Perianal Crohn's Disease—Is it All Bad News?

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PURPOSE: The outcome of treatment of perianal Crohn's disease was assessed in 127 patients. METHODS: A retrospective review of the case notes of 415 patients who were seen in the North East of Scotland between 1985 and 1989 was undertaken. RESULTS: A total of 127 of 415 patients with Crohn's disease had perianal involvement. In 56 patients, perianal disease was the presenting complaint. Ninety-nine of the 127 patients had colonic involvement. Thirty-two were treated with metronidazole, and 41 were treated with azathioprine, with at least temporary improvement in 91 and 68 percent, respectively. Seventy patients had treatment for fistula-in-ano, and in 50 percent of patients permanent healing was achieved. In general, treatment and outcome were largely related to the extent and severity of gut involvement. Proctectomy was performed in 32 patients (in 11 because of ongoing colonic disease). Only seven patients had proctectomy solely because of perianal disease. Proctectomy was necessary in 32 of 99 patients with colitis and perianal disease but in none of 28 patients without colonic involvement. Primary healing of the perineal wound was obtained in 17 patients, and only one patient has an unhealed perineal wound at the time of reporting. CONCLUSION: Perianal Crohn's disease does not inevitably lead to panproctocolectomy. Cautious surgery for fistula when rectal inflammation is quiescent is worthwhile. Loss of bowel continuity is more likely when colitis coexists with perianal disease. Panproctocolectomy is often indicated because of the combination of colitis and perianal disease rather than for perianal disease alone. [Key words: Crohn's disease; Perianal Crohn's disease; Fistula-in-ano; Panproctocolectomy]

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Perianal Crohn's disease has a bad reputation as a relentless, worsening problem, which neither medical nor surgical treatment can improve and for which the ultimate measure of proctocolectomy can result in an unhealed perineal wound. In Grampian region inflammatory bowel disease is extremely common, particularly Crohn's disease, with recent incidence figures of 10 per 10^5 per year.[1] We have studied a group of patients with perianal Crohn's disease to assess whether the reputation of this disease is justified and whether our treatment seems to have affected the course of the disease.

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PATIENTS AND METHODS

A group of patients with Crohn's disease admitted between January 1985 and December 1989 with a diagnosis of Crohn's disease was identified from the SMR1 data collection system used in Scottish hospitals. Four hundred thirty-seven case notes were studied for details of the areas involved by Crohn's disease. Twenty-two patients were excluded from the study because they were found to have other diagnoses or were admitted while on holiday from other areas.

Of the remaining 415 patients, 127 had perianal involvement. The clinical details of the presentation and course and management of the disease were recorded, with particular reference to the perianal manifestations. All perianal manifestations of Crohn's disease mentioned in discharge or clinic letters were included. All patients had histologic confirmation of Crohn's disease. The effects of treatment were recorded from the correspondence in the case notes, with an attempt to assess the effect of each method of treatment if at all possible.

RESULTS

Seventy-nine females and 48 males had perianal Crohn's disease, with a mean age at presentation with perianal disease of 38.6 (range, 12–81) years. Mean follow-up in these 127 patients is 10.1 (range, 1–30) years.

Presentation and Diagnosis

The common presenting problems of abscess, fistula, and fissure occurred in almost equal numbers (Fig. 1). In 56 patients, perianal disease was the first evidence of Crohn's disease. In 36 patients, biopsies of skin and/or rectum were taken at presentation, and these biopsies were completely negative in only three cases. No biopsy seemed to have been taken at presentation in 20 patients. In seven patients this caused delay in diagnosis, varying from 1 month to 10 years.

The 71 other patients were known to have Crohn's disease when they presented with perianal disease,

