

Research Article

# Digestive Tract Cancers: Epidemiological, Anatomical and Clinical Aspects and Management at Conakry Hospital

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## Abstract

**Introduction:** Digestive cancers represent between 10 and 50% of all cancers and therefore occupy a preponderant place in digestive surgery departments. Our general objective was to study the epidemiological, anatomo-clinical and therapeutic aspects of cancers of the digestive tract at the Conakry University Hospital. **Methodology:** This was a retrospective descriptive study covering a period of 6 years, from January 1, 2014 to December 31, 2019. **Result:** the hospital prevalence of cancers of the digestive tract was 6.34% with a male predominance of 54% and a sex ratio of 1.17. The average age was 52.7 years with the extremes of 13 and 84 years and 57% resided in Conakry. Alcohol and tobacco are the most popular stimulants. The most frequent reasons for consultations were epigastralgia 64.31%, vomiting / nausea 44.11%, Stomach and colon cancers were the most represented, i.e. 40.07% and 30.30% respectively. The treatment was curative (surgery) in 85.19% of cases and the outcome was favorable in almost three quarters of cases, or 71.04% of cases. We have 71 registered death cases. **Conclusion:** Cancers of the digestive tract remain non-negligible in our country and that of the stomach is the most common. The hope lies in equipping structures with proximity and adequate infrastructure for diagnosis and with consequent therapeutic means (radiotherapy), as well as raising awareness of early diagnosis within the community.

## Keywords

Cancers, Digestive Tract, CHU Conakry

## 1. Introduction

Several studies show that the digestive tract is the system most affected by cancers, accounting for between 10% and 50% of all cancers [1, 2]. These cancers play a predominant role in digestive surgery departments [3, 4].

Despite recent medical advances in terms of screening, diagnostic and therapeutic management, digestive cancers remain a major public health problem worldwide, especially in our developing countries, where diagnosis is

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made at a late stage beyond any therapeutic resources, apart from exclusively palliative treatment [5].

In addition, the management of digestive cancers has seen enormous progress in recent years [3], and today remains multidisciplinary, requiring not only a perfect knowledge of the epidemiological, clinical and histological characteristics [6], but also an adequate health infrastructure and a substantial financial contribution for the patient.

In Africa, some studies, mostly retrospective, have shown that digestive cancers are not rare, and their incidence is even increasing, probably due to the availability of digestive endoscopy and changes in dietary habits [7].

In developed countries, the incidence of digestive cancers is declining. It is now possible to refine the description of the characteristics of these digestive cancers by specifying their molecular aspects [8]. Certain biological markers can be used to predict the efficacy of different therapeutic strategies [2].

Strategies to improve the management of digestive cancers in countries with limited economic, material and human resources must take into account evaluative approaches, one of which is the updating of data on patients suffering from digestive tumors.

The aim of this study was to report on the epidemiological, anatomy-clinical and therapeutic aspects of digestive tract cancers at Conakry University Hospital.

## 2. Material and Methods

This was a retrospective descriptive study lasting 6 years, from January 1, 2014 to December 31, 2019. Data were collected in the general surgery department of the Ignace DEEN hospital, the visceral surgery department and the oncology unit of the Donka hospital of the Conakry university hospital center. All these departments are located in the capital of the Republic of Guinea.

Epidemiological, clinical and therapeutic variables were studied.

## 3. Results

We conducted a six-year retrospective study (January 1, 2014 to December 31, 2019) of 297 evaluable records of patients admitted for cancers of the digestive tract out of a total of 4681 cancer records. We collected 28 files from the general surgery department of Ignace DEEN Hospital, 78 from the visceral surgery department of Donka Hospital and 191 from the oncological surgery unit of Donka Hospital, i.e. a hospital frequency of 6.34%.

