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Alimentary Tract

Nonsurgical treatment of abdominal or pelvic abscess in consecutive patients with Crohn's disease

H. Lee, Y.-H. Kim *, J.H. Kim, D.K. Chang, H.J. Son, P.-L. Rhee, J.J. Kim, S.W. Paik, J.C. Rhee

Department of Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, Irwon-dong 50, Gangnam-Gu, Seoul 135-710, South Korea

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Abstract

Backgrounds. There is little agreement about the efficacy of nonsurgical treatment for abscess associated with Crohn's disease. Furthermore, there is no study on characteristics of abscess or patient that nonsurgical treatment could be worth trying as initial treatment.

Aims. To evaluate the outcome of nonsurgical treatment in Crohn's disease-related abscess and identify factor leading to failure of nonsurgical treatment of this complication.

Patients. Twenty-four patients, who consecutively admitted for Crohn's disease-related abscess to our institution during a 7-year period, underwent nonsurgical treatment as initial therapy.

Methods. Outcome data such as recurrence and intractability, and clinical features were retrospectively analysed. Univariate analysis with patient-related factors and abscess-related factors was performed for risk factor identification.

Results. Median follow-up period was 47.5 months. Of the eligible patients, 19 patients were treated medically and 5 patients underwent percutaneous catheter drainage with medical treatment. Overall success rate of nonsurgical treatment in our centre was 66.7%. The cumulative recurrence rate at 7 months was 12.5%. All recurrences occurred within 7 months from complete resolution on follow-up imaging. Univariate analysis showed that the significant factors which lead to failure of nonsurgical treatment were presence of associated fistula and concurrent steroid use ($P = 0.019$ and $P = 0.019$, respectively).

Conclusion. Nonsurgical treatment can be considered as initial treatment modality for the Crohn's disease-related abscess without concurrent steroid therapy or relevant fistula.

Keywords: Abscess; Crohn's disease; Nonsurgical treatment

1. Introduction

Abdominal or pelvic abscesses occur in 10–30% of patients with Crohn's disease [1–3]. It is known that this complication originates from deep fissuring ulceration by transmural nature of the inflammatory process [4,5]. Surgical treatment is a common treatment modality although abscesses in Crohn's disease are often treated by nonsurgical modality such as medical treatment or percutaneous drainage [6–10]. Particularly, repeated surgical resection tends to be frequently required because of risk for recurrent disease and complication in patients with Crohn's disease [11–15]. On account of risk for short bowel syndrome originating from multiple surgical procedures, nonsurgical therapy has often been preferable or alternative treatment for abscess in Crohn's disease [7,11,12,16]. In spite of several studies on nonsurgical and surgical treatment [5,7,10,16], there is little agreement about the efficacy of nonsurgical treatment. Furthermore, there is no study on characteristics of abscess or patient that nonsurgical treatment could be worth trying as initial treatment.

* Corresponding author. Tel.: +82 2 3410 3409; fax: +82 2 3410 3849.
E-mail address: bowelkim@smc.samsung.co.kr (Y.-H. Kim).

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Our aims were to evaluate the outcome of nonsurgical treatment and identify factor leading to failure of nonsurgical treatment of abscess in consecutive patients with Crohn's disease.

