

## Anorectal tumors in N'Djamena: Epidemiological and diagnostic Aspects

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### Abstract

**Introduction:** Anorectal tumors are increasingly common in gastroenterology and general surgery consultations. Anorectoscopy combined with histology is the cornerstone of diagnosis. The aim of this study is to describe the epidemiological and diagnostic aspects of anorectal cancers in hospitals in N'Djamena.

**Patients and methods:** This was a retrospective, descriptive, cross-sectional study spanning 10 years. The digestive endoscopy unit and the pathological anatomy and cytology unit of the CHU-RN served as our framework. Data was collected from the registers of anorectoscopy reports and pathological anatomy and cytology reports. All usable reports were included. Sphinx and SPSS version 23 software were used for data analysis.

**Results:** A total of 948 anorectoscopies were performed, of which 842 showed lesions (88.8%). Endoscopic lesions suspected of malignancy were found in 7.9% of cases (n=67) and ranked fourth place after hemorrhoidal disease (46.7%), anorectitis (26.2%), and anal fissures (12.8%). These lesions included rectal tumors (4.6%) and anal tumors (3.3%). Of the 67 cases, 33 were confirmed by histological examination. The histological type was adenocarcinoma in 84.8% (n=28) of cases. The mean age of patients was 34 ± 10.6 years, with extremes of 18 and 84 years. There was a male predominance (n=22) with a sex ratio of 2. Hematochesia was the most common indication in 52.9% of cases, followed by proctalgia (41.7%). Ulcerative rectal masses were predominant on lower digestive endoscopy (81.8%).

**Conclusion:** Anorectal tumors are becoming increasingly common and represent a major health problem due to their growing frequency, the fact that they are often diagnosed late in our context, and the lack of adequate treatment options.

**Keywords:** Malignant Tumors; Anorectal Pathologies; Epidemiology; Diagnosis; Chad

### 1. Introduction

Malignant anorectal tumors are uncontrolled, anarchic proliferations of malignant cells that develop at the expense of the constituent elements of the anal margin, anal canal, and lower rectum. Anorectal cancers are rare. They account for 2.5% of all cancers of the digestive tract [1,2].

The risk factors for this condition are: passive anal intercourse, multiple sexual partners, smoking, immunodeficiency (HIV), HPV infection, and STIs [3].

Despite their accessible anatomical location, diagnosis is often delayed due to nonspecific symptoms (rectal bleeding, proctalgia, anal itching, etc.), which can be confused with other benign proctological conditions [4, 5, 6].

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In Western Europe, North America, and Oceania, rectal cancer is considered a public health problem with a high overall frequency (risk close to 5% of the general population). However, the incidence of this disease is low in Asia, South America, and Africa (less than 10 per 100,000 inhabitants) [7,8]. In sub-Saharan Africa, the widespread use in recent years of digestive endoscopy, a key diagnostic tool, shows a higher incidence than previously thought. The aim of this study was to describe the epidemiological and diagnostic aspects of colorectal cancer in N'Djamena.

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## 2. Materials and methods

This was a retrospective, cross-sectional, descriptive study covering a 10-year period from January 1, 2014, to December 31, 2023.

The digestive endoscopy unit of the Gastroenterology/Internal Medicine Department at the National Reference University Hospital in N'Djamena served as the setting for our study. Upper and lower digestive endoscopies are performed there every working day. The patients came from the city of N'Djamena and neighboring provinces. Included were patients of both sexes, aged 15 years and older, presenting with lower digestive symptoms. Lower digestive endoscopy was performed by two gastroenterologists during the first five years of the study (2014 to 2018). From 2019 to 2023, the number of gastroenterologists performing the examinations increased to four. Manual disinfection of the equipment was carried out in accordance with standards, using four trays containing a decontaminant, clean water, glutaraldehyde (Steranos® 20%), and clean water, respectively. The disinfection time was at least 15 minutes.

### 2.1. Conditions for performing the examination

Preparations were made using Normacol\*, a single-dose rectal solution used the day before and on the day of the examination. However, sedation was administered at the request of some patients. In cases of lesions suspected of being malignant, biopsies were taken for histological examination.

Histological technique: samples were fixed in 10% formalin. Once embedded in cassettes, they were dehydrated in different alcohol baths (70°, 90°, 95°, and 100° respectively), clarified in xylene baths, embedded in paraffin, coated, and then cut with a microtome at 5 µm. After spreading on the slides, they were stained with hematoxylin-eosin and finally examined under a microscope to make the diagnosis.

The histology results came from the pathology unit of the CHU-RN in N'Djamena in 60.6% (n=20) of cases. The remaining 39.4% (n=13) came from neighboring countries (Sudan, Cameroon) and also from the Maghreb (Egypt, Tunisia). In most cases, these were patients who had been evacuated due to a lack of technical facilities, but also patients who had left on their own initiative in search of adequate care.