**Table 1.** Breakdown of patient files admitted for digestive tract cancers by socio-demographic characteristics.

Age (n=297)	Workforce	Percentage
Average age (years)	52, 70±14,72	
13-60	72	24,24
≥ 60	113	38,05
Sex (n=297)		
Sex ratio (H/F)	1,17	
Male	160	54,00
Female	137	46,00
Professions		
Housewives	97	32,66
Workers / Farmers	78	26,26
Liberal	68	22,90
Civil servants	54	18,18
Provenance (n=297)		
Conakry	169	57,00
Outside Conakry	128	43,00

**Table 2.** Breakdown of patient files admitted for digestive tract cancers by vices.

Vices	Workforce	Percentage
Alcohol	21	07,07
Tobacco	18	06,06

**Table 3.** Breakdown of files on patients admitted for cancers of the digestive tract, by reason for consultation.

Reason for consultation	Workforce (N=297)	Percentage
Epigastralgia	191	64,31
Vomiting/Nausea	131	44,11
Weight loss	81	27,27
Constipation	23	7,74
Chronic diffuse abdominal pain	13	4,38
Abdominal mass	7	2,36

**Table 4.** Breakdown of files on patients admitted for cancers of the digestive tract by site.

Site	Workforce (N=297)	Percentage
Esophagus	23	7,74
Stomach	119	40,07
Small intestine	7	2,36
Colon	90	30,30
Canal anal	18	6,06
Rectum	48	16,16

**Table 5.** Distribution of records for patients admitted with cancers of the digestive tract, by histological type.

Histological type	Workforce	Percentage
Adenocarcinoma	196	65,99
Squamous cell carcinoma	98	33
Lymphoma	3	1,01
Total	297	100

**Table 6.** Breakdown of records for patients admitted with digestive tract cancers, by treatment method.

Treatment method.	Workforce (N=297)	Percentage
Surgery	253	85,19
Chemotherapy	87	29,29
Medical palliative	44	14,81
Chemotherapy and Surgery	23	7,74

**Table 7.** Distribution of the 253 patients who underwent surgery, by surgical procedure.

Surgical procedure	Workforce (N=253)	Percentage
Tumor resection	231	91,30
Bypass Colostomy (13) Gastro-jejunal (9)	22	8,70
Total	253	100

**Table 8.** Breakdown of patients by evolution.

Evolution	Workforce	Percentage
Favorable	211	71,04
Unfavorable Surgical site infection (11) Tumor recurrence (4)	15	5,05
Deaths	71	23,91
Total	297	100

## 4. Discussion

Precise knowledge of the epidemiological profile of digestive tract cancers is important for planning management strategies and preventive measures. Out of a total of 4681 patients admitted to the surgical departments of Conakry University Hospital during the study period, we identified 297 patients (6.34%) with digestive tract cancer of various anatomical locations.

Our result is similar to that reported by Bagny A. et al [9] in Togo in 2015, who found an overall frequency of 5.74% of digestive cancer at Lomé University Hospital. That of Kissi AKHY et al [3] in Côte d'Ivoire, who reported a frequency of 12.3% of digestive cancers in the hepato gastroenterology department.

Two-thirds of patients (64.3%) were admitted to the oncology unit at Donka National Hospital, followed by Donka National Hospital (26.26%) and Ignace Deen Hospital (9.43%). This result could be explained by the fact that the oncology unit at Donka National Hospital specializes in the management and long-term follow-up of tumors in general, and digestive tract tumors in particular.

The male predominance we have reported is classic both in Africa and elsewhere in the world, notably Bagny et al [9] in Togo in 2015 and Benelkhaïat R, et al [10] in Morocco in 2010.

The mean age of patients suffering from cancers of the digestive tract was  $52.70 \pm 14.72$  years, with extremes of 13 and 84 years. Indeed, 38.05% of patients were over 60, followed by 24.24% aged between 51 and 60. The lower extreme of 13 years found in our study would have been the subject of a publication in 2018 by Traoré B. who notified that she would be to her knowledge the youngest patient presenting with anal adenocarcinoma [11]. In addition, the literature reports a much higher prevalence of tumors of the digestive tract in the elderly: Bagny A. et al [9] in Togo in 2015, Ouedraogo S, et al [10] in Burkina Faso in 2018 and Benelkhaïat R, et al [10] in Morocco in 2010, who reported mean ages of 52.8, 44.3 and 58.1 years respectively.

In more developed countries, such as France [1], the average age of diagnosis of digestive cancers was 67 for men and 71 for women, reflecting the higher life expectancy in Europe. In the West, methods for early diagnosis and manage-

ment of precancerous lesions are available.

