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Recurrence of Complex Anorectal Fistulas after Surgery: A Comparative Trial of Two Techniques

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Abstract

***Background:** Although several sphincter-saving procedures that propose a conservative approach have been described, the ideal surgery for the treatment of complex anorectal fistulas (CAF) remains debatable.*

***Objective:** To compare the success between the ligation of intersphincteric fistula tract (LIFT) and rectal advancement flap (RAF) techniques as the definitive procedure.*

***Settings:** Division of Colorectal Surgery, General University Hospital Reina Sofia in Murcia (Southeastern Spain), National Health System, between March-2013 and February-2015.*

***Methods:** Prospective, randomized controlled study including 72 patients with CAF. Participants were randomly assigned to LIFT Group or to RAF Technique. Outcome measures included surgical time, recurrences, postoperative pain, hospital readmissions, re-do in recurrent cases and fecal incontinence. Primary endpoint was a between-group comparison of anal fistularecurrence at 12 months.*

***Results:** We identified 72 patients, 49 (68.1%) male, with a median age of 47.1 (range25-74) years. There were 36 patients in the LIFT group and 36 patients in the RAF group. Over a follow-up of 12 months, 13 (36.1%) patients with LIFT and 14 (38.9%)with RAF had recurrence (p=0,808). LIFT was shorter than RAF (P<.001). Complications, postoperative pain and hospital readmissions were similar. None of the patients developed fecal incontinence. Hence when performed as the initial definitive procedure, the LIFT had a significantly higher success rate in comparison with the RAF approach (p= 0.006).*

***Conclusions:** The LIFT procedure is simple, safe and shorter. It is associated with better short-term outcomes in comparison with the RAF technique.*

Keywords: *complex anorectal fistulas, fistula-in-ano, ligation of intersphincteric fistula tract, rectal advancement flap, recurrence.*

Introduction

A fistula can be defined as an abnormal duct, which should not exist, between two epithelialized surfaces, and is lined with granulation tissue. An anal or perianal fistula is an abnormal tract or cavity communicating with the inner surface of the anal canal or rectum by an identifiable internal opening, usually between the anal canal and the skin surrounding the perianal region.In near to 80% cases, anal fistulae are secondary to abscesses arising from infected anal glands (cryptogenic). An anal abscess between the internal and external sphincters supposes the existence of a purulent collection in this area, which can spread to other parts of the perianal region and drain its contents through a hole located in the skin, in the anal canal or in the rectum[1,2].

Complex anal fistula (CAF) carries the risk of incontinence and recurrence following treatment. Surgical techniques used in treating CAFare classified into two types: sphincter-sacrificing and sphincter-

preserving procedures. In the last few years, a number of new sphincter-preserving methods, such as application of fibrin glue, VAAFT (video-assisted technique), fistula plug,ligation of the intersphincteric fistula tract and rectal advancement flap techniques, have been described. In general, techniques that propose a conservative approach to the fistula track have demonstrated more modest success rates than sphincter-sacrificing procedures, but are associated with a relatively minimal risk of changes in continence[3].There are few studies analyzing what to "re-do" in recurrent cases operated from a CAF[4-6].

This study aimed to compare the success betweenthe ligation of the intersphincteric fistula tract (LIFT) and rectal advance flap (RAF) techniques with respect to recurrence, as well as other variables that may influence the results.

Material and Methods

This is a Randomized Clinical Trial, of non-inferiority therapeutic, unicentric,open although with blind evaluation by third, controlled with active treatment and parallel groups. Data was collected from all subjects 18 year or older scheduled for a CAF surgery in the General UniversityHospitalReina Sofia in Murcia (southeaster Spain) in the study period.Subjects were randomized in a 1:1 ratio to receive surgical treatment by ligation of the intersphincteric fistula tract (LIFT) or with rectal advancement flap (RAF). The main analysis took place 12 months after surgery and no intermediate analysis was performed.

Broadly, CAF were defined as those fistulas with a tractthat implies more than 30% of the sphincter, with a high trajectory and internal fistula opening (IFO) in relation to the external anal sphincter (middle third andsuperior) and risk of involvement of continence in patients with pre-existing conditions that compromise the sphincter mechanism and its function[7].

The primary end-point of the study was to demonstrate non - inferiority of the therapeutic efficacy of LIFT versus RAF at 12 months after surgery, as well as compare therapeutic safety, postoperative pain, fecal in continence and certain management issues in both treatment groups. Also, the fistulous recurrences in both groups were analyzed to evaluate if there were statistically significant differences in the type of recurrence found.

Follow-up was performed for one year after surgery and after the study was closed, it was prolonged for another 12 months, only in patients with recurrence, to study what happened. Age, sex, body mass index, diabetes, dyslipidemia, ASA classification, smoking habit and location of IFO were collected.

The study was authorized by the Research Ethics Committee of the hospital and all participants provided informed consent.

Results

We identified 72 patients, 49 (68.1%) male, with a median age of 47.1 (range25-74) years. There were 36 patients in the LIFT group and 36 patients in the RAF group.The randomization did not show significant differences at baseline between both groups in age, gender or comorbidities

Over a follow-up of 12 months, 13 (36.1%) patients with LIFT and 14 (38.9%) with RAF had recurrence. There were no differences in the recurrence rate (p=0,808).

The LIFT had53.8% (19 cases) of intersphinteric recurrence, and the CAR recurred at the same place at 78.6% (28 cases), with statistical significance. In the LIFT group, the percentage of reoperations with curative intent was 33.3% (12 cases) and the overall healing rate after this second intervention was 88.9% (32 cases).These results are comparable with those previously described by other authorsthat also defend the advantages of the LIFT procedure to enabling a second, simpler curative surgery in case of an intersphinteric recurrence[8-12].

Between the patients with recurrence, RAF recorded healing of the CAF of 7.1%, while in LIFT it was 53.8%. Tobacco, obesity, arterial hypertension and the presence of lateral IFO were identified as risk factors for recurrence, also described in the literature consulted[13-15].

Statistically significant differences were identified regarding postoperative continence between both groups, identifying changes in postoperative Wexner score at de RAF group, but without clinical significance.

Discussion

Anal fistulae and perianal abscesses are, in most cases, stagessuccessive of the same disease. The prevalence of posterior fistula formationto an acute anal abscess

is variable depending on the series (30-90%)[16,17] and It is usually related to the patient's own factors, reaching to represent 70% of all suppurative diseases of the anus and the perianal region[18].

Perianal fistulas are a common surgical problem. Fistula - in - ano affect 1 in 10,000 of the Spanish population every year, and, in our country, accounts for approximately 15% of consultations in the Surgery Departments and 10-30% of coloproctologic interventions[19].

The LIFT technique is the approach through the intersphincteric space for the treatment of perianal fistula. This procedure is based on the closure of the internal opening and eradication of infected cryptoglandular tissue through the intersphincteric approach

There are not many studies that objectively measure pre and postoperative continence data, although there are authors who describe the possible alteration of continence in patients undergoing CAR depending on the thickness of the flap made [20,21]. We consider that the lift is a safe procedure with regard to the affectation of the postoperative continence, since no alterations have been described in the same as they support our results [13,22].

Regarding recurrence, there were no differences between the techniques used. However, a statistically significant difference was found regarding the type of recurrence and the healing results of a second surgery, between both treatments, depending on the technique used and in favor of LIFT. Tobacco, obesity, hypertension and lateral IFO were risk factors for the development of recurrence.In the other hand, ligation of the intersphincteric fistula tract shows better results than rectal advancement flap in terms of operative time and inpatient stay.

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