

Gastric Cancers: Surgical Management and Prognostic Factors in the General Surgery Department of the National Ignace Deen Hospital, Conakry (Guinea)

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Abstract: *Introduction:* gastric cancer remains one of the leading causes of cancer death worldwide. The aim of this work was to study the surgical management and to determine the prognostic factors of gastric cancer in the general surgery department of the Ignace Deen national hospital, Conakry (Guinea). *Patients and methods:* This was a retrospective descriptive study covering a period of 10 years (January 2012 - December 2021) on the consecutive records of patients operated on for gastric cancer in the general surgery department of the Ignace Deen national hospital, Conakry. The variables studied concerned sociodemographic, clinical, therapeutic, histological and prognostic aspects. *Results:* During the 10 years, we collected 57 gastric cancer cases representing 40.7% of all digestive cancers. The average age of the patients was 57 ± 27.3 years (extremes: 19 and 90 years) with a male predominance (64.9%). In the majority of cases, the cancer had a budding aspect (57.9%) and was located in the antro-pyloric region (71.9%). In the management, curative gastrectomy was possible in 35.1% of cases against 61.4% of palliative surgery and 20% of adjuvant treatment. We recorded a morbidity of 14% and an early mortality of 7%. Two-year survival was 12.3%. Advanced tumor stage was the only significant prognostic factor ($p=0.015$). *Conclusion:* Gastric cancer was the most common digestive tract cancer operated on in the general surgery department of the Ignace Deen national hospital during the study period. Treatment was palliative in the majority of cases. Advanced tumor stage was the only significant factor associated with prognosis.

Keywords: Gastric Cancer, Surgery, Prognosis, Conakry, Guinea

1. Introduction

Gastric cancer remains one of the leading causes of cancer deaths worldwide, despite the decline in its incidence observed over the last decade [1].

According to Globocan, in 2020 it was the 4th most deadly cancer with more than 768,000 deaths recorded behind lung cancer, colorectal cancer and hepatocarcinoma [2]. In Guinea, gastric cancer is the 2nd most common cancer in men and 4th in women [3].

The incidence of stomach cancer has fallen considerably in industrialized countries, apparently due to improved diets. In sub-Saharan Africa, however, the number of cases is rising

sharply, due to changes in dietary habits and the widespread use of endoscopy to detect more cases of stomach cancer.

Although therapeutic strategies have evolved for more than 10 years, the prognosis of gastric cancer remains poor with an overall survival rate at 5 years of 25% for all stages [4]. The aim of this work was to study the surgical management and to determine the prognostic factors of gastric cancers in the general surgery department of the Ignace Deen national hospital, Conakry (Guinea).

2. Patients and Methods

This was a retrospective descriptive study covering a

period of 10 years (January 2012 to December 2021), performed in the general surgery department of the Ignace Deen national hospital, on the consecutive records of patients operated on for gastric cancer with histological evidence. The variables studied were sociodemographic (gender, age, profession), clinical, therapeutic, histological and prognostic. Data analysis was performed on SPSS version 12.0 software. The Chi2 statistical test was used and the value of $p < 0.05$ was considered significant.

3. Results

During the 10-year study period, we collected 57 gastric cancer cases representing 40.7% of all digestive cancers ($n=140$). The mean age of the patients was 57 ± 27.3 years with extremes of 19 and 90 years. We noted a male predominance (64.9%). Farmers and housewives were the most affected (56.2%). The average delay of consultation was 8.3 ± 5.5 months with extremes of 2 and 20 months. Esogastroduodenal fibroscopy was performed in all patients. In the majority of cases, the cancer was antropyloric (71.9%) and ulcerative (57.9%). The most frequent histological type was adenocarcinoma (96.4%). According to the TNM classification, 50.9% of the tumors were classified as stage IV. Table 1 shows the surgical procedures performed. The early postoperative follow-up is shown in Table 2. At two years of follow-up, the death rate was 78.9%, of which 7% was due to early surgical procedures; survival was 21.1%. Univariate analysis showed that tumor stage was significantly associated with mortality ($p=0.015$).