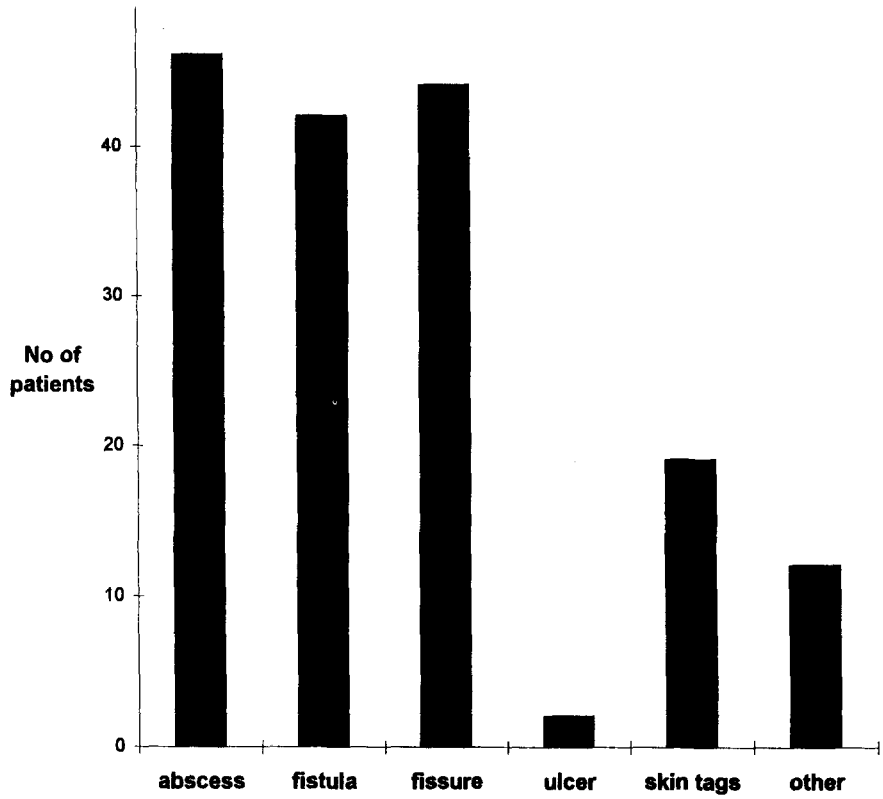

Figure 1. Presenting problem of perianal Crohn's disease in 127 patients.

and 28 had previously had bowel resection. Forty-nine patients were known to have colonic Crohn's disease, and this figure increased to 99 on further investigation. Only four patients have not been found to have any other site of Crohn's disease after extensive investigation.

Treatment at presentation was very varied, in keeping with the diversity of clinical problems. Patients presenting with localized abscess had surgical drainage (27), and 17 other patients had an established fistula laid open. Forty-three patients were started on medical treatment with systemic steroids (18), rectal steroids and salazopyrin (8), azathioprine (12) and antibiotics (5), mostly reflecting the concurrent involvement of other areas of the gut with Crohn's disease. Five patients had internal sphincterotomy, and 11 patients had anal dilation performed at presentation because of anal fissure. Fifty-five patients developed more than one manifestation of perianal Crohn's disease during the years.

Drug Treatment

During the course of follow-up, 32 patients were treated with metronidazole and 41 with azathioprine because of perianal Crohn's disease. Ninety-one percent of patients taking metronidazole improved at least temporarily, and 68 percent of patients taking azathioprine improved (Table 1). Metronidazole was given in short courses of four to six weeks maximum, and no patient had evidence of peripheral neuropathy. One patient stopped metronidazole because she associated the onset of joint swelling with the drug. Azathioprine was given in a dose of 1.5 mg/kg with close monitoring of the hematologic effects. Three patients stopped azathioprine because of infective episodes, but no serious hematologic side-effects were seen. Five patients, who have improved, stopped azathioprine and remain well, whereas 11 patients continue on therapy. Eight of the patients

Table 1.
Effect of Treatment with Metronidazole or Azathioprine on Perianal Crohn's Disease

	Metronidazole	Azathioprine
Permanent improvement	7	16
Temporary improvement	22	12
No improvement	2	10
Side effects	1	3
Total	32	41

who improved temporarily relapsed on azathioprine, whereas four relapsed on stopping the drug.

Treatment of Fistula-in-Ano

Seventy patients had fistula-in-ano during the course of follow-up (Table 2). Thirty-four had low fistulas that were treated by laying open. In 21 cases, permanent healing of fistulas was achieved, but four patients later required panproctocolectomy because of colitis. In a further six patients, temporary healing was achieved, but the disease of both gut and perianal area progressed further; three were defunctioned with improvement, whereas three had panproctocolectomy. Seven patients in this group continue to have unhealed fistulas, but in four cases the symptoms have been significantly improved by the drainage of sepsis.

