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Anal Fistulas: Conventional Treatment and Postoperative Results

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Abstract

Introduction: Anal fistula is the chronic form of Hermann et Desfosses gland infection. **Objective:** To study the therapeutic and evolutionary aspects in order to improve the management of anal fistulas. **Patients and Method:** Descriptive case series study from January 1, 2005 to December 31, 2015 in two main private health facilities in the city of Ouagadougou. All patients operated on for anal fistula were included in this study. **Results:** We collected 50 cases of anal fistulas, representing 20.5% of all proctological pathologies. The mean age was 40.5 years, with a sex ratio of 5.25. Anal discharge was the functional symptom in 88% of cases. Hemorrhoidal disease was associated with anal fistula in 26% of cases. Treatment was surgical in all cases, and consisted of fistulectomy alone or combined with seton drainage in 68%. A fistulotomy was performed in 22% of cases. Recurrence was noted in four patients, delayed healing in four and anal incontinence in two. The average hospital stay was 2.44 days. Operative mortality was zero. **Conclusion:** Fistulectomy remains the most widely used surgical technique in our practice. Postoperative morbidity could probably be reduced by the use of new techniques.

Keywords

Anal Fistula, Fistulectomy, Incontinence, Sphincter Sparing

1. Introduction

Anal fistula is an abnormal communication between the anus and the skin, resulting in the formation of a channel passing close to the sphincters. It is secondary to local infection of a Hermann et Desfosses gland, of which it is the chronic form [1]. The treatment of anal fistulas is essentially surgical. It is complex, as demonstrated by the multiplicity of surgical techniques described in recent decades. Conventional treatment involves flattening the fistula tunnel [1]. To date, there is no evidence to recommend one technique over the other. It is up to the surgeon to choose the technique and the result. In Burkina Faso, anal fistula is frequently consulted and treated in several hospitals [2] [3]. The techniques used are fistulectomy, seton drainage, anoplasty and fistulotomy. We report on the experience of anal fistula management in two private clinics in the city of Ouagadougou, covering therapeutic and evolutionary aspects with a view to improving management.

2. Patients and Method

This study was conducted in the hepatology-gastroenterology and surgery departments of two major private healthcare facilities in the city of Ouagadougou that perform proctological surgery. These were the Polyclinique Notre Dame de la Paix (PNDP) and the Nouvelle Clinique du Centre de Ouagadougou (NCCO), each of which had a well-organised surgical department. Patients were diagnosed by hepatogastroenterologists at both clinics and then referred to surgery, where they were operated on by the same senior surgeon at each facility.

This was a descriptive retrospective study covering the period from 1 January 2005 to 31 December 2015, *i.e.* over a period of 11 years. All patients with anal fistula who underwent surgery in these health centres were included in the study. For each patient, we completed an individual survey form and studied:

- Sociodemographic parameters represented by age and gender;
- Clinical and paraclinical parameters;
- Surgical data, in particular indications, procedures performed, as well as incidents and surgical difficulties;
- Short- and medium-term postoperative outcomes, specifying complications and deaths.

Post-operative medical visits were organised on a bi-monthly basis in order to monitor the progression of the lesions.

The limitations of this study were the absence of certain data in the medical records, such as the dimensions of the fistula, the height of the fistula, and the type of fistula according to the Parks or Arnous classifications.

Data analysis was performed using Epi Info software.

3. Results

We recorded 50 anal fistulas in 11 years, representing an annual frequency of 4.54 cases. During this period, 244 consultations for proctological conditions were recorded. Anal fistulas accounted for 20.5% of proctological conditions. The average

age of patients was 40.5 years, ranging from 23 to 68 years. The gender distribution was 42 men and 8 women, giving a sex ratio of 5.25. **Table 1** shows the patients' proctological surgical history.

Table 1. Distribution of patients according to proctological surgical history (n = 10).

History of proctological surgery	Number
Anal fistula surgery	03
Hemorrhoidectomy	04
Drainage of peri anal abscess	03

The average consultation time was 23.3 months, ranging from 1 month to 132 months. This time was longer than one year for more than half of the patients (58%). The distribution of patients according to consultation time is shown in **Table 2**.

Table 2. Distribution of patients according to consultation delay.

Consultation time	Number	Percentage (%)
<3 months	04	8
3 - 6 months	06	12
6 - 9 months	08	16
9 - 12 months	03	6
12 - 24 months	16	32
>24 months	13	26
Total	50	100

Several functional signs were found. **Table 3** shows the distribution of patients according to the functional signs found during the examination.

Table 3. Distribution of patients according to functional signs.

Functional signs	Number	Frequency (%)
Purulent discharge	44	88
Anal pain	26	52
Anal swelling	2	4
Anal pruritus	1	2
Intestinal transit disorder	2	4
Rectorrhagia	3	6
Urinary signs	2	4

The external orifice was single in 44 patients (88%), double in four (8%) and multiple in two (4%). The orifice was posterior in 22 cases (44%), right lateral in

13 cases (26%), anterior in 9 cases (18%) and left lateral in 6 cases (12%).

