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Retrospective Analysis of the Surgical Treatment of Anorectal Fistulas in a University Hospital: Surgical Results and Predictive Factors of Relapse and Anal Continence

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Abstract

Objective: Retrospective analysis of the patients submitted to surgical treatment of anorectal fistula in a teaching hospital, in relation to the preoperative data, procedure performed and factors predictive of relapse and anal incontinence.

Introduction: Anorectal fistula is a condition commonly found in surgical practice with an incidence of about 1 in 10,000 individuals with a predisposition to the male sex, occurring mainly in patients between 30 and 50 years of age and in 80% of the cases originates from infection in the glandular crypts (cryptoglandular). Its treatment can have as main consequences the relapse and anal incontinence.

Methods: A retrospective cohort of patients submitted to surgical treatment of anorectal fistula was analyzed at Santa Marcelina Hospital, São Paulo, between January 2011 and September 2015, based on the analysis of data collected in a prospective electronic medical record. The criteria for non-inclusion were: patients with a history of trauma, urologic, colorectal or gynecological causes, neoplasms, and those with inflammatory bowel disease. The remaining patients with cryptoglandular fistula consecutively operated in the aforementioned period were included in the study.

Results: A total of 200 patients submitted to surgical treatment of anorectal fistula were analyzed. Among men, there was a higher incidence of hypertensive patients (0.03), diabetics (0.05), older age (p=0.001), and in women previan abscess was predominant (p=0.001). An overall relapse rate of 13% and a transsphincteric (p=0.044) and extra-sphincter (p=0.005) positions were found. Regarding anal incontinence complaints, even in the first 3 months postoperatively, there was an association with previous abscess (p=0.034), number of pregnancies (p=0.019) and anterior orifice surgery (p=0.021).

Conclusion: In the present study with analysis of patients submitted to surgical treatment of anorectal fistula, there was a predominance of male patients and a low incidence of recurrence and symptoms of anal continence disorders, in addition to a predominance of complex fistulas.

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Introduction

Anorectal fistula is a condition commonly found in surgical practice [1] and can be defined as an abnormal communication between two epithelial surfaces, usually the anal canal with the perianal region [2-4]. It presents an incidence of about 1 in 10,000 individuals with a predisposition to the male sex (2-7:1), occurring mainly in patients between 30 and 50 years of age [5,6] and in 80% of cases it originates from infection in the glandular crypts (cryptoglandular) [6].

The treatment of the anorectal fistula is eminently surgical with the objective of eradicating the fistulous path7, from the correct identification and treatment of the internal fistula hole, path

Table 1: Socio-demographic characteristics and antecedents of the patients involved in the study.

	Geral	Masculino	Feminino	p
Number of patients	200	132	68	
Age years)	43,3 ± 14	46,4 ± 14	37,3 ± 11,9	0,001
	(15-82)	(15-82)	(20-75)	
BMI (kg/m^2)	28,5 ± 5,9	29 ± 6,0	27,6 ± 5,6	0,12
	(16,6-55,3)	(16,6-55,3)	(16,9-40,9)	
Hypertension	44 (22%)	35 (26%)	9 (13%)	0,03
Diabetes mellitus	13 (6,5%)	13 (9,8%)	0 (0%)	0,05
HIV	6 (3,0%)	6 (4,5%)	0 (0%)	0,09
Smoker	42 (21%)	31 (23%)	11 (16%)	0,27
Previous Orifice Surgery	61 (30,5%)	36 (27,3%)	25 (36,8)	0,19
Previous abscess	113 (57%)	63 (47,7%)	50 (70,3%)	0,001
Previous pregnancy			40(58,8%)	
Vaginal delivery			26 (38,2%)	
Forceps			8 (11,8%)	
Episiotomy			11(16%)	
Average number of pregnancies			1,4 ± 1,6 (0-7)	

and eventual adjacent collections, avoiding lesions to the anorectal sphincter complex [7-9]. However, this ideal proposal is not simple to achieve with risk of anal incontinence and recurrence of fistula in up to 18% of cases [1,10].

With regard to the most commonly used treatment in anorectal fistula, i.e., fistulotomy, the incidence of anal incontinence can vary widely from 4% to 62% [11-13] and this risk is fundamentally related to age at the time of surgery, type e complexity of the fistula, presence of multiple routes, previous drainage of anorectal abscess and still follow-up [14-17].

