

Epidemiological and Anatomico-Pathological Aspects of Gastric Cancers Diagnosed in the Pathological Cytology and Anatomy Department of the Brazzaville University Hospital

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Abstract

Introduction: Gastric cancer is a common cancer worldwide. It ranks fourth in cancer mortality among men and fifth among women. It is diagnosed by esophagogastroduodenal fibroscopy and relies on pathological analysis. The objective of this study was to describe the epidemiological profile and histopathological characteristics of gastric cancers diagnosed at the Brazzaville University Hospital Center (CHU-B). **Methods:** This is a descriptive cross-sectional study with retrospective data collection, conducted in the pathology and cytology department of the CHU-B over a five-year period, from January 2020 to December 2024. Data was collected from the archives of pathological reports. **Results:** A total of 80 cases of gastric cancer were identified, with a frequency of 3.8% of all cancers in general. Median age was 54 years. Biopsies accounted for 88.7% of the samples. The most common histological type was adenocarcinoma in 86.3% of cases, most often in its classic tubular variant with 75.4%. **Conclusion:** Gastric cancers diagnosed at CHU-B mainly affect males, and the most common histopathological form is tubular adenocarcinoma.

Keywords

Gastric Cancer, Epidemiology, Anatomical Pathology

1. Introduction

Gastric cancer is a major public health problem worldwide. According to the WHO, it is the fifth most deadly cancer in the world [1]. In France, it ranks 12th among the most common cancers in men and 15th in women [2]. In Africa, studies conducted in Cameroon and Togo provide data on the epidemiology and histology of gastric cancers [3] [4]. In Congo, the latest study took a primarily clinical approach [5]. We wanted to conduct in situ work in the Pathological Anatomy and Cytology Laboratory, focusing on cases with anatomopathological evidence, with a view to contributing to the updating of data on gastric cancers. The objective of this study was therefore to describe the epidemiological and anatomopathological aspects of gastric cancers diagnosed in the Department of Pathological Anatomy and Cytology at the University Hospital of Brazzaville.

2. Materials and Methods

This is a descriptive study with retrospective data collection. It was conducted in the Department of Pathological Anatomy and Cytology at the Brazzaville University Hospital Center. The study period was five years, from January 2020 to December 31, 2024. Data was collected using the registries of the Pathological Anatomy and Cytology Department, archives of pathological examination reports, and paraffin blocks relevant for review in certain cases. All cases of gastric cancer diagnosed based on histology during the study period were included in this study. Cases labeled as gastric cancer in the records but for which reports were unavailable, cases labeled as gastric cancer that were reviewed and for which the diagnosis differed from the initial one, cases of gastric cancer for which the review was not contributory due to technical defects or insufficient material, and finally cases of stomach biopsies that were not cancerous were excluded.

We conducted an epidemiological and histological survey, studying sociodemographic variables (age, sex, year of completion) and anatomic-pathological variables (type of sample, histological type).

We also considered cases of GIST with a high risk of recurrence according to the Miettinen and Lasota classification, which is based on tumor size and mitotic count. Cases with a high risk of recurrence, characterized by a tumor size greater than 5 cm with a mitotic count greater than 5/50 HPF, a tumor size greater than 10 cm, or a mitotic count greater than 10/50 HPF, are considered malignant GIST.

Our study did not consider clinical aspects and those related to the presence or absence of *Helicobacter pylori*-associated gastritis lesions.

The database was created using Microsoft Excel version 2016, and statistical analyses were performed using IBM SPSS Statistics version 27.0.1.0.

3. Results

80 cases of gastric cancer were collected from 2,107 cancer cases during the study period, representing a frequency of 3.8%. Male subjects were the most represented, with 56% men and 44% women, giving a male/female sex ratio of 1.28 (Figure 1).

