

## Primary Fistulotomy and Surgical Drainage Abscess is Associated with Low Fistula Recurrence Rate

Gonzalez QH<sup>\*</sup>, Mosso MDJ<sup>1</sup>, Bahena-Aponte J<sup>1</sup>, Hernandez MV<sup>1</sup>, Arcadia SNM<sup>2\*</sup>

<sup>1</sup>Department of Gastrointestinal and Colorectal Surgery, Humanitas Medical Group Coyoacan Hospital, Mexico

<sup>2</sup>General Surgery Service, Hospital Central Militar, Mexico City, Mexico

### \*Corresponding author:

Quintín H. González Contreras,  
Humanitas medical Group Coyoacán, Árbol  
de Fuego 80, Col. El Rosario, PC 04380, Mexico,  
Tel: 5567259092, 5513536641,  
E-mail: quinhec@hotmail.com

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## 1. Abstract

**1.1. Background:** Anorectal abscesses have become a common surgical problem, approximately one third of them also have anal fistulae; management can be conservative with antibiotics or needle aspiration and simple drainage with local anesthesia, considering them sufficient to remit the acute condition of this pathology. However, this line of treatment has been associated with a high recurrence rate and development of fistulae, as well as the need to surgically intervene several times. Although there is little literature regarding surgical drainage, other surgeons prefer the identification of the primary orifice and fistulotomy as initial management, observing a decrease in the risk of fistula formation and obtaining favorable results for patients. In this work, the follow-up of abscess patients treated with drainage and fistulotomy is presented.

**1.2. Objective:** To analyze a retrospective series of 150 cases of anorectal abscesses in terms of surgical results, recurrence and fistula development.

**1.3. Material and Methods:** Observational, retrospective study of 150 cases of anorectal abscesses treated in third level hospitals with a predominance in Humanitas Medical Group Coyoacan (57%), during June 2011 to June 2019, with an average age of 42.6 years (range 19-73), with male predominance n = 114 (76%), demographic data, comorbidity, recovery, follow-up and recurrence were analyzed.

**1.4. Results:** The average age was 42.6 years (range 19-73) with a predominance of the male sex (76%), according to the location 46% were ischiorectal, 38% posterior, 12% anterior and 4% in

horseshoe; time to recovery was 18 days (range 14-21), recurrence of 4% (6 patients) with a follow-up of 10 months. Pain was controlled with paracetamol 750mg three times a day alternating with ketoralac 10 mg three times a day orally and amoxicillin-clavulanic acid antibiotic 875 mg twice / day for 10 days.

**1.5. Conclusions:** This study shows that on performing both drainage and fistulotomy procedures the incidence of fistula is very low, so we recommend this approach in abscesses with a cryptoglandular origin that potentially decreases the need for other surgery in the future.

## 2. Introduction

The abscess and anal fistula have been frequent pathologies in our population, the most recognized cause has been the cryptoglandular theory which suggests that glandular crypts become clogged and leads to infection, these glands penetrate the complex of the anal sphincter in different degrees and the suppuration tends to follow the path of least resistance [1].

Optimal management is aimed at eradicating fistula, preservation of the anal sphincter, prevention of recurrence and allowing a prompt return to normal patient activity. Usually, the treatment of an anal abscess is drainage with a simple incision, however it has a recurrence in 10% of cases and the development of chronic fistula occurs in 50% of patients.

Some meta-analyses have shown that fistula surgery with drainage of the abscess significantly reduces recurrence or persistence of abscess / fistula, and the need to repeat the surgery and indicate that there was no statistically significant increase in the incidence of inconti-

nence after fistula surgery with drainage of the abscess [2-4].

In a randomized study Oliver et al, compared simple drainage of anorectal abscesses with and without fistula treatment to assess the efficacy and morbidity of both operations in the management of acute anal sepsis. Two hundred patients were included in the study: 100 randomized to the group that underwent drainage and fistula treatment, while the other 100 patients only underwent drainage. At 1-year follow-up, the researchers found that anal abscess drainage with fistulotomy can be performed safely with a recurrence rate (5%), compared with 29% recurrence in patients treated with drainage alone [5-7].

### 3. Patients

Patients with a diagnosis of anorectal abscess of cryptoglandular origin and anal fistula were included, without other anorectal pathology, signing an Informed Consent. The preoperative evaluation included, in addition to the medical history, a complete proctological examination, in order to rule out other diseases, including endanal ultrasound. The study period ranged from June 2011 to June 2019, including a total of 150 patients. All those patients with a history of Crohn's disease were excluded; those included were treated in several private third level hospitals, predominantly in the Humanitas Medical Group Coyoacán hospital (57%), analyzing demographic data, comorbidity, recovery time, as well as recurrence and follow-up.