Anal fistula was associated with other proctological conditions. Table 4 shows the distribution of patients according to associated proctological lesions.

Table 4. Distribution of patients according to associated proctological lesions.

Associated proctological lesions	Number
Hemorrhoidal disease	13
Anal fissure	06
Marisk	04
Condyloma	02
Anal abscess	02

When the stylet was inserted into the fistulous orifice, the internal orifice was pierced in 19 patients (38%). HIV-1 serology was positive in 6 patients. Anorectoscopy was performed in six patients and found the internal orifice in three cases. Fistulography was performed in one patient and concluded to be a chronic redesigned intersphincteric anal fistula. Endoanal ultrasonography was performed in one case and concluded to two perianal abscesses in the process of fistulization. Magnetic resonance imaging (MRI) and computed tomography (CT) were not performed in this study.

The average intervention time was 9.5 days, with extremes of one day and 50 days. Spinal anaesthesia was used in 43 cases (86%) and general anaesthesia in 7 cases (14%). On surgical exploration, an internal orifice was identified in 44 cases (88%), with or without injection of methylene blue. Table 5 shows the distribution of patients according to surgical procedure.

Table 5. Distribution of patients by surgical procedure (n = 50).

Operative procedures	Number	Percentage (%)
Fistulectomy alone	26	52
Fistulectomy + suture drainage	08	16
Fistulotomy alone	9	18
Fistulotomy + suture drainage	2	4
Elastic ligation	3	6
Rectal flap	1	2
Suture drainage alone	1	2
Total	50	100

Treatment of associated lesions was carried out in 17 patients during surgery. These included hemorrhoidectomy in 8 cases, anoplasty in 6 cases, flattening of abscesses in 1 case, and electrocoagulation of condylomata in 2 cases.

Post-operative analgesic treatment was systematic in all patients, and consisted in the administration of a combination of paracetamol, diclofenac and nefopam in 46 cases (92%). Four patients (8%) were treated with morphine.

Postoperative antibiotic treatment was systematic in all patients. Four classes of antibiotics were used (beta-lactams, fluoroquinolones, imidazoles, aminoglycosides).

Local antiseptic care was used. Polyvidone iodine or sodium hypochlorite was used for sitz baths in 31 patients, and fatty tulle dressings in 8 patients.

Laxatives were used in 4 cases, and venotonics in 2.

Immediate post-operative management was straightforward in 41 patients (82%). Postoperative complications were noted in 9 patients (18%). These postoperative complications are presented in Table 6.

Table 6. Distribution of patients according to postoperative complications (n = 9).

Postoperative complications	Numbers
Acute urine retention	3
Severe perineal pain	4
Bleeding	1
Purulent discharge	1
Pruritus	1
Transient anal gas incontinence	1

Discomfort with walking and defecation was reported in 44 patients (88%). This symptom disappeared within a few days.

Medium- and long-term post-operative follow-up was established in 31 patients. Complications were noted in ten cases. These were:

- Gas incontinence in two patients. One was multioperated and the other had a complex anal fistula;
- Recurrence in four patients, including one at 4 months, one at 7 months and two after two years;
- Delayed healing (persistence of the surgical wound beyond 12 weeks) in four patients.

The average hospital stay was 2.44 days, with extremes of 2 and 8 days. Mortality was zero.

4. Discussion

Anal fistula is common in Burkina Faso [2] [3]. In this study, it accounted for 20.5% of proctological disorders, ranking 2nd after haemorrhoidal pathology. The frequency of proctological pathologies seems to be underestimated in our African populations, due to socio-cultural factors such as "shameful disease" modesty and lack of information. As a result, many patients turn to African medicine, reducing access to hospital care and increasing the time needed for treatment. The average

age was 40.5 years. Anal fistula seems to predominate between the ages of 30 and 50 [1] [4]-[6]. Purulent anal or perianal discharge was the most frequently encountered sign in this series and in the work of Diop [4], Hrora [7] and Elé [8].

Diagnosis of anal fistula is essentially clinical. A well-conducted proctological examination, an essential step in the process, usually leads to the diagnosis. The distribution of Hermann's and Desfosses' glands along the pectineal line, with a posterior predominance, explains the preferential location of fistulas at the posterior pole of the anus [9]. The posterior site was the most frequent, accounting for 44% of cases. For Diop [4], the external orifice was located posteriorly in 76% of cases.

The treatment of anal fistulas is exclusively surgical, involving surgical identification of the primary orifice, the main fistulous path and any secondary pathways. The aim is to dry up the suppuration while preserving anal continence [1] [7] [10]. There is no place for medical treatment, except for antibiotic therapy in high-risk areas (immunosuppressed, diabetic, valvular heart disease) or to cool down very acute forms. In such cases, antibiotics active against anaerobes and gram-negative bacilli are preferred [1].