In 19 cases the surgeon felt that the fistula track involved a significant amount of the external anal sphincter muscle and that there was a risk of damage to the sphincter by laying it open. Five of these high fistulas were simply laid open, and two patients became incontinent after operation. In both patients, the fistula healed temporarily, but panproctocolectomy was eventually necessary because of the progression of disease and incontinence. Two patients had permanent healing, whereas the other patient was unhealed but improved. A loose Seton suture was used to drain the track of a high fistula after partial laying open in seven other patients. Four patients had permanent healing, but the two others had subsequent panproctocolectomy, although one of these was chiefly because of colonic disease. Two extrasphincteric fistulas were identified; one was treated successfully by small bowel resection, and the other caused surprisingly few symptoms so was not surgically treated. A further high but virtually asymptomatic fistula was not actively treated. Both remain static. One patient had abscesses drained only but went on to panproctocolectomy. Two patients had endoanal advancement flaps performed for high fistula-in-ano; this was successful in one case, but the other required panproctocolectomy. One elderly patient had severe colitis, high fistulas, and panproctocolectomy soon after presentation.

In 17 patients with fistula-in-ano, medical treatment was undertaken. Ten patients were treated with azathioprine, and in two the fistula healed permanently. Three patients were given metronidazole, two received rectal steroids, and two received systemic steroid therapy. The majority of these patients also had severe colonic disease, and six came to panproctocolectomy, two because of colitis alone.

Eighteen patients in all had unhealed fistula-in-ano at the time of reporting. All but three of these patients had minimal symptoms after drainage of sepsis.

Defunctioning Stoma

Eleven patients had a defunctioning stoma performed, at least partially because of their perianal disease. This varied in relation to the extent of the intra-abdominal disease, from an end sigmoid colostomy to a jejunostomy after excision of a considerable length of small bowel and colon. Nine patients had considerable improvement in their perianal symptoms thereafter, but all remain defunctioned. Two patients did not improve and underwent panproctocolectomy.

Table 2.
Outcome in 70 Patients with Fistula-In-Ano

Medical Treatment	High	Low
17	19	34
Treatment		
10 Azathioprine	5 Laid open	34 Laid open
3 Metronidazole	7 Laid open with Seton	
2 Rectal steroid	2 Endoanal flap	
2 Systemic steroid	1 Panproctocolectomy	
	1 Abscess drained	
	1 No treatment	
	2 Extrasphincteric	
Outcome		
6 Panproctocolectomy	7 Panproctocolectomy	7 Panproctocolectomy
1 Defunctioned	1 Defunctioned	3 Defunctioned
2 Healed	8 Healed	17 Healed
8 Unhealed	3 Unhealed	7 Unhealed

Other Specific Problems

Rectovaginal Fistula. Eight females had enterovaginal fistulas. Two of these were between the small bowel and vagina, and the others were rectovaginal. The majority of patients had extensive Crohn's disease; only two patients had no previous history of Crohn's disease, and five of the six others had previous bowel resections. One patient had successful laying open of the fistula with insertion of a Seton suture. One patient had an endoanal advancement flap that failed, and she required panproctocolectomy. One patient had few symptoms, and thus no surgical treatment was performed. Four patients had defunctioning stomas performed, relieving the symptoms. The last patient had a panproctocolectomy because of severe and extensive colitis.

Destructive Anal Ulceration. Large, excavating anal ulcers were seen in five patients. One patient refused operation, and his ulcer healed after prolonged steroid treatment but left a severe anal stricture. One patient had total colectomy and ileostomy because of the ulcer and severe colitis; the ulcer healed with a severe stricture but he is asymptomatic. One patient with very extensive Crohn's disease had a defunctioning stoma with significant improvement. Two patients had panproctocolectomy, one after partial healing on steroids and antibiotics.

Anal Stricture. Thirty-two patients had anal or low rectal strictures, within reach of the examining finger. This was the presenting problem in only three patients, the others had had previous significant perianal Crohn's disease. Five patients were entirely asymptomatic. Two patients had no treatment, ten were dilated easily using Hegar's dilators on one occasion with no recurrence, three improved slowly on medical treatment, and one has a defunctioning stoma. Two patients have ongoing symptoms, and one of these awaits proctectomy. Fourteen patients have undergone proctectomy, two for colitis rather than perianal disease.