Objectives

Retrospective analysis of patients submitted to surgical treatment of anorectal fistula in a teaching hospital, in relation to preoperative data, procedure performed and predictive factors of recurrence and anal incontinence.

Materials and Methods

We analyzed a retrospective cohort of patients submitted to surgical treatment of anorectal fistula at Santa Marcelina Hospital, São Paulo, between January 2011 and September 2015, based on the analysis of electronic medical record data collected prospectively. The criteria for non-inclusion were: patients with a history of trauma, urologic, colorectal or gynecological causes, neoplasms, and those with inflammatory bowel disease. The remaining patients with cryptoglandular fistula consecutively operated in the aforementioned period were included in the study.

The preoperative data analyzed were: gender, age, body mass index, comorbidities, history of perianal abscess, symptomatology, classification and location of the perianal fistula. The postoperative perioperative and postoperative data evaluated were: type of surgery, postoperative complications, relapse and anal continence disorders. For the analysis of the epidemiological data the comparison between the male and the female was made.

All surgeries were performed by resident physicians of coloproctology assisted by attending physicians of the hospital, experienced in the treatment of orifice diseases.

Statistical analysis

Data were described as mean ± standard deviation (extremes) or absolute frequency (percentage). To study the association between qualitative variables, Fischer's exact test and Relative Risk (RR) calculation (Confidence Interval 95%) were used. To analyze the difference between quantitative variables, Student's t-test was used for independent samples. In order to evaluate the relationship between preoperative or intraoperative factors with relapse or anal incontinence, binary logistic regression was used. The level of statistical significance was 95%.

Results

The treatment flowchart, following the exclusion criteria of patients in the study is described in (Figure 1). Among the men, there was a higher incidence of patients with lower educational level (p=0.02), hypertensive (0.03), diabetic patients (0.05), older age (p=0.001) and in women preanal abscess was predominant (p=0.001) (Table 1).

The complaints reported by the patients undergoing preoperative evaluation were the presence of perianal secretion in 82% of the patients, followed by the lesion in the place perceived by the patient in 73.5% of the cases and pain in 51.5% of the cases analyzed without statistical difference between the genders. In the intraoperative period, the fistulas were classified in relation to the anal sphincter and position of the external orifice by the Rule of Goodsall [18] and according to the classification of Parks [19] with a higher incidence of inters-phyterial fistulas (140 patients), followed by transsphincteric fistula.

Regarding the postoperative complaints, the most frequent were pain, soiling, hygiene difficulty and loss of sedation, without showing a statistically significant difference between patients submitted to or not to the use of sedentary wire. However, the percentage of asymptomatic patients was higher in the group of patients submitted

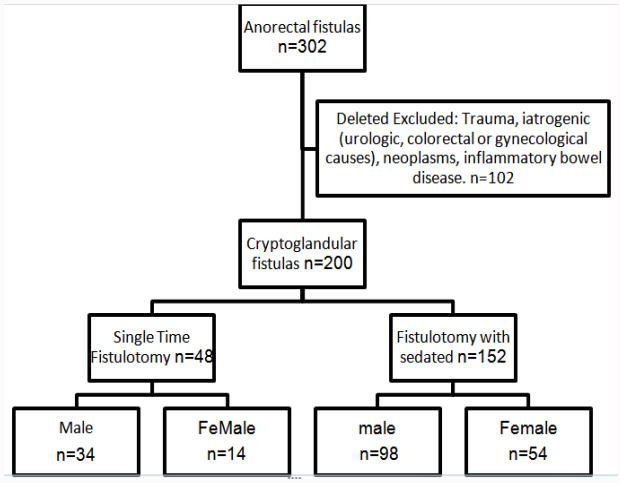

Figure 1: Surgical treatment flowchart of patients in the study.

to non-sedentary fistulotomy (p=0.002).

The overall recurrence rate was 13%; in patients submitted to single-time fistulotomy, it occurred in four patients (8.3%), while in those with sedentary use, it was verified in [22] patients at the end of the second period (14, 5%), and there was no statistical difference between the techniques (p=0.33, RR 0.61 (CI 0.24-1.5).

The binary logistic regression of the preoperative conditions, type of surgery applied and location of the fistula that were analyzed in association with symptoms of incontinence and relapse of the disease presented a relationship with the recurrence of the disease in the transsphincteric (p=0.044) and extraphincteric (p=0.005).

