SURGICAL MANAGEMENT OF ISCHIORECTAL ABSCESSES: A RETROSPECTIVE STUDY OF 111 PATIENTS

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SURGICAL MANAGEMENT OF ISCHIORECTAL ABSCESSES: A RETROSPECTIVE STUDY OF 111 PATIENTS (Abstract): *Aim:* To evaluate the results of surgically treated ischiorectal abscesses in our service regarding postoperative morbidity, rate of abscess recurrence, and incidence of fistulas. *Methods:* From January 1, 1997 through December 21, 2007, 111 cases of ischiorectal abscess were surgically treated with incision-drainage and are surgically revised. Patients included 77 men and 34 women (male/female ratio of 2.26 / 1) with a mean age of 42.2 years. One third of the population reported a history of anorectal abscess. In 8.1% of patients the abscess spread. To adjacent tissues a fistula was found in 6.3 % of patients at the time of incision and drainage All the patients were treated by intravenous antibiotic treatment. *Results:* There was no postoperative mortality. Localized postoperative morbidity was 5.4% and overall morbidity was 4.5%. A transphincteric fistula was present in 38.6% of patients and recurrence of abscess occurred in 12.8% on follow-up. *Conclusions:* Surgical treatment of ischiorectal abscesses by incision-drainage is a simple and safe technique. Nevertheless, long-term follow-up is necessary given the risk of recurrence and of transphincteric fistula requiring additional treatment.

KEY WORDS: ISCHIORECTAL ABSCESSES; SURGERY; DRAINAGE; FISTULECTOMY; PERIANAL ABSCESSES

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INTRODUCTION

Anorectal suppuration and anal fistulas are common in our population. Published articles report variable outcomes, indicating that quality of care is heavily dependent on the individual practices and experience of the treating surgeon [1,2,3,8,9,13,16]. The purpose of this review is to analyze the surgical care of ischiorectal abscesses in our institution and evaluate the results in terms of recurrence rates and incidence of fistula during patient follow-up. We also compare our outcomes to reports in the literature.

METHODS

From January 1, 1997 to December 31, 2007, 114 patients were admitted with ischiorectal abscess through the emergency department to the department of surgery at the Hospital Brugmann. One patient had a pelvic abscess secondary to perforated diverticulitis, one patient had an abscess related to a perineal fistula underlying locally advanced rectal cancer, and one patient presented with a spontaneously draining abscess.

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These three patients were excluded from our retrospective study; thus 111 patients with ischiorectal abscess requiring emergency surgery were included. The series includes 77 men and 34 women (male/female ratio of 2.26). Table I shows the distribution of patients according to age group. The mean age (years) was 42.2 (range 15-82), and mean BMI was 25.7 (range 18.2-44.1). One third of patients had a history of anorectal pathology (Table I). The most frequent patients' comorbidities are hypertension and diabetes (Table I). The most common symptoms are also reported in Table I. The average white blood cell count was 15,109 /mm^3 (range 8,450-27,700/mm^3, median 17,720/mm^3) and the average C reactive protein (CRP) level was 11.9 mg/dL (range 0.6-39 mg/dL). A pelviperineal CT-scan was requested for 16 patients (14.4% of the series).

Table I
Distribution of patients with ischiorectal abscess by age, antecedent anorectal disease, associated pathologies, symptoms and preoperative evaluation tests

		Number	Percent
Age distribution	15-20	5	4.5
	21-40	51	45.9
	41-60	38	34.2
	>60	17	15.3
Antecedent anorectal disease	Ischiorectal abscess	17	15.3
	Hemorrhoidectomy	11	9.9
	Perianal abscess	6	5.4
	Total	***34***	***30.6***
Associated pathologies	Arterial hypertension	16	14.4
	Diabetes	13	11.7
	Inflammatory bowel diseases	3	2.7
	Tuberculosis	3	2.7
	Rectal cancer	1	0.9
	HIV	1	0.9
	Total	***37***	***33.3***
Symptoms	Pain	106	95.5
	Fever	40	36
	Extended cellulitis	30	27
	Constipation	16	14.4
Preoperative evaluation – Tests	White blood cells (> 10000/mm^3)	69	89.6
	CRP (> 1mg/dL)	73	94,8