Anal Fissure. Forty-two patients were noted to have anal fissure at presentation with perianal Crohn's disease. Sixteen patients had surgical treatment for fissure. Eleven had anal dilation (6 healed, 1 improved, 4 were no better). Five had lateral internal sphincterotomy (3 healed, 1 improved, 1 was no better). Four of these patients had both anal dilation and sphincterotomy, all with eventual healing of the fissure. Two patients had their fissures excised; the fissure did not heal in either case, but symptoms were improved. No patient became incontinent after a surgical procedure for anal fissure.

Results of Panproctocolectomy

Panproctocolectomy was performed in 31 patients and proctectomy alone in 1 patient. In 11 patients, an operation was required because of ongoing colitis rather than perianal disease, and in only 7 patients was an operation performed solely because of perianal disease. The median hospital stay after proctectomy was eight (range, 7–20) days. Primary healing was obtained in 17 patients, 5 patients had minor wound healing problems, and a wound problem requiring further surgery occurred in 9 patients. In all but one of these nine patients, this was of a minor nature, involving a few days hospital stay. Only one patient who had a large anal ulcer had an unhealed wound at the time of last review one year postoperatively.

Outcome

A summary of the outcome with regard to the perianal disease is shown in Table 3. One patient was found to have a small carcinoma in the sigmoid colon at panproctocolectomy and remains well. No patient has developed carcinoma related to their perianal disease. Five of the 127 patients died of unrelated causes during follow-up.

Thirty-two patients had proctectomy. All had colonic involvement with Crohn's disease, and 11 also had small bowel involvement. Age and sex did not influence the risk of proctectomy. Of 99 patients who had Crohn's colitis, 32 had proctectomy. In contrast, of 28 patients with perianal Crohn's disease who had no colitis, none required proctectomy, although one remains defunctioned with a colostomy. In general terms, active rectal inflammation seemed to reduce the chances of healing of perianal disease, particularly after surgical procedures.

Table 3.
Outcome in 127 Patients with Perianal Crohn's Disease

Proctectomy	32
Unhealed asymptomatic	26
Unhealed symptomatic	6
Healed after surgery	41
Healed drug therapy	19
Healed, no therapy	3

DISCUSSION

Opinion varies widely with regard to treatment and prognosis in perianal Crohn's disease. It was the opinion of Hellers and his colleagues[2] that "the combination of rectal Crohn's disease and anal fistulas invariably leads to proctocolectomy." Keighley and Allan[3] stated that patients with perianal Crohn's disease should be treated conservatively because of poor postoperative results. On the other hand, more recent reports would suggest that aggressive surgical treatment of perianal Crohn's disease can be successful.[4] We felt that an assessment of the outcome of treatment in a variety of patients for a number of years would be useful in assessing the approach to these patients.

Crohn's disease is very common in the Grampian region,[1] and because of the arrangement of medical services within the area, virtually all patients with Crohn's disease are seen at the Aberdeen Royal Infirmary and have lifetime follow-up there. We, therefore, see a representative group of patients with perianal Crohn's disease and, in consultation with the gastroenterologists in the hospital, manage the problems on a long-term basis in the context of the other manifestations of their Crohn's disease.

Treatment of perianal Crohn's disease must be as a long-term management problem rather than eradication of a single episode of disease, and cooperation between gastroenterologist and surgeon is essential because both medical and surgical treatment may be of use at various times during the course of the illness. The benefits of examination of the anorectum under anesthetic, repeated if necessary, cannot be overemphasized for identifying localized sepsis around the anus, assessing the pathologic anatomy of fistulas, and allowing adequate examination of the rectum.

If bowel disease is active and no localized surgical problem exists in the perianal area, drug treatment that is clearly indicated for the gut problem may also be helpful for perianal disease. We are able to confirm previous reports[5] that metronidazole causes at least a temporary improvement in more than 80 percent of patients with perianal Crohn's disease. Its use is indicated in cases with grumbling sepsis or suspicion of sepsis with no localized collection of pus. We have not used long courses of metronidazole and in consequence have not seen the neurologic side effects reported in 50 percent of patients after approximately six months of treatment. Despite the lack of controlled trial evidence for the use of azathioprine in active Crohn's disease,[6] we have found this drug to be useful in a number of patients, perhaps particularly in those with fistulating disease. No patient in this series was treated with cyclosporin, and its place is not yet established.[7]

Even the most conservative will agree that localized sepsis in perianal Crohn's disease must be drained.[8–10] This provides considerable symptomatic improvement and helps reduce the extension of sepsis. However, we believe that localized mechanical problems, such as fistula-in-ano, beg surgical answers, particularly if symptoms are troublesome and the anatomy favorable.