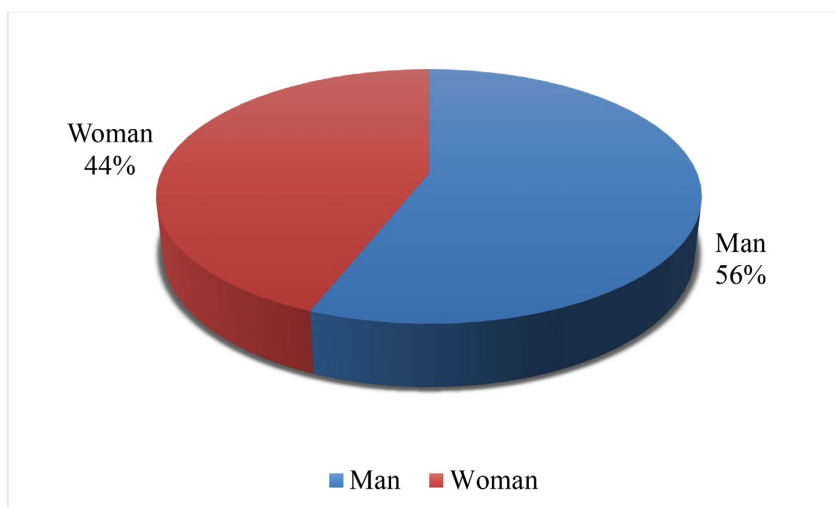


Figure 1. Distribution of gastric cancers by gender.

The median age was 54 years, with the first quartile at 45 years and the third quartile at 67 years. The extreme ages were 28 and 96 years, and the most represented age group was 40-59 years (**Figure 2**).

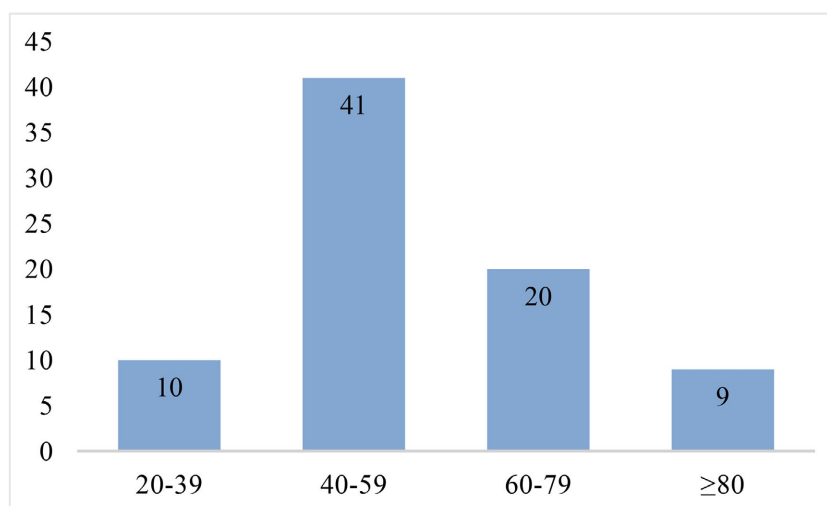


Figure 2. Distribution of gastric cancer by age.

Samples were biopsies in 88.7% of cases and surgical specimens in 11.3% of cases (**Table 1**).

Table 1. Distribution by type of levy.

Type of levy	N	%
Biopsy	71	88.7
Operating specimen	9	11.3
Total	80	100

The macroscopic appearance on endoscopy or surgical specimen was ulcerative-vegetative in 80.8% of cases. Other appearances, although rare, were vegetative (15.2%) and infiltrative (4%).

Adenocarcinoma was the most common histological type, accounting for 86.3% of cases (**Table 2**), and the classic, *i.e.*, tubular variant was present in 75.4% of adenocarcinomas (**Table 3**). It was a well-differentiated adenocarcinoma in 79.7% (n = 55).

Table 2. Distribution by histological type.

Histological type	N	%
Adenocarcinoma	69	86.3
GIST with a high risk of recurrence	8	10
Lymphoma	2	2.5
Spindle cell sarcoma	1	1.2
Total	80	100

Table 3. Distribution by adenocarcinoma type.

Variants of adenocarcinomas	N	%
Tubular adenocarcinoma	52	75.4
Ring-shaped independent adenocarcinoma	11	15.9
Mucinous adenocarcinoma	6	8.7
Total	69	100

4. Discussion

Stomach cancer is common in Africa, with some disparities between countries. According to Globocan 2022 data, in Congo it is the fourth most common cancer in men after prostate, liver, and colorectal cancers, and the sixth most common cancer in women. It accounts for 4% of cancers in both sexes [1]. In our study, the incidence of this cancer is 3.8%. This incidence, which is slightly lower than that reported by Globocan 2022, can be explained by the retrospective nature of our data collection, with the inherent limitations of archiving records and the quality of the blocks requiring review, but also by the exclusivity of histologically confirmed cases.

