Ulusal Cer Derg 2015; 31: 5-8
DOI: 10.5152/UCD.2014.2453

A retrospective analysis of 93 cases with anorectal abscess in a rural state hospital

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ABSTRACT

Objective: Anorectal abscess is a clinical condition frequently encountered in daily surgical practice and recurrences may occur despite treatment with adequate incision and drainage. The primary aim of this study was to analyze the variables that may have resulted in recurrent anorectal abscess, retrospectively.

Material and Methods: Ninety-three patients out of 149 patients who underwent surgery for anorectal abscess at our center between 2011-2012 were included in this study. Data regarding age, gender, presence of recurrence, time to recurrence, abscess type, presence of fistula, fistula type, drain usage, length of hospital stay and follow-up duration were retrospectively recorded.

Results: Patients were divided into two groups: the recurrence group and the treatment group. Eleven patients (11.8%) had a recurrence and the median time to recurrence was 3 months. None of the variables evaluated were found to be significantly associated with the presence of recurrence.

Conclusion: Variables such as age, gender, type of abscess, presence of fistula or drain usage were not associated with the development of recurrence in patients who underwent incision and drainage of an anorectal abscess.

Key Words: Perianal glands, abscess, recurrence

INTRODUCTION

Anorectal abscess is a common surgical problem in both high patient-volume urban hospitals and in low patient-volume rural hospitals. The classical signs of acute anorectal abscesses include pain, swelling and occasionally fever; they are treated by adequate incision and drainage (1, 2). Among anorectal abscesses, 90% develop as a result of non-specific cryptoglandular infection and nearly one third of anorectal abscesses are accompanied by anal fistula, which increases the abscess recurrence, repeated need for drainage and may result in life-threatening conditions such as perianal sepsis (3-5). This situation is worrisome for both the patient and the surgeon, and the repeated intervention requirements may prolong hospital stay and increase the cost.

There are randomized controlled studies and meta-analysis on the use of antibiotics in recurrence and anal fistula onset, application of simultaneous fistulotomy or seton placement, however, there are not enough studies on the use of drain following abscess drainage (5-7).

In this study, the records of patients who were operated at our center, a rural state hospital, due to anorectal abscess were retrospectively examined. The correlation between abscess recurrence and variables such as age, sex, presence of recurrence, time of recurrence, abscess type, presence of fistula, fistula type and drain use was evaluated.

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Received: 02.11.2013
Accepted: 10.04.2014
Available Online Date: 20.10.2014

Available online at www.ulusalcerrahidergisi.org

MATERIAL AND METHODS

The files of 149 patiens who were operated on due to anorectal abscess between 2011 and 2012 at the General Surgery Clinic of Muş State Hospital were retrospectively examined. In total, 56 patients whose file information could not be retrieved, or were understood to have developed abscess due to diseases such as Crohn's disease, malignancy, immunosuppressive diseases, rectal surgery, trauma and foreign body, or had recurrence within ten or fewer days and underwent revision surgery due to inadequate drainage were excluded from the study. The surgeries were performed in the same operating room by five different surgeons. All the patients received spinal anesthesia. One g intravenous cephazolin sodium (Sefazol, Mustafa Nevzat, Turkey) was administered for prophylaxis within half an hour before surgery. The surgery of patients for whom a drain was used was completed by the placement of a penrose drain at the surgical site. The patients were not given antibiotics in the post-operative period.

The demographic data, hospital stay, abscess types, use of drains, presence of recurrence, recurrence times, follow-up periods, presence of simultaneous fistula and fistula types of the remaining 93 patients were evaluated.

Statistical Analysis

For statistical analysis, the Statistical Package for the Social Sciences software, version 15.0 (SPSS Inc., Chicago, IL, USA) was used. The qualitative data of independent groups composed of patient using and not using drains and patients who did and did not develop recurrence were assessed via chi-square test. A value of $p<0.05$ in the results was considered statistically significant.

RESULTS

Among 93 patients included in the study, 83.9% were male (n=78) and 16.1% female (n=15). The age range was identified as 16 - 72 years (median 30) and hospital stay as 1-12 days (median 2). The median follow-up period was identified to be 9 months (4 months minimum, 24 months maximum). As for the abscesses, 92.5% of them were perianal (n=86), 6.5% intersphincteric (n=6), and 1.1% ischiorectal (n=1) abscesses.

A simultaneous fistula was detected in 10.8% (n=10) of the patients. Out of these patients, 80% (n=8) were identified to have intersphincteric, and 20% transsphincteric (n=2) fistulas.

Following abscess drainage, drains were placed in 20.4% (n=19) of the patients.

It was seen that 11 out of 93 patients in total (%11.8) had recurrence (referred to as the recurrence group). The median recurrence development time was identified to be 3 months (1-month minimum, 24 months maximum). It was identified that the remaining 82 patients did not have recurrence (referred to as the treatment group). Table 1 depicts the variables used for comparison of the recurrence and treatment groups.

The development of recurrence and variables such as sex, age, hospital stay, abscess type and presence of fistula were not found to be correlated at a statistically significant level (Table 2).