2. Patients and methods

2.1. Subjects and methods

Among the 225 patients who were diagnosed with Crohn's disease according to standard criteria between September 1998 and July 2004 at Samsung Medical Center in Seoul, 24 patients (10.7%) were consecutively admitted to our unit for abdominal or pelvic abscess. Initial treatment of all eligible patients admitted to our unit has been 'nonsurgical' according to the rule established in our unit. Over a 7-year period, our rule was to make a preferential nonsurgical treatment for all patients with Crohn's disease-related abscess irrespective of severity of disease. Nonsurgical treatment was categorised as medical treatment without catheter drainage and medical treatment combined with percutaneous catheter drainage. All patients were consulted to experienced radiologists for percutaneous drainage. This percutaneous drainage was attempted for all applicable patients. Inaccessibility of abscess mainly made this intervention inapplicable. An abscess was defined as an extraluminal fluid collection identified by radiological finding such as typical computed tomography or ultrasound appearance, or pus on aspiration. All the patients underwent barium studies for detecting fistula formation. In addition, all the patients underwent antibiotic treatment with intravenous third-generation cephalosporin and metronidazole for 4 weeks and radiological evaluation for follow-up at 4th week from beginning of antibiotic treatment. Retrospective review of a database provided information on eligible patients. In all selected patients, we obtained information such as Crohn's disease-related procedure, disease duration, distribution of disease, location and size of abscess, multiplicity of abscess, prior surgical history, relevant fistula, concurrent steroid therapy, prior steroid therapy and bacterial strains isolated from pus. All patients with concurrent steroid therapy were on medication of oral prednisolone not less than 20 mg. No patient had a treatment with other immunosuppressant at that time. With respect to outcome, we analysed treatment failure, which included recurrence of abscess and intractable abscess. Intractability was defined as a failure of complete resolution of abscess on imaging for follow-up in spite of treatment for not less than 4 weeks. Additionally, data such as recurrence site, time to recurrence, treatment modality of recurrence and length of follow-up period were collected.

2.2. Statistical analysis

As for the comparison between the groups with medical treatment and percutaneous drainage treatment, continuous variables were compared using the Mann–Whitney test while categorical variables were compared using the Fisher's exact test. The cumulative recurrence rate was estimated by the Kaplan–Meier survival method. Univariate analysis was used to examine the relationships between failure of treatment and 12 following variables: age, gender, duration of Crohn's disease, prior surgical history, history of prior steroid therapy, distribution of Crohn's disease, location of abscess, size and multiplicity of abscess, associated fistula, concurrent steroid therapy and additional percutaneous drainage or not. Namely, the evaluation of potential determinants of failure of nonsurgical treatment was performed by this univariate analysis with the χ^2-test. $P < 0.05$ was considered statistically significant.

3. Results

3.1. Presentation and abscess characteristics

Of the consecutive 24 patients, 19 patients were treated medically and 5 patients underwent percutaneous catheter drainage with medical treatment. Table 1 summarises the patient demographics in each of the treatment groups. The patients comprised 16 men (66.7%) and 8 women (33.3%). Median age at initial diagnosis of Crohn's disease was 27 years (range 16–69 years). Fourteen patients (58.3%) were less than 30 years of age at diagnosis. Median duration of disease, that is the interval from initial diagnosis of Crohn's disease to development of abscess, was 10.5 months. Thirteen patients (54.2%) presented the disease duration of less than 2 years. In one patient, the abscess was the initial symptom. The most commonly reported presenting symptoms and signs included palpable abdominal mass (12.5%), abdominal pain (75.0%), fever (16.7%), diarrhoea (45.8%), nausea and vomiting (4.2%) and haematochezia (4.2%). Four patients (16.7%) had the colonic disease and three patients (12.5%) had small intestinal disease. In 17 patients (70.8%), both colonic and small intestinal disease were presented. Two or more abscesses were detected in five patients (20.8%) and the mean abscess size was 3.9 ± 0.5 cm. Location of

Table 1
Clinical characteristics of patients

	Medical treatment ($n = 19$)	Percutaneous ($n = 5$)	Total ($n = 24$)
Sex (male/female)	12/7	4/1	16/8
Disease duration (months)	10.0 (0–100)	33.0 (4–94)	10.5 (0–100)
Multiple abscess	4 (21.1%)	1 (20.0%)	5 (20.8%)
Size of abscess (cm)[a]	4.2 ± 2.3	3.1 ± 1.6	3.9 ± 0.5
Relevant fistula	7 (36.8%)	3 (60.0%)	10 (41.7%)
Prior steroid therapy	6 (31.6%)	2 (40.0%)	8 (33.3%)
Prior surgical history	4 (21.1%)	1 (20.0%)	5 (20.8%)

[a] Mean ± S.D.