Table 1. Distribution according to the surgical procedures.

Procedures	Number	Percentage
Gastrectomy (RO, D1.5)	20	35.1
Gastroentero-anastomosis	35	61.4
Jejunostomy	2	3.5
Total	57	100

Table 2. Distribution according to early post-operative course.

Post-operative course	Number	Percentage
Simple	45	79.0
Surgical site infection	5	8.8
Evisceration	2	3.5
Peritonitis	1	1.8
Deaths	4	7.0
Total	57	100

4. Discussion

Gastric cancer occupied the 1st place of digestive cancers in our department. Togo A et al. in Mali in 2012 [5] reported 53.7% of gastric cancer which occupied the 1st place of digestive cancers. However, the true incidence of this cancer has yet to be elucidated, due to the high number of patients who die without autopsy or histological proof. These results reflect the emergence of gastric cancer in Africa, which is far from being rare nowadays [6]. In the African literature, all studies report a younger average age, which varies around 50

years [7-9], whereas in Western series this age is higher [10]. This difference may be related to *Helicobacter pylori* infection, which occurs at an earlier age in poor areas, but also to the fact that the African population is younger [4, 10]. The male predominance found in our study is consistent with studies reported by other authors [11-13]. This predominance could be explained by the high exposure of men to risk factors (alcohol, tobacco, etc.), compared to women in our context [6]. Clinically, in our series, no patient consulted at the asymptomatic phase. This delay in diagnosis is the result of a long and tortuous course of care, especially outside the hospital [12]. In our resource-constrained countries, the burden of infectious diseases weighs heavily on the funds allocated to the health sector. This makes it difficult to implement a national cancer screening program. The antro-pyloric location was the most common in our series. This predominance may be associated with the presence of *Helicobacter Pylori* whose main site of colonization in the stomach is the antrum [14]. As for Mayoumo G et al in Cameroon in 2020 [15], they reported that the body was the most affected part (53.8%). In the series, budding tumors were the most common. Infiltrative forms are rare and of difficult and late diagnosis due to their discrete nature [9]. Adenocarcinoma was the most recorded histological type. It is the most frequent histological type according to the literature [9, 12, 13]. The majority of patients were classified as stage IV according to the TNM classification. Bekolo Nga et al. in Cameroon [13] reported that 71% of the patients were received at stage IV. Gastroentero-anastomosis was the most performed surgical procedure in our study. Our tumor resectability rate was lower than the studies conducted by Diop B et al in Senegal [12] and Mamadou GS et al in Niger [15]. Inferior polar gastrectomy was the most performed in our series, which is consistent with studies conducted elsewhere [11, 12]. This predominance could be explained by the high frequency of distal location of gastric tumors [7]. The restoration of digestive continuity of the Billroth II type with its Finsterer variant has been the most performed. Diop B. et al. in Senegal [12] and James D. et al. in Niger [7] also reported that the Billroth II (Finsterer) montage was the most commonly used. The postoperative complications (surgical site infection, evisceration and peritonitis) observed in this series are the consequence of the deterioration in the patients' general condition on admission (anemia, hypoprotidemia), but also of the inadequacy of postoperative resuscitation resources. The survival rate found at 2-year follow-up in our study remains low. Tumor stage was the only significant factor associated with patient prognosis. Indeed, the lack of long-term follow-up for patients often means that, once a cancer diagnosis is known, they prefer to turn to traditional treatment. Under these conditions, we need to educate our populations about health, and strengthen the system for registering and monitoring patients through the cancer registry.

5. Conclusion

Gastric cancer was the most common cancer of the digestive tract operated on in the general surgery department

of the Ignace Deen National Hospital during the study period. The diagnosis is very often made at an advanced stage of the lesions. Treatment was palliative in the majority of cases. Advanced tumor stage was the only significant factor associated with prognosis. Multicenter studies are needed to identify risk factors and implement appropriate screening and prevention strategies.

Conflicts of Interest

The authors declare no conflicts of interest.

Author's Contributions

All authors have contributed to the development and implementation of this work. The authors also declare that they have read and approved the final version of this manuscript.

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