### 4. Surgical Technique

The preoperative preparation consisted of the application of a microenema one hour before the surgical procedure and the intravenous administration of a dose of 500 mg of metronidazole during anesthetic induction. Spinal block was used in 95% and general anesthesia in the rest of patients. All patients were operated in Sevilian knife position, being operated by the same surgeon. Prior to rectal examination, a Pratts anoscope was introduced to locate the path of the fistula with a crypt locator hook, once located, the incision was made and abscess drainage and fistulous path resection was performed, then edge marsupialization performed with 3-0 vicryl anchored points. Hemostasis was verified and a spongostan was left with neosporin in the anal canal, as well as interglute gauze which was removed the next day or at the time of the first evacuation.

### 5. Postoperative Control and Follow-Up

The patients remained hospitalized for six to 24 hours in order to monitor their immediate evolution. Normal diet was started four hours after surgery. Pain was controlled with ketorolac intravenously and paracetamol, after the patients' discharge orally with paracetamol 750 mg every 8 hours and metronidazole 500 mg every 8 hours during the first 5 days, as well as a laxative with macrogol 1 about every 24 hours dissolved in a glass of water. All patients were periodically reviewed for the first review 7 days after surgery and after one month of surgery. Questioning him about pain control, residual bleeding and time to incorporation into his work activity.

### 6. Results

A total of 150 patients were included during the period from June 2011 to June 2019. Of which 76% (n = 114) belonged to the male gender and 24% (n = 36) were female. The average age was 42.6 years with a range of 19-73 years, the main symptoms before surgery were; proctalgia (100%), increased volume (100%) and fever (70%). Comorbidity was observed in 65% of the patients who showed obesity and diabetes in 20% of the cases, the rest apparently healthy. 46% (n = 69) of the study sample presented ischioanal abscess, 38% (n = 57) posterior abscess, 12% (n = 18) anterior abscess and 4% (n = 6) in horseshoe; recovery time was 18 days (range 14-21), recurrence of 4% (6 patients) with a follow-up of 10 months. Pain was controlled with paracetamol 750 mg three times a day and metronidazole 500mg was used three times a day for 5 days.

### 7. Discussion

Conventional treatment of anal abscesses with simple drainage is still routine in many centers, from retrospective and random data it is shown that primary fistulotomy at the time of abscess drainage is a safe and efficient method [5-7].

In our population we have been able to perform drainage and fistulotomy as a standard treatment for anal abscesses at the same time. To reduce the recurrence of abscess and / or fistula and the need for a new intervention, different prospective studies have been carried out in order to demonstrate that abscess drainage with fistulotomy at the same surgical time is safe in terms of recurrence, however more systematic evidence is needed from randomized controlled studies (Table 1 and Table 2).

Benjelloun et al conducted a prospective non-randomized study with 102 patients, 52 patients were treated only with drainage and 50 with drainage and fistulotomy, the results were analyzed in terms of recurrence. The recurrence rate after surgery was significantly higher in the group treated only with drainage (88%) compared to the group treated with drainage and fistulotomy (4, 8%) (p <0.0001). However, there was an increased risk of faecal incontinence in the fistulotomy group (5% vs. 1%), although this difference was not significant (p = 0.27). These results confirm that fistulotomy is an effective and safe treatment of anal abscess with good long-term results [5-7].

Six trials were identified, with 479 patients, comparing incision and drainage of perianal abscess alone versus incision and drainage with fistula treatment. This meta-analysis showed a significant reduction in recurrence, abscess / fistula or repeat surgery in favor of fistula surgery at the time of the incision and drainage of abscesses (RR = 0.13, 95% confidence interval RR = 0.07 to 0.24). Incontinence the year after drainage with fistula surgery was not statistically significant (grouped RR 3.06, 95% confidence interval 0.7 to 13.45). Published evidence shows that fistula surgery with drainage of the abscess significantly reduces recurrence or persistence of the abscess / fistula, or the need to repeat the surgery. This intervention may be recommended in carefully selected patients [8-12].

**Table 1**

Variable	Frequency (%)
<b>Sex</b>	
Male	36 (24)
Female	114 (76)
<b>Total</b>	150 (100)
<b>BMI kg/m2</b>	
<18.5	26 (17)
18.5-24.9	44 (30)
25-29.9	78 (52)
>30	2 (1)
<b>Total</b>	150 (100)
<b>DM2</b>	37 (25)
WITHOUT DM	113 (75)
<b>Total</b>	150 (100)
<b>Abscess type</b>	
Ischiorectal	69 (46)
Posterior	57 (38)
Anterior	18 (12)
Horseshoe	6 (4)
<b>Total</b>	150 (100)

**Table 2**

Variable	
<b>Recovery</b>	18 days (range14-21)
<b>Follow-up</b>	10 months
<b>Recurrence</b>	6 patients (4%)

## 8. Conclusion

In this study it is demonstrated that with the performance of both procedures at the same surgical time the recurrence of fistula is very low, so we recommend this approach in abscesses of cryptoglandular origin in order to avoid another surgery in the future.

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