Gastric cancers mainly affected males. The predominance of males is also found in several studies in Africa and elsewhere. Indeed, Fadlallah in Morocco [6] and Gérard [7], Sanogo [8], Koura [9] noted a male predominance of gastric cancer. This could be explained by men's potentially greater exposure to certain risk factors (tobacco, alcohol, stress, etc.).

The median age in this series was 54 years, with ages ranging from 28 to 96

years, and the most represented age group was 40 - 59 years. This data is roughly comparable to those reported by many authors in the literature. Kadidiatou in Mali [10], Mellouki in Morocco [11], Mabula in Tanzania [12], Bang in Cameroon [13], James in Niger [14], and Zoungrana in Burkina Faso [15], report respective mean or median ages of 59.4 years, 58 years, 52 years, 55 years, 52.9 years, and 58.4 years. It should also be noted that in our series, 25% of cases involved subjects under the age of 45.

In Western series, the average age is higher [16]. This disparity could be explained by the younger age of the African population compared to the Western population.

Histologically, the diagnosis was made on biopsy samples due to its feasibility, sometimes systematically during fibroscopy. The predominant histological type was adenocarcinoma. The predominance of adenocarcinoma is also reported in the work of Bambara [17], Fehim [18], and Zombré [19]. It was also noted that GISTs with a high risk of recurrence according to the Miettinen and Lasota classification are the most common histological type of non-epithelial tumors of the stomach, followed by lymphomas.

The small number of surgical specimens did not warrant the classification of cases according to the type of infiltration, even though in most of these specimens the tumor was beyond stage pT3. The evaluation of this infiltration and of lymph node status could be carried out in a larger series of surgical specimens and as part of a prospective study.

5. Conclusion

This retrospective data collection study focused on the epidemiological and histomorphological aspects of gastric cancers, which represent a real public health problem. These cancers are mainly detected on biopsies, mainly in males, in the 40 - 59 age group. Adenocarcinoma is the most common histological type, mainly in its tubular variant. The assessment of infiltration and lymph node status could be carried out in a larger series of surgical specimens and as part of a prospective study.

Conflicts of Interest

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

References

- [1] Ferlay, J., Ervik, M., Lam, F., Laversanne, M., Colombet, M., Mery, L., *et al.* (2024) Global Cancer Observatory: Cancer Today. International Agency for Research on Cancer.
- [2] Lapôtre-Ledoux, B., Remontet, L., Uhry, Z., Dantony, E., Grosclaude, P., Molinié, F., *et al.* (2023) Incidence des principaux cancers en France métropolitaine en 2023 et tendances depuis 1990. *Bulletin épidémiologique hebdomadaire*, **12-13**, 188-204.
- [3] Grâce, M., Roméo, M., Christelle, D., Aantonin, N.N., René, B.P., Paul, A., *et al.* (2022) Clinical and Anatomopathological Aspects of Gastric Cancers in Yaoundé