Several surgical techniques were used in this study. Preservation of continence elements indicates that the surgeon limited the sectioning of the external sphincter. Thus, the level of the fistula and the number of external orifices determine the surgical procedure to be performed.

Fistulectomy was performed in 34 patients in this study. This technique consists of circular incision and dissection until it reaches the sphincter, leaving only the trans-sphincter portion [11]. Hrora [7] in Morocco and Diop [4] in Senegal performed fistulectomy and tight elastic ligation in 59% and 84% of their patients respectively. Fistulectomy with immediate sphincter reconstruction was performed in 94% of cases by Soumaoro [12] in Guinea. This variability could be linked to the varying composition of the different fistula series, and to each practitioner's habit and preference of surgical technique.

Fistulotomy, with or without suture drainage, was performed in 22% of cases in our series. It was performed in 18.15% of cases in Charua's series [13] and 26.67% of cases in Sissoko's [6]. On the other hand, Ratto [14] performed it in 45.1% of cases in his series. According to the literature [1] [7] [11], the conventional treatment for anal fistula remains single-stage or split-stage fistulotomy, depending on whether the fistula is located high or low.

In our study, slow sectioning or elastic ligation accounted for 6% of procedures. It was more widely used in the series by Sissoko [6] in Mali, with 73.33%. According to Tarrerias [15], this technique is a source of pain and has not been shown to improve anal continence. It also has the disadvantage of failing to detect any diverticula, a source of recurrence if they are not flattened.

Not all anal fistulas have been characterized according to one or other of the most widely used classifications (Parks and Arnous), which has consequently limited our approach to a better analysis of the different surgical techniques.

In the immediate postoperative period, we noted one case of transient gas incontinence in a patient with a complex anal fistula, and one case of minimal bleeding. In Mali, Sissoko [6] reported two cases of anal incontinence to stool (2.25%) and seven cases to gas (7.9%). Long-term post-operative follow-up was marked by gas incontinence in two patients, one of whom had undergone multiple operations and the other by a complex anal fistula. Soumaoro in Guinea [12] found three cases (4.5%) of gas and liquid stool incontinence. According to Pommaret, Toyonaga *et al.* reported a continence disturbance rate of 20%, with gas incontinence in 27 patients and fecal incontinence in four in a recent prospective study of 148 patients who had undergone fistulotomy for inter-sphincteric fistula [9].

These continence problems are all the more embarrassing when the sphincter damage is permanent, and the loss in terms of quality of life is significant. For this reason, so-called sphincter-sparing techniques have been developed to limit the risk of postoperative incontinence, particularly in certain situations where this risk is particularly high (complex trajectory, multiple surgery, anterior trajectory in women, Crohn's disease, prior sphincter lesions, advanced age, radial perineum) [9]. Sphincter-sparing techniques such as the advancement flap, injection of biological glue, plug placement and, more recently, intersphincteric ligation of the fistulous tract (LIFT), clipping and stem cell implantation must be preceded by drainage through a loose sutum [1] [9]. In our context, the use of sphincter-sparing techniques is limited by their high cost and the low availability of specialized materials (biological glue, plug, clip, stem cells). In addition, the limited technical facilities and the need for specific training of surgeons further restrict their use.

We noted four cases (12.9%) of delayed healing in our series. Our results are close to those of Soumaoro [12] in Guinea, who found eight cases (11.9%) of delayed healing in his series, but lower than those of Kouadio [16] in Côte d'Ivoire, where 15 patients (31.9%) presented delayed healing. In our study, delayed healing occurred in patients operated on in several stages, two of whom were HIV immunocompromised. In the context of a significant immune deficiency, these infections may be nonspecific, more severe, and prolonged. According to De Looze, in HIV patients, the healing rate after surgery is significantly prolonged [16].

Four cases of recurrence (12.9%) were noted in our series, including one at 4 months, one at seven months and two after two years. Diop [4] in his series of 63 patients noted three cases, Elé [8] in Congo, one case of recurrence (1.8%) and Soumaoro [12] two cases (2.9%).

Elements that appear to be associated with a higher frequency of recurrence in our study are the age of the suppuration, prior intervention, absence of the internal orifice, anatomical complexity of the fistula, associated pathologies and HIV immunodepression.

Operative mortality was nil in our series, as in those of Hrora [7] in Morocco, Elé [8] in Congo, Kouadio [16] in Côte d'Ivoire and Soumaoro [12] in Guinea.

5. Conclusion

Anal fistula is a highly topical condition, as evidenced by the large number of studies carried out on the subject. It is fairly common, affecting more males in their forties. Treatment remains surgical and depends on the anatomical relationship of the fistula to the striated sphincter apparatus. In our context, fistulectomy predominates. Well-conducted surgical treatment, followed by high-quality post-operative care, guarantees excellent results and avoids certain complications that can sometimes be disabling. Sphincter-sparing techniques would be a very good alternative to conventional surgical treatment of anal fistula, to prevent sequelae of continence disorders.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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