Regarding the complaints of anal incontinence in the first [3] postoperative months, excluding soiling, it was observed that [7] patients in the fistulotomy group and [19] patients in whom the sedent's passage was performed presented this complaint, even if transient. There was also an association between anal incontinence and the previous existence of anorectal abscess (p=0.034), number of pregnancies (p=0.019) and previous foraminal surgery (p=0.021).

Patients had a mean of 4.4 (± 2.6) postoperative visits and mean follow-up time was 10.2 (± 8.7) months. At the end of the follow-up, after the reoperations for recurrences, resolution of the anorectal fistula with surgical treatment was achieved in 184 (92%) patients. In the follow-up, 85.4% (41 patients) of patients submitted to fistulotomy were asymptomatic, compared to 94.1% (143 cases) of patients submitted to fistulotomy with sedentary (p=0.07 - RR 1.38 , 89-2.0).

Discussion

The classical surgical treatment of anorectal fistulas through fistulotomy using or not using the sedentum presents satisfactory results, with low relapse rates and acceptable functional results.

The present study had a higher incidence of anorectal fistula in males, with a mean young age in productive period for both sexes, which is consistent with data from other studies [20,21]. Regarding the symptoms, in our work, as in the literature [22], complaints of secretion, pain and local bleeding predominated. In addition, 113 patients (57%) had previous history of anorectal abscess, with a higher incidence of this previous history in females (70.3% -p=0.001), indicating a higher rate of previous abscess compared to the literature [23-26].

In our survey there was no statistically significant difference in postoperative complaints comparing the use or not of sedation in the treatment of anorectal fistula, although the use of sedentum generated symptoms in a greater number of patients (50% x 25 , 7% -p=0.002). This fact is already to be expected since, in patients who use the sedated, the fistulas are evidently more complex or the patients already present risk factors for recurrence or anal incontinence, in addition to the reaction generated by the sedentary, previously described, that causes symptoms.

Subhas and collaborators [26] analyzed [24] patients with transsphincteric fistula, 25% of whom presented Crohn's disease and in all of them performed fistulotomy with the passage of a sedentary, progressive traction and obtained a therapeutic success in 75% of the patients. The satisfaction rate with the technique was also very good, and 90% of the patients considered that they would repeat the treatment with a sedative if there was recurrence of the disease. Similarly, other studies in the literature have demonstrated a relapse rate with the use of a sedent from 0% to 16.4% [27,28]. In the present study, the relapse rate was 8.3% for single-time fistulotomy and 14.5% for two-time fistulotomy.

Hyman and colleagues [29] studied multicentric 246 patients, 10% of them with Crohn's disease, and showed an incidence of 28.4% of anorectal fistula recurrence. This failure was related to females and previous relapsed fistulas (p = 0.04 and 0.03, respectively).

With regard to the incidence of anal incontinence after surgery for anorectal fistula, it is known that it can occur, even if in an average transient form in 18% of patients submitted to fistulotomy [1,10]. The present study had a 13% rate of leakage of feces and/or flatus at some point of its outpatient follow-up, which was transient in most patients. In addition, the direct association of anal incontinence with previous perianal abscess, greater number of gestations, and past surgery has led us to believe that in situations of greater risk to the sphincter complex, functional investigation with the use of anorectal manometry should be routinely proposed, as well as the use of surgical techniques with less aggression to the sphincter as the flap of endorectal advancement.

Visscher et al. [30] studied 141 patients submitted to surgical treatment of anorectal fistula and found that 34% of the cases reported some degree of anal incontinence, being related to fistula complexity, previous drainage of anorectal abscess and fistulotomy surgery.

The main limitations of the study were the short period of follow-up and the fact that the data analysis was performed retrospectively. Follow-up can be justified by excessive service demand, which frees patients resolved to allow more patients to be treated. However, a large volume of patients should be emphasized in a single specialized center in a relatively short period of time.

Conclusion

A retrospective analysis of operated cases of anorectal fistula in a teaching hospital showed a higher incidence of the disease in a complex way and in the male sex, the presence of previous perianal abscess in more than half of the cases and a low incidence of recurrence and symptoms of disorders of anal continence with surgical treatment by one or two-stroke fistulotomy. Fistulotomies at one time generated symptoms in a smaller percentage of patients. Trans-sphincter and extra-sphincterian fistulas recurred more than

the other locations. The previous presence of anorectal abscess, greater number of pregnancies and previous orifice surgeries were independent risk factors for the occurrence of postoperative anal incontinence, even if transient.

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