In this series, nearly 50 percent of fistulas were permanently healed after treatment. Marks *et al.*[11] and Williams and colleagues[4] have both reported that even in Crohn's disease many fistulas are low and can be laid open with good results. In most series results are less good with high fistulas,[4, 12] but we would seem to have achieved a similar healing rate to that in low fistulas. It may be that high fistulas were treated with more caution by more senior members of staff. The two patients who were incontinent after fistula surgery both developed further disease and so had proctectomy, but successful sphincter repair in Crohn's disease has been reported.[13] Our success rate in healing rectovaginal fistulas was low, but others[14] have reported that the combination of medical treatment with local surgery to repair the fistula is successful in up to one-third of patients. Success in the use of repairs such as endoanal advancement flaps may be related to activity of rectal disease. Repair may also be difficult if anal stenosis is present.

Assessment of the anatomy of a fistula in perianal Crohn's disease is certainly worthwhile and, although the decision may be that fistula surgery is best avoided in a difficult high or rectovaginal fistula with few symptoms, examination under anesthetic affords the opportunity to drain any associated sepsis.

In this series a number of patients underwent either anal dilation or internal sphincterotomy because of presentation with painful anal fissure. Surprisingly, none of these patients developed complications or incontinence. A previous report emphasized that many anal fissures in Crohn's disease heal with medical treatment,[15] but if this fails and the fissure is symptomatic, perhaps we should be less concerned to avoid sphincterotomy than we are at present. We would not recommend the less controlled method of anal dilation for fissure.

Previous reports from Cardiff[16] and Birmingham[3] stated that patients who develop anal and rectal stric-

tures often come to proctectomy. In the present series, less than 50 percent of patients with strictures required proctectomy, and we have noted that these strictures often cause surprisingly few symptoms, worrying the physician more than the patient. If necessary, these strictures can be gently dilated using Hegar's dilators, and we would advise this rather than manual dilation. One-third of the strictures seen were easily dilated on a single occasion with no recurrence, and, therefore, the development of a stricture is not necessarily a harbinger of doom. In contrast, it is unlikely that the patient with severe cavitating ulceration will regain bowel continuity, and many of these patients require proctectomy.

The formation of a defunctioning stoma is likely to be helpful in patients with severe perianal Crohn's disease, but in practice it is unlikely to be reversed.[17, 18] However, it is a useful measure for those in whom severe pelvic sepsis and those who are in poor general health would make immediate proctectomy hazardous and those who are not yet psychologically prepared for proctectomy.

Scammell and Keighley[19] reported considerable problems with perineal wound healing after proctectomy for Crohn's disease, but this was a historical series from 1944 to 1984; wound management has radically altered during the years, with the introduction of primary closure of the perineal wound.[20] Very few of our patients had very significant difficulties in this regard. Although our figures for the percentage of patients readmitted would be consistent with the St Mark's series,[21] the length of admission necessary in Grampian was considerably shorter, emphasizing the minor nature of the problem.

In conclusion, therefore, we believe that the reputation of perianal Crohn's disease is not entirely justified. If the patient has no colonic involvement, it is unlikely that a permanent stoma will be required. Even if the colon is involved, more than 50 percent of patients will retain intestinal continuity.

Active treatment is worthwhile. Medical treatment may be helpful in the presence of active rectal inflammation or in the absence of any simple surgically remediable lesion. Careful surgery for perianal problems has a reasonable success rate, although the surgeon must balance the complexity of surgery necessary with the severity of the patients symptoms. If colitis or perianal disease continues unabated, proctectomy can be undertaken with confidence that morbidity is uncommon. Our approach must take into account the patient's symptomatology rather than abnormal appearances alone, and joint management with medical gastroenterologists is essential.

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