidradenitis suppurativa. These were treated with wide, one-stage excision of all diseased tissue down to healthy fat or fascia, in the manner described by Thornton and Abcarian.<sup>2</sup> Wound and postoperative care were identical to that in the previous group.

### Results

The fate of the previous abscesses in this patient group was studied carefully. In the 64 patients having

TABLE 3. *Fate of Previous Abscess in 64 Patients with Only One Prior Abscess*

Incision and drainage	23
Spontaneous rupture	15
Surgery	15
Spontaneous resolution	11
TOTAL	64

TABLE 4. *Fate of Previous Abscesses in 36 Patients with More Than One Prior Abscess*

Spontaneous rupture	9
Incision and drainage	6
Combination spontaneous rupture or incision and drainage	5
Combination spontaneous resolution or rupture	4
Surgery	4
Combination incision and drainage or surgery	3
Combination resolution, rupture, or incision and drainage	3
Spontaneous resolution	2

had only one prior abscess each, 23 had had outpatient incision and drainage elsewhere with no further treatment. Fifteen patients had had previous spontaneous rupture followed by disappearance of symptoms, while another 15 patients had been treated by formal surgery in an operating room. Eleven patients had histories of prior spontaneous resolution without drainage (Table 3).

Of the 36 patients with more than one prior abscess, a wide variety of outcomes was noted (Table 4). Only four patients in this group had consistently been treated by formal inpatient surgery.

At surgery, 32 patients were found to have recurrent hidradenitis suppurativa (Table 5). Of these 32 patients, 12 (38 per cent) had histories of previous outpatient incision and drainage alone, with no further care (Table 6). Ten patients (31 per cent) related histories of previous spontaneous rupture and five (16 per cent) histories of spontaneous resolution. Three patients (9 per cent) had had earlier surgical treatment which proved inadequate. Two patients (6 per cent) with multiple recurrences had had a combination of earlier spontaneous rupture or outpatient incision and drainage alone. All 32 patients with recurrent hidradenitis were treated by one-stage, complete surgical excision down to healthy fat or fascia. Hospital days for these patients ranged from three to 17 (average 4.7) and correlated directly with the area of diseased tissue excised.

TABLE 5. *Recurrent Anorectal Abscesses*

Findings at Surgery	
Anorectal abscess proper	68
Hidradenitis suppurativa	32

TABLE 6. *Recurrent Hidradenitis*

Fate of Previous Infections in 32 Patients	Number	Per Cent
Incision and drainage alone	12	38
Spontaneous rupture	10	31
Spontaneous resolution	5	16
Inadequate surgery	3	9
Spontaneous rupture or incision and drainage	2	6

Sixty-eight patients were found at surgery to have recurrent anorectal abscess proper. A diligent search was made to identify any associated fistula. Thirty-one patients (45 per cent) had a small fistulous abscess, and fistulotomy proved adequate (Table 7). Twenty-two patients (32 per cent) had larger abscesses associated with fistula. In addition to fistulotomy, a portion of the abscess cavity was unroofed in these patients. Fifteen patients (22 per cent) had no associated fistula, and an unroofing procedure alone was utilized. The average hospital stay was 5.7 days.

The anatomic classification of these 68 abscesses is shown in Table 8. Thirty patients (44 per cent) were found to have intersphincteric abscesses, all associated with fistulas. Nineteen patients (28 per cent) were found to have ischioanal abscesses, and 13 of these were associated with fistulas. Twelve patients (18 per cent) had perianal abscesses, five with associated fistulas. One patient in this group had anal Crohn's disease, and one had anal tuberculosis. Seven patients (10 per cent) had supralevator abscesses, four having fistulas. All in all, in this group of 68 recurrent anorectal abscesses, 52 were found to have an associated fistula, for an incidence of 76 per cent (Table 8).