Table II reports the location of the abscesses. Patients were examined under anesthesia in the gynecological position prior to surgery in order to determine the extent of the abscess and detect the presence of fistula(s). A sample of the abscess was cropped for microbiologic analysis. The abscess was incised to allow for drainage. A fistula track is wanted in the abscess cavity. An irrigation-drainage system was established with an Argyle drain to irrigate and a lamelle to drain to avoiding premature wound closure. Finally, the abscess was rinsed with abundant diluted isobetadine to evaluate the efficiency of the irrigation-drainage system. Table III shows the procedure and basic surgical technique of incision and drainage. General anesthesia was used for 41 patients (38%) and spinal locoregional anesthesia was used for 67 patients (62%). Intravenous antibiotic (cefuroxime 3 x 500mg /day and metronidazole 3 x 500 mg /day) started

preoperatively, during 5 days postoperatively and after switched to oral relay at the exit of the patient. The average duration of antibiotic therapy was 5.9 days (range 2-17 days). Microbiologic analysis was conducted in 76 (68.5%) patients; these results are reported in Table IV.

Table II
Ischiorectal abscess presentation*

		Number	Percent
Abscess	IRF Left	56	50.5
	IRF Right	48	43.2
	IRF Bilateral	7	6.3
	Total	***111***	***100***
Abscess extension	Scrotum	6	5.4
	Inguinal	1	0.9
	Bladder	1	0.9
	Fournier	1	0.9
	Total	***9***	***8.1***
Fistula and abscess presentation	Transphincteric	4	3.6
	Perianal	2	1.8
	Rectal	1	0.9
	Total	***7***	***6.3***

* IRF - Ischiorectal fossa

Table III
Surgical treatment of ischiorectal abscess

	Number	Percent
Incision and drainage	111	100
Seton	4	3.6
Colostomy	3	2.7
Large debridement	2	1.8
Fistulotomy	1	0.9

RESULTS

The mean operating time (including anesthesia) was 42.5 minutes (range 15-130 minutes) and the average length of hospitalization was 8.3 days (range 1-25 days). There was no postoperative mortality. The postoperative morbidity was 11/111 (9.9%); local and generalized complications are detailed in Table V. Seventy patients (61.4%) were followed, and 41 patients were lost to follow-up. Also, the table V shows long-term complications, namely the emergence of a transphincteric fistula and recurrence of an ischiorectal abscess.

DISCUSSION

The ischiorectal fossa is the second most frequent anatomical localization of abcedation after the perianal region [1]. In most, if not in all anal suppurations, the underlying etiology appears to be cryptoglandular [2,3,4]. In 1929, Lockhart-Mummery demonstrated that the anal glands (also known as glands of Hermann-Desfosses), which

vary in number from 6 to 8, and their ducts enter the anal canal in the anal crypts (crypts of Morgani) at the dentate line [5].

Table IV
Bacteriological results

Type of germs	Number	Percent
Escherichia coli	30	39.5
Mixed flora	20	26.3
Staphylococcus Aureus	7	9.2
Enterococcus	4	5.3
Streptococcus	3	3.9
No bacteria isolated	12	15.8
Total	***76***	***100***

Table V
Postoperative complications and Follow-up

			Number	Percent
Postoperative complications	**Local**	Persistent infection	4	39.5
		Scrotal fistula	1	0.9
		Rectal fistula*	1	0.9
	General	Uncontrolled diabetes	4	26.3
		Transfusion (myelodysplastic syndrome)	1	0.9
Follow-up		Transphincteric fistula appearance	27 / 70	38.6
		Ischiorectal abscess recurrence	9 / 70	12.8
		Total	***36 / 70***	***51.4***