- from 2016 to 2020. *Health Sciences and Disease*, **23**, 69-74.
<https://www.hsd-fmsb.org/index.php/hsd/article/view/3593>
- [4] Togo, A., Diakit , I., Togo, B., Coulibaly, Y., Kant , L., Demb l , B.T., et al. (2011) Cancer gastrique au CHU Gabriel-Tour : Aspects  pid miologique et diagnostique. *African Journal of Cancer*, **3**, 227-231. <https://doi.org/10.1007/s12558-011-0167-8>
- [5] Liboko, A.F.B., Kabore, D.D., Ndingossoka, R.J., Rissia, F., Ndounga, E., Mabiala, Y., et al. (2022) Clinical and Histological Aspects of Stomach Cancer at Brazzaville University Hospital. *Health Sciences and Diseases*, **23**, 65-68.
<http://www.hsd-fmsb.org/index.php/hsd/article/view/3601>
- [6] Fadlouallah, M., Krami, H., Errabih, I., Benzoubeir, N., Ouazzani, L. and Ouazzani, H. (2014) Gastric Cancer: Epidemiological Aspects in Morocco. *African Journal of Cancer*, **7**, 8-15. <https://doi.org/10.1007/s12558-014-0322-4>
- [7] G rard, L. and Manfredi, S. (2019) Epidemiology and Risk Factors for Stomach Cancer and Cancer of the Esophagogastric Junction. *H pato-Gastro & Oncologie Digestive*, **26**, 565-572.
- [8] Sanogo, S.D., Traor , A., Soumar , G., Maiga, A., Mall , O., Drabo, S., et al. (2023) Stomach Cancer in Mali: Clinical, Endoscopic, and Histological Aspects. *Health Sciences and Diseases*, **24**, 54-57.
- [9] Koura, M., Some, R.O., Ouattara, Z.D., Napon-ZP, D., Kons gre, V., Somda, S.K., et al. (2019) Cancer de l'estomac   Bobo-Dioulasso: Aspects  pid miologiques, anatomocliniques et endoscopiques. *Science et Technique, Sciences de la Sant *, **42**.
- [10] Kadidiatou, C., Drissa, G., Alfouss ni, D.A., Mohomodine, T., Oumar, T., Sa dou, T., et al. (2024) Gastric Cancers in Sikasso: Epidemiological, Endoscopic and Histological Features. *Health Research in Africa*, **3**, 73-76.
<http://hsd-fmsb.org/index.php/hra/article/view/6313>
- [11] Mellouki, I., laazar, N., Benyachou, B., Aqodad, N. and Ibrahim, A. (2014) Epidemiology of Gastric Cancer: Experience of a Moroccan Hospital Center. *Pan African Medical Journal*, **17**, Article No. 42. <https://doi.org/10.11604/pamj.2014.17.42.3342>
- [12] Mabula, J.B., Mchembe, M.D., Koy, M., Chalya, P.L., Massaga, F., Rambau, P.F., et al. (2012) Gastric Cancer at a University Teaching Hospital in Northwestern Tanzania: A Retrospective Review of 232 Cases. *World Journal of Surgical Oncology*, **10**, Article No. 257. <https://doi.org/10.1186/1477-7819-10-257>
- [13] Aristide, B.G., Djopseu, L.K., Chasim, C.B., Moto, G.B., Savom, E.P., et al. (2021) Digestive Cancers Operated on in Cameroon: Typology and Staging. *Health Sciences and Diseases*, **22**, . <http://hsd-fmsb.org/index.php/hsd/article/view/2997>
- [14] James, D.L., Adamou, H., Chaibou, M.S., et al. (year) Les cancers gastriques: Aspects cliniques, th rapeutiques et pronostiques   l'H pital National de Niamey. Ann Univ Abdou Moumouni. Tome XXI.
- [15] Zoungrana, S., Ouattara, Z., Kambire, J., et al. (2021) Gastric Cancer in Burkina Faso: Epidemiological and Diagnostic Aspects. *JACCR Africa*, **5**, 165-172.
- [16] Shichijo, S. and Hirata, Y. (2018) Characteristics and Predictors of Gastric Cancer after Helicobacter Pylori Eradication. *World Journal of Gastroenterology*, **24**, 2163-2172. <https://doi.org/10.3748/wjg.v24.i20.2163>
- [17] Bambara, H., Jumelle, Z., SoniaYasmina, K., Aboubacar, C. and Maurice, Z. (2023) Stomach Cancer at Bogodogo University Hospital. *International Journal of Clinical Oncology and Cancer Research*, **8**.
- [18] Fehim, S., Bouhaous, R., Diaf, M., Drici, A.M. and Khaled, M.B. (2017) Epidemiological Profile of Gastric Cancer in the Northwestern Region of Algeria: About 116

Cases. *Journal of Gastrointestinal Oncology*, **8**, 659-664.

<https://doi.org/10.21037/jgo.2017.06.02>

- [19] Zombré, N.M.S., Guingané, N.A., Somé, E., Zongo, A., Nyakou, K.P., Lompo, P.C., *et al.* (2022) Stomach Cancer at Yalgado Ouedraogo University Hospital: Epidemiological, Diagnostic, Therapeutic, and Prognostic Aspects. *Burkina Médical*, **26**.