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Gastric Adenocarcinoma: Epidemiology, Diagnosis and Treatment at Joliot Curie Cancer Institute: About 136 Patients

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Abstract

Objectives: To report the epidemiological, diagnostic and therapeutic aspects of gastric adenocarcinoma at the Joliot Curie Cancer Institute.

Results: There were about 136 cases of gastric adenocarcinoma over a 13-year period. The sex ratio was 1.125. The mean age was 54.29 years. The main risk factors found were epigastric pain, (9.6%), a history of gastric cancer surgery, (1.5%), and smoking (15.4%). Epigastric pain was the most frequent symptom, (65.4%), followed by vomiting. Patients were classified WHO 2 and 3 for 61.8% of the cases according to their clinical status. An epigastric mass was found in 44 patients, (32.4%), and ascites in 8 patients, (5.9%). Hepatomegaly and a sus clavicular node were found in 7% of the cases. Anemia was found in 59 patients, (43.3%), and hemoglobin was less than 8 in 16 patients, (11.7%). Localization was mostly antro pyloric (59.6%) and ulcerous-budding cancer dominated the macroscopic aspects (40.41%). The disease was at stage I in 2.4% of the cases, at stage II in 15.6% of the cases, at stage III in 4% of the cases, and at stage IV in 78% of the cases. Histo pathology showed tubulous or intestinal adenocarcinoma in more than 61% of the patients. Curative surgery was performed in 31 patients (22.8%) and palliative surgery in 39 patients (28.7%). Chemotherapy was given to 53 patients (39%), including 46 cases of palliative chemotherapy (33.8%). After a mean follow-up time of six months, there was a local-regional recurrence in 2 patients, metachronous metastasis in 66 patients (48.5% of the cases); death occurs in 23 patients (16.9% off the cases).

Conclusion: Gastric adenocarcinoma in West Africa is a heterogenous histopathologic disease dominated by intestinal and tubular subtypes. It is diagnosed at an advanced stage. Its prognosis is very poor. Routine endoscopy and neo adjuvant chemo radiotherapy should be developed.

Keywords: Gastric adenocarcinoma; Radio chemotherapy; Surgery; Poor prognosis

Introduction

Gastric cancer is the second leading cause of cancer-related deaths. Adenocarcinoma accounts for 95% of this cancer [1]. Its incidence is high in the Far East and low in Africa. It is underestimated in sub Saharan African where access to routine gastro duodenoscopy is limited. It is therefore discovered belatedly [2]. The objective of this work was to report the epidemiological, diagnostic, and therapeutic aspects of gastric adenocarcinoma at the Joliot Curie Cancer Institute in Dakar, Senegal.

Material and Methods

This was a retrospective and descriptive study that extended from January 2000 to December 2012. All patients considered had adenocarcinoma of the stomach on a biopsy or surgical specimen. They were all treated by surgery, chemotherapy or supportive care. Joliot Curie Institute is the sole cancer center in Senegal and around. It serves more than 50 000 000 millions West Africans living in neighboring countries. It is the only center in this area where multidisciplinary approach is a routine procedure. We evaluated the epidemiological, clinical, histological, therapeutic and prognostic aspects of gastric adenocarcinoma by analyzing age and gender as well as delay of consultation, stage of tumors, modalities of treatments and their results.

Results

For about 13 years, we found 136 cases of gastric cancers with an average of 10.46 new cases per year. The number of men was 72 versus 64 for women, with a sex ratio of 1.125. The mean age was 54.29 years with a maximum of cases in the group 51-60 years (Figure 1).

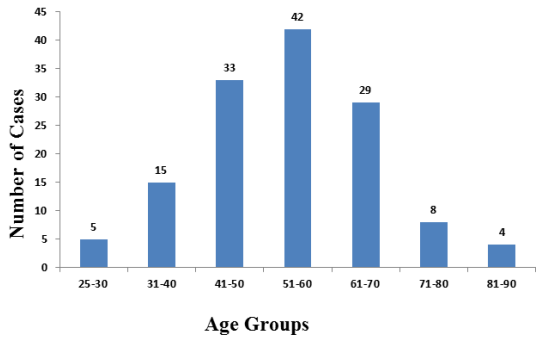

Figure 1: Age group distribution.

The risk factors were epigastric pain in 13 patients (9.6%), a history of gastric cancer surgery in 2 patients (1.5%), smoking in 21 patients (15.4%). Diagnosis delay was on average 13.63 months with extremes of 2 and 120 months. Epigastric pain was the most frequent symptom and was found in 89 patients (65.4%), followed by vomiting in 75 patients (50%). Clinical status was classified WHO 2 and 3 for 61.8% of patients. An epigastric mass was found in 44 patients (32.4%) and ascites in 8 patients (5.9%). Hepatomegaly and a sus clavicular node were found in 7% of the cases (Table 1).