*requiring a colostomy at a second time

These are the most likely source of infection resulting in fistulous abscess; this is the currently accepted theory of abscess development. Eisenhammer stated that the anal glands often end at a plane between the internal and external sphincters; thus the intersphincteric space would be the starting point for anorectal suppuration of cryptoglandular origin [6]. From the intersphincteric space, an abscess may remain localized or spread in different directions [4,6]. The three common locations of anorectal suppuration are, in order of frequency: perianal, ischiorectal, and intersphincteric [7]. Table VI compares our data with the literature. It must be noted that the majority of articles are concerned with anorectal abscesses in general, and thus a direct comparison cannot be made. The demographic data of our series are consistent with those in the literature. The incidence of ischiorectal abscess is 2,26 times higher among men than among women. This ratio has been reported in many studies [7,8]. Antecedent anorectal abscesses were present in 30.6% of our series, which is similar to percentages of 20 to 42,5% described by McElwain et al and Cox et al [1,9]. One third of our patients had medical comorbidities; similar rates of 24 to 32% were reported in McElwain et al Abcarian and et al also confirm our epidemiological data [8,9]. Notably, diabetes was present in 11.7%; rates over 20% rate have been reported in other studies, including Bevans et al and Prasad et al, suggesting that diabetes is an important factor associated with anorectal suppurations in general [10,11].

The symptoms and bacteriology in our study also agree with other reports (see Table VI) [1,2]. In our series, only 7 patients (6.3%) were found to have a fistula associated with the abscess, including 4 transphincteric fistulas. Considering the cryptoglandular etiology, two reasons can explain the low rate of fistula discovery at the time of admission.

Table VI
Comparison with literature data [1,2,3,7,8,9,11,14,16]

Data		Our series	Literature
Mean age (years)		42.2	30-46
Sex Ratio (M/F)		2.26	2-3
Anorectal antecedent disease		30.6%	20-42.5%
Comorbidity	**Total**	33.3%	24-32%
	Arterial hypertension	14.4%	3-9%
	Diabetes	11.7%	12-20%
	Bowel inflammatory diseases	2.7%	0.4-15%
Symptoms	**Pain**	95.5%	94-100%
	Fever	36%	11.3-18.6%
	Constipation	14.4%	7.5%
Bacteriology	**Gram – Bacillus**	39.5%	35.7%
	Mixed flora	26.3%	50%
	Gram + Coccus	18.4%	14.3%
Fistula and abscess presentation		6.3%	5-68.8%
Treatment	**Incision and drainage**	100%	100%
	Fistulotomy	0.9%	1.8-35.3%
	Seton	3.6%	3.1-11.3%
	Intravenous antibiotherapy	100%	45%
Postoperative morbidity		9.9%	2-4.4%
Mortality		0%	0 %
Hospital stay (Days)		8.3	5.7
Follow-up	**Abscess recurrence**	12.8%	25-44%
	Fistula appearance (fistulotomy+seton)	38.6%	37%

Eisenhammer [12] described the occurrence of spontaneous closure of an internal fistula, which may be a factor in the current study. Secondly, the possibility exists that the fistulous track was not identified during the acute phase of suppuration. Regarding surgical care of ischiorectal abscesses, our results are comparable with those reported in the literature; however, we did have a lower rate of fistulotomy than usually reported. This is explained by a lower rate of fistula discovery at abscess presentation. The postoperative morbidity and duration of hospitalization are higher in our series but still acceptable if one takes into account the fact that we included only ischiorectal abscesses. In the literature, no author has proposed a systematic antibiotic regiment except in specific cases, such as diabetes, immunocompromise, valvular disease, or sepsis [2,13]. Studies report a variable percentage of recurrence after simple abscesses drainage ranging from 25 to 44% [1,9,14,15]. In our series, only 12.8% of patients had a recurrence of ischiorectal abscess. However, in 38.6% of patients, a transphincteric

fistula was discovered during follow-up, requiring a second intervention for fistulotomy with seton. A similar fistula incidence rate of 37% after simple abscess drainage was described by Hamalainen et al [14]. Primary fistulotomy at acute abscess presentation remains a controversial topic.

Some surgeons advocate a conservative approach with a simple incision and drainage due to the simplicity and rapidity of this treatment, and the risk associated with fistulotomy of the inflammatory and brittle tissue, which can create an iatrogenic fistula and lead to impaired continence if dissection of anal sphincters occurs [1,15,16]. Other surgeons advocate a more aggressive one-time procedure combining fistulotomy, based on the risk of recurrent infection with persistent fistula [17,18].

CONCLUSIONS

The surgical treatment of ischiorectal abscesses by incision and drainage is a simple, reproducible technique; postoperative morbidity is low and mortality is zero. Long-term follow-up is necessary given the risk of recurrence and particularly the risk of transphincteric fistula, which can then be treated as a second step procedure. Early treatment of ischiorectal abscesses avoids untoward complications, such as Fournier's gangrene.

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