Table 1. Variables and group characteristics

Variables	Treatment group, n=82	Recurrence group, n=11
Gender		
Male	68	10
Female	14	1
Age range (median) years	16-72 (30)	26-53 (33)
Abscess type		
Perianal	76	10
Intersphincteric	5	1
Ischiorectal	1	0
Drain use		
Yes	18	1
No	64	10
Length of hospital stay (median) days	1-4 (2)	1-12 (2)
Concurrent fistula		
Yes	10	0
No	72	11
Follow-up period (median) months	4-24 (9)	5-24 (14)

Table 2. Factors influencing abscess recurrence

Variables	p
Gender	0.686
Age	0.542
Abscess type	0.873
Drain use	0.45
Length of hospital stay	0.817
Presence of fistula at first surgery	0.601

DISCUSSION

The theory that anorectal abscesses developed as a result of non-specific cryptoglandular infection was put forward for the first time in 1878 by Chiari (4). Apart from this non-specific etiological factor, other factors such as trauma, inflammatory bowel diseases, tuberculosis, foreign body, immunosuppressive diseases and presence of malignancy were also associated with the presence and recurrence of anorectal abscesses (1, 8-10). The recurrence of anorectal abscesses and frequency of anal fistula development range between 25% and 50% as demonstrated by various studies (11, 12). In our study, this rate was found to be 11.8%. The reason for this could be that the patients, who had the above-mentioned characteristics that would cause anorectal abscess development, were not included in the study, the number of patients was limited and the patients who developed recurrence preferred specialized centers. In a current meta-analysis, it was reported that the shortest follow-up period was 12 months and the longest follow-up period was 42.5 months for the included studies (5). The median follow-up period in our study was identified to be 9 months; the recurrence rate might have been found to be low on account of this short follow-up period. While periods ranging between 12 to 20 months were mentioned in the current studies in relation to the recurrence development time (10, 12), the median time in our study was 3 months. In a study examining 48 patients who received early phase surgery following perirectal abscess drainage, technical reasons such as inadequate drainage and overlooked abscess were noted as the main reasons (13). The fact that the recurrence development time was so short in our study could be explained on the basis of technical reasons.

Various factors related to the recurrence of anorectal abscesses such as age, sex, body mass index, onset time of symptoms, diabetes mellitus presence, place and anatomic classification of the abscess, antibiotic use, form of anesthesia and use of drain were investigated (7, 12, 14). In our study, no correlations could be identified between variables such as age, sex, hospi-

tal stay, use of drains, abscess type and fistula presence and recurrence.

While various studies claimed that recurrence is more frequent for ischiorectal abscesses, Yano et al. demonstrated that the type of abscess was not a predictive factor for the development of recurrence in a retrospective study carried out with 205 patients (12, 14). In the same study, the fact that the period that elapsed between the onset of recurrence and symptoms and surgery was eight days or longer was found to be significant, and early surgical intervention was recommended (12). On the other hand, our study could not demonstrate an association between the abscess type and recurrence. The period between the onset of symptoms and surgery was not evaluated in this study.

While current guidelines recommend that penrose-like drains can be used if necessary, Billingham et al. (1) have recommended that drains would not be necessary if enough incision is ensured (15). The previous study and our study could not establish any correlations between the drain use and development of recurrence (12).

The application of fistulotomy when a fistula is identified during abscess drainage brings the recurrence rate down to 1.8% (16). Quah et al. (6) performed a meta-analysis including 405 patients from five clinical studies, which could not demonstrate the superiority of fistula surgery without sphincter salvage over incision and drainage, and stated that randomized studies were required. However, a series published in 2010 including 479 patients showed that fistula surgery applied simultaneously with abscess drainage reduced the recurrence rate (5). Also, in our study, 10 patients identified to have fistula during drainage received simultaneous fistulotomy and no recurrences could be identified in their one-year follow-up.

The current guideline does not include a consensus on the use of antibiotics and its routine use is not recommended, however, it is recommended to be used in the presence of immunosuppression (15). However, Sözener et al. (7) conducted a randomized, controlled, multi-center clinical trial where they concluded that the use of antibiotics could not prevent the development of fistulas. In our study, prophylactic antibiotics were administered to all the patients before surgery, however, no antibiotics were administered after surgery.

The limitations of the study are the small number of patients included, and the median follow-up period of 9 months; however, the results achieved are similar to those in the literature.

CONCLUSION

There was no correlation between anorectal abscess recurrence rate and variables such as age, sex, abscess type, presence of fistula and drain placement following adequate incision and drainage in the current study that was conducted retrospectively at a rural state hospital; however, well-planned, randomized and controlled clinical studies are needed in relation to this subject.

Ethics Committee Approval: Since it is a retrospective study, we did not apply for ethical committee approval and obtained our data from patients' files.

Informed Consent: Written informed consent was obtained from patients who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - N.A.; Design - N.A., Ö.D., G.Z.; Supervision - A.B.D., H.E.A.S., T.Ö.; Funding - N.A., Ö.D., G.Z., H.E.A.S., T.Ö., A.B.D.; Materials - N.A., Ö.D., G.Z., H.E.A.S., T.Ö., A.B.D.; Data Collection and/or Processing - N.A., Ö.D.; Analysis and/or Interpretation - N.A., Ö.D.; Literature Review - N.A., Ö.D.; Writer - N.A., Ö.D.; Critical Review - A.B.D., G.Z., H.E.A.S., T.Ö., Ö.D.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.

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