Housewives (32.66%) were the most represented, followed by merchants/traders and farmers with proportions of 16.16% and 12.79% respectively.

In the study by Ouedraogo S, et al. [8] in Burkina Faso in 2018, the most represented socio-professional categories were farmers with 85 cases (32.6%), housewives with 81 cases (31.0%), civil servants with 55 cases (21.1%). This could explain the role of unfavorable socio-economic factors in the occurrence of these cancers.

The majority, 57% of patients, lived in Conakry, compared with 43% outside Conakry. The proximity of the Conakry-area CHU could explain this result, given its accessibility to those in Conakry. In addition, the significant percentage of patients residing outside Conakry could also be explained by the absence of specialized facilities for the diagnosis and management of digestive cancers in remote areas.

Alcohol and tobacco are the excitants most consumed by digestive cancer patients, with proportions of 7.07% and 6.06% respectively. The study by Bagny A. et al. [9] in Togo in 2015 had reported 54% smoking and 15% in that of Ouedraogo S, et al. [8] in Burkina Faso in 2018.

Patients with digestive cancer consulted for epigastralgia (64.31%), followed by nausea/vomiting (44.11%), and for the most part in an altered general state (68.01%) with a WHO physical performance index of 3 (27.27%).

Similar patterns have been reported by other studies such as that by Bagny A. et al. [9] in Togo in 2015 had found 20% epigastralgia and 8% vomiting. Ouédraogo S, et al. [8] in Burkina Faso in 2018 had reported that 74% of patients had AEG.

Kisso AKHY et al [4] in Côte d'Ivoire in 2017 reported that 76% of patients were at WHO SPI stage 3.

The clinical signs presented by patients depend on the organs affected. In most cases, digestive tract cancers progress slowly and insidiously. As a result, patients present digestive signs for a long time, which alters their general condition.

The cancer was located in the stomach in 40.07% of cases, in the colon in 30.30% and anorectally in 16.16% followed by the oesophagus with 23 cases (7.74%). For histological analysis, the surgical specimen was the most practical sampling method, accounting for 59.93% of cases, and revealing adenocarcinoma in 65.99%, squamous cell carcinoma in 33% and three cases of lymphoma (1.01%). Macroscopic appearance was infiltration in 41.41% of cases, followed by ulcerating-bourging cancers in 20.20%.

Our results are comparable to those of Benelkhaïat R, et al. [10] in 2010 in Morocco, who reported 46% of gastric cancers, 82% of which were adenocarcinomas Ouédraogo S, et al. [8] in Burkina Faso in 2018, who reported a frequency of 36% of colorectal cancers and 22% of gastric cancers.

According to various data in the literature, adenocarcinoma remains a very frequent feature (histological types) of digestive tract cancers.

The incidence of esophageal cancer in Africa varies from region to region. The risk seems relatively low in West Africa: the descriptive epidemiology in Cotonou, Abidjan and Dakar is comparable to ours [11-13].

The rarity of small bowel cancer noted in our study has also been reported by several African authors [12, 14, 15].

In sub-Saharan Africa, high consumption of smoked or dried foods such as fish and meat, and chronic *Helicobacter pylori* infection, are thought to favour the development of stomach cancers.

Treatment was surgical in 85.19% of cases and medicinal (chemotherapy) in 29.29%. In addition, 14.81% received palliative medical treatment. Surgical treatment was reserved for patients with resectable non-metastatic cancers, and drug treatment for patients with advanced (metastatic) tumors and a general condition that allowed it ( $SPI \leq 2$ ).

Ouédraogo S, et al [8] in Burkina Faso in 2018 found that surgery was the most commonly used treatment in 87% of cases.

Tumor resection was the rule in almost all patients receiving surgical treatment (91.30%), and bypass in the remaining cases (8.70%).

Immediate outcome was favourable in nearly three-quarters of patients (71.04%), and unfavourable in 5.05%, with surgical site infection and tumour recurrence in 11 and 4 cases respectively. We also noted 71 cases of in-hospital death (23.9%). Kissi AKHY et al [3] in Côte d'Ivoire in 2017 reported 43% mortality and 51% favorable outcome.

## 5. Conclusion

Cancers of the digestive tract are common in our country, and stomach cancer was the most frequent. These cancers are often diagnosed at a late stage. An epidemiological study is needed to identify the factors that contribute to the occurrence of these cancers. This study will make it possible to define prevention and screening measures.