The causes of recurrence of these anorectal abscesses are shown in Table 9. Twenty patients (30 per cent) were previously operated upon as inpatients and were found to have had a missed factor at their surgery. Fourteen of these patients had a missed fistula, while six had an overlooked ischioanal, supralevator, or deep postanal space component. Seven-

TABLE 7. *Recurrent Anorectal Abscesses*

Type of Surgery	Number of Patients
Fistulotomy	31 (45 per cent)
Unroofing with fistulotomy	22 (32 per cent)
Unroofing of abscess	15 (22 per cent)
TOTAL	68 (100 per cent)

TABLE 8. *Recurrent Anorectal Abscesses—Findings at Surgery*

Type of Abscess	Number	Per Cent	Associated with Fistula	
			Number	Per Cent
Intersphincteric	30	44	30	100
Ischioanal	19	28	13	68.4
Perianal	12	18	5	41.6
Anal Crohn's disease (1)				
Anal tuberculosis (1)				
Supralevator	7	10	4	57.1
TOTAL	68	100	52	76.4

teen patients (25 per cent) were treated by outpatient incision and drainage only, and 12 of these patients went on to develop a fistula. Sixteen patients (23 per cent) had a previous spontaneous rupture, and 14 of these developed a fistula. Nine patients (13 per cent) underwent a previous spontaneous resolution, and six of these patients were found to have a fistula. Four patients with multiple recurrences had combinations of spontaneous rupture or incision and drainage alone, and three of this group developed fistulas. Finally, anal Crohn's disease and anal tuberculosis were the causes of recurrence in two patients.

### Discussion

There are few problems in clinical surgery that equal the frustrations of recurrence following surgical intervention, and recurrent anorectal abscesses and perianal hidradenitis are two examples found

TABLE 9. *Cause of Recurrence in 64 Patients with Anorectal Abscess*

Missed factor at prior surgery	20 (30 per cent)
Missed fistula	14
Missed component	6
Incision and drainage only	17 (25 per cent)
Developed fistula	12
Spontaneous rupture	16 (23 per cent)
Developed fistula	14
Spontaneous resolution	9 (13 per cent)
Developed fistula	6
Spontaneous rupture or incision and drainage	4 (6 per cent)
Developed fistula	3
Anal Crohn's Disease	1 (1 per cent)
Anal tuberculosis	1 (1 per cent)

commonly in patients presenting to Cook County Hospital. For over a decade, an aggressive surgical approach has been followed for hidradenitis suppurativa, as proposed by Lane<sup>3</sup> and by Conway *et al.*,<sup>4</sup> and for anorectal abscesses, as suggested by McElwain *et al.*,<sup>5</sup> Hanley,<sup>6</sup> and others.<sup>1</sup> We feel that there is indeed, no place for nonoperative, conservative management of these infections, and antibiotics are rarely indicated as an adjunctive measure. The cornerstone of management for these lesions consists of careful exploration under anesthesia and identification of associated fistulas and components combined with appropriate surgical measures, preferably as a one-stage procedure.<sup>5,7</sup>

Our study of 100 recurrences of anorectal abscess in 97 patients demonstrates the most common reasons for recurrence of these infections. Spontaneous rupture with no further treatment, spontaneous resolution, and outpatient incision and drainage alone are inadequate forms of treatment and carry a significant risk of recurrence. As shown in this study, a high incidence of fistula accompanies these recurrences. Missed fistulas and overlooked anatomic components of abscess at previous surgery will inevitably lead to recurrence of disease. Significantly, the three patients in this series who presented twice with recurrence fall into this latter category. Two patients were ultimately found to have a missed fistula and one patient had an undiagnosed supralelevator component to his abscess.

Similarly, we advocate aggressive surgical management for perianal hidradenitis suppurativa. This should consist of wide and complete excision of all diseased tissue down to healthy fat or fascia.<sup>2</sup> Incomplete excision or incision and drainage alone are not acceptable means of treatment. Spontaneous rupture or resolution without complete surgical excision will result in a significant rate of recurrence.

### Summary

A prospective study of 100 recurrent anorectal abscesses has been presented. Two-thirds (68) were

found at surgery to be anorectal abscesses proper, and one-third (32) were recurrent hidradenitis suppurativa. Inadequate previous surgery (*i.e.*, missed fistulas and anatomic components), incision and drainage alone, and spontaneous rupture or resolution with no further surgical management are factors responsible for subsequent abscess recurrence. The incidence of fistula in recurrent anorectal abscess was 76 per cent.

We strongly recommend that all patients with anorectal abscesses must be examined under anesthesia and in the operating room. Patients found to have hidradenitis suppurativa should have one-stage, complete excision of all diseased tissue down to healthy fat or fascia. A careful search should be made for complex anorectal infections with associated ischioanal, supralelevator, and deep postanal space components, and appropriate drainage should be accomplished. Finally, an associated fistula should be carefully sought and identified, and a primary or staged fistulotomy should be carried out. This aggressive surgical approach will ensure minimal, if any recurrences.

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