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## 3. Results

A total of 846 anorectal examination reports were included. Endoscopic suspicion of anorectal tumors was found in 67 patients, or 7.9%, of whom 4.6% (n=36) had rectal tumors and 3.3% (n=28) had anal tumors. Of the 67 suspected cases, 33 were confirmed by histological examination, i.e., 4.4%. Anorectal tumors ranked fourth after hemorrhoidal disease (46.7%), anorectitis (26.2%), and anal fissures (12.8%).

Histologically, anorectal tumors were dominated by adenocarcinoma in 87.9% (n=29) of cases.

Based on the location of confirmed malignant tumors, the rectum accounted for 87.9% (n=29). Anal cancer accounted for 12.1% (4/33). The average age was 34 ± 10.6 years, with extremes of 18 and 84 years. The 20-40 age group accounted for more than 80%. There was a predominance of males: 22 men and 11 women. The *sex ratio* was 2:1.

Regarding the anal location of the tumor, the *sex ratio* was 1:2 in favor of women. The indications for examination were dominated by hematochezia: 57.6% (n=19) and proctalgia (39.4%). Endoscopic lesions were dominated by ulcerative anorectal masses in 81.8% (n=27) and anal masses with stenosis in 18.2% (n=6).

**Table 1** Distribution of patients according to sociodemographic data

Sociodemographic data	Effective	%
<b>Age (years)</b>		
<20	1	3
[20-30]	13	39.4
[30-40]	14	42.4
[40-50]	2	6.1
[50-60]	1	3
[60-70]	1	3
>70	1	3
<b>Sexe</b>		
Female	11	33.3
Male	22	66.7

**Table 2** Histological type of anorectal cancers diagnosed in the study

histological type	Numbers	Percentage
Well-differentiated Liberkhunian-type adenocarcinoma	18	54.6
Moderately differentiated Liberkhunian-type adenocarcinoma	11	33.3
Moderately differentiated squamous cell carcinoma	4	12.1
Total	33	100

#### 4. Discussion

In this series, 67 cases of malignant tumors were suspected during lower digestive endoscopy out of 842 pathological lower digestive endoscopies, representing a frequency of 7.9% of anorectal conditions. Thirty-three (33) cases were histologically confirmed (3.9%), including 28 in the rectum and 6 in the anus. Variable results were reported in the African subregion. With regard to the rectal location of the tumor, 50 cases were reported in Nigeria in 4 years and 30 cases in Niger in 12 years [9,10]. As for anal localization, 13 cases were reported in the Central African Republic (CAR) over a period of five years [11]. Anorectal cancers appear to be rare in our context. The same observation has been made by several African and other authors [9,10,11,13].

The average age in this series was  $34 \pm 10.6$  years for the entire study population. In Congo and Togo, average ages of 49 years were reported [12,13]. These young average ages corroborate with data from the African literature [14,15,16,17]. In our country, this young age is also consistent with the country's demographic data (young population: (2016 census) [18]. A male predominance (66.7%) was found in the general study population: 22 men to 11 women, giving a sex ratio of 2. However, depending on the location of the tumor, there was a female predominance for anal localization: 4 women to 2 men, giving a sex ratio of 1/2. This result is similar to those of Edino in Nigeria, Sani Niger, and Padonou in Benin [9, 19, 20]. In France, the SNFGE reports a female predominance, as does Guingané in Burkina Faso [2, 21]. Anorectal cancers appear to be ly independent of gender.

With regard to anal location, there was a female predominance in our series. This result is consistent with the data in the literature [22,23,24]. The female predominance of anal cancer is thought to be linked to risk factors, in particular human papillomavirus (HPV) infection, which is more common in females [25]. Other risk factors unrelated to gender, such as passive sexual intercourse (anal penetration), smoking, and HIV infection, may also be implicated. As for rectal cancers, the risk factors implicated in our context would be parasitic infections responsible for chronic inflammatory bowel disease, but also the low consumption of vegetables and fruit known in Sahelian countries, including our country.

Endoscopic lesions were dominated by ulcerative anorectal masses in 81.8% (n=27) and anal masses with stenosis in 18.2% (n=6). Our results are similar to those of Guingané et al. in Burkina Faso [21]. Adenocarcinoma was the most common histological type (87.9%), particularly in the rectum. This result is consistent with the data in the literature [26, 27, 28]. This could be explained by the predominance of rectal localization and its role as a reservoir, providing conditions for tumor development. Anal localization favored squamous cell carcinoma (12.1%), corroborating data from the literature.

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## 5. Conclusion

Anorectal tumors are becoming increasingly common and represent a major health problem due to their growing frequency.

Diagnosis, suspected by endoscopy and confirmed by histology, is often delayed in our context because anorectal manifestations are considered a shameful disease, motivating patients to first consult traditional practitioners who equate all anorectal conditions with hemorrhoids. Awareness-raising to change behavior is necessary.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

Author claim that there is no conflict of interest.

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