


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 ± 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 Ouedraogo 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.

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