## Abbreviations

CHU: University hospital center

WHO: World Health Organization

WHO SPI: World Health Organization Status Performance Index

## Ethical Considerations

Ethics and medical deontology were respected during our study. Our data collection form was anonymous and the data collected through it were guaranteed confidentiality.

## Conflicts of Interest

The authors declare no conflicts of interests.

## References

- [1] Bouvier A-M, Remontet L, Jouglu E, Launoy G, Grosclaude P, Buéni A, et al. Incidence of gastrointestinal cancers in France. *Gastroentérologie Clin Biol* 2004; 28: 877-81.
- [2] Salamatou MG, Hinde H, Abdelmadjid S, Ali Q, Harouna MZ, Hassan N digestive cancers in niger. relative frequency in a retrospective study from 1992 to 2009.
- [3] Kissi Anzouan-Kacou HY, Doffou SA, Bangoura AD, KouaméDH, Fanou CD, Bathaix YF, et al. Management of digestive cancer in Côte d'Ivoire: experience of the hepatogastroenterology department of CHU of Yopougon. *J Afr Hepato-Gastroenterology* 2017; 11: 13-8.
- [4] Ribassin-Majed L, Le Teuff G, Hill C. The frequency of cancers in 2016 and their evolution. *Bull Cancer (Paris)* 2017; 04: 20-9.
- [5] Organization WH. Global status report on noncommunicable diseases 2014. World Health Organization; 2014.
- [6] Dreyer C, Afchain P, Trouilloud I, André T. New molecular classifications of colorectal cancer, pancreatic cancer and stomach cancer: towards à la carte treatment? *Bull Cancer (Paris)* 2016; 103: 643-50.
- [7] Diarra M, Konate A, TraoréCB, Souckho-Kaya A, Diarra CA, Doumbia-SamakéK, et al. Epidemiology of digestive cancers in hospitals in Bamako.
- [8] Ouedraogo S, Ouedraogo S, Kambire JL, Zoungrana SL, Ouattara DZ, Bambara B, et al. Epidemiological, clinical, histological and therapeutic profile of primary digestive cancers in the northern and eastern regions of Burkina Faso. *Bull Cancer (Paris)* 2018; 105: 1119-25.
- [9] Bagny A, Bouglouga O, Darre T, Lawson-Ananissoh LM, Kaaga YL, Sonhaye L, et al. Epidemiological and diagnostic profile of digestive cancers at CHU LoméCampus: about 250 cases. *J Afr Hépatogastroentérologie* 2015; 9: 80-4. 10] Benelkhaiat R, Rabbani K, Nasrollah N, Finech B, Louzi A, El Idrissi Dafali A. Digestive cancers in the Marrakech region. *J Afr Cancer Afr J Cancer* 2010; 2: 160-5.
- [10] Benelkhaiat R, Rabbani K, Nasrollah N, Finech B, Louzi A, El Idrissi Dafali A. Digestive cancers in the Marrakech region. *J Afr Cancer Afr J Cancer* 2010; 2: 160-5.
- [11] . DOUANE G. Esophageal cancer at Treichville University Hospital. A propos de 25 cas en 10 ans. Thesis for Doctorate in Medicine, Abidjan 1979, n°200.
- [12] HOUNNASSO P-P Surgical cancers at the CNHU of Cotonou. Doctor of Medicine thesis, Cotonou (Benin), 1981.
- [13] 11 - OKUDA K., BEASTLEY RP Epidemiology. In OKUDA K., MAC KAY I., Ed. Gen-ven UICC, 1982 ; 9-30.
- [14] GAYE P., DIA A. Cancer in mass medicine in Black Africa: socioeconomic aspects, screening, prophylaxis, anti-cancer education. *Méd. Afr. Noire*, 1971, 18, (3): 191-198.
- [15] REYMONDON C., ROUSSEAU E., BOURGES M., DEME J. Results of a statistical survey on cancer disease in Congo Brazzaville concerning 502 cases of cancer recorded over 12 years at Hôpital A. Sice Hospital, Pointe-Noire. *Méd. Trop*, 1967, 27 (4): 417-422.