Symptoms	Number of cases	(%)
Pain	89	65.4
General status	52	38
Vomiting	68	50
Weight loss	66	48.5
Anemia	46	33.8
Epigastric mass	44	32.4
Dehydration	28	20.6
Œdema	9	6.6
Ascitis	8	5.9
Sus clavicular lymph node	7	5.1
Hepatomegaly	7	5.1

Table 1: Distribution of symptoms.

Anemia was found in 59 patients (43.3%) and hemoglobin was less than 8 in 16 patients (11.7%). Localization were mostly antro pyloric (81 patients or 59.6% of the cases) and ulcerous-budding cancer dominated the macroscopic aspects (55 patients or 40.41% of the cases).

The disease was at stage I in 2.4% of cases, stage II in 15.6% of cases, stage III in 4% of cases and stage IV in 78% of cases. Biopsies and surgical specimens showed tubulous or intestinal adenocarcinoma in more than 61% of the patients followed by independent and ring cells adenocarcinomas in 22% of patients (Table 2).

Histo pathologic aspects of adenocarcinomas	Number of cases	Percentage %
independant cells	9	6.6
With Signet Ring cells	3	2.2
Intestinal type	12	8.8
Lieberkuhnian type	4	2.9
Mucinous type	2	1.5
Tubulous type	19	14
Tubulo-papillary type	2	1.5

Table 2: Distribution of histologic types.

Curative surgery was performed in 31 patients (22.8%) and palliative surgery in 39 patients (28.7%). Chemotherapy was given to 53 patients (39%), including 33.8% of palliative chemotherapy (46 cases). After a mean follow-up time of six months, there was a local-regional recurrence in 2 patients, metachronous metastasis in 66 patients (48.5%). Death occurs in 23 patients (16.9%).

Discussion

In Senegal, gastric cancer is the most common type of digestive cancers according to hospital registries [3]. Its impact is almost similar to what is observed in Northern and Central Africa, but remains lower than the rates in Asian countries [4]. Gastric adenocarcinoma remains a cancer that mostly affect older males. In our practice, tobacco and a history of epigastric pain, documented or not by endoscopy, are the main risk factors. Smoking and salting food for preservation is common in Sub-Saharan Africa due to the difficult access to cold storage. This does not seem to increase the incidence of gastric adenocarcinoma in comparison to industrialized countries[5]. Although its involvement in carcinogenesis was demonstrated and despite its frequency, helicobacter pilory was not investigated in patients' specimens [6,7]. In all series, the consultation period was extended from 6 to 15 months, probably due to the extended indolent period. Gastric adenocarcinoma has a sneaky evolution associated with weight loss [2,3]. Vomiting was the most common complication. WHO classification of the general status showed best behaviors than our patients because of screening by routine endoscopy in high risk patients [6]. Anemia, the most common biological sign does not reflect the frequency of digestive hemorrhages which is a rare reason for consultation. The digestive endoscopy performed in all patients showed a predilection of burgeoning and antro-pyloric tumors. Its role in screening has found superficial tumors in Europe and Japan [8]. The African series found exceptionally superficial cancers [2,3]. Biopsies showed the prevalence of adenocarcinoma that surpasses by far lymphomas, GISTs and neuroendocrine tumors. Its incidence is variable in Africa [9,10]. The tubular and intestinal types occupied the first places. Ring-cell carcinomas remained corresponding to cases of plastic linites [11]. The high frequency of stage IV tumors explains the high mortality rate. In areas where gastric incidence is high, screening

and diagnostic tools explain the lower frequency of advanced stages [12]. Surgery is the cornerstone of the treatment of gastric adenocarcinomas [13]. We initially proposed surgery to 52% of patients. More neo adjuvant and adjuvant chemotherapy is needed based on anthracyclines, platinum salts, 5 Fluorouracile. Novel treatments include Taxanes and HER2 targeted therapies. Cerb B2 is the only growth factor receptor targeted in gastric cancer despite the important role of HER3, better than HER4, in carcinogenesis, lymph node involvement and death occurence [14,15]. In advanced stages, radio-chemotherapy should be considered because of the large benefits in neo-adjuvant or palliative situations. Intensity-Modulated Radiation Therapy or conformational radiotherapy should be the choice [16]. These different strategies seem to show better results [17,18].

Conclusion

Gastric cancers are still underdiagnosed and rare in Sub-Saharan countries. They are discovered at an advanced stage, when signs of complications appear. Surgical treatment which is the cornerstone of treatment shows its limits in terms of effectiveness because of the advanced stage of the disease at the time of diagnostic. Chemotherapy allows for some control in adjuvant situations. When appropriate technical modalities are available, radio-chemotherapy could help control the disease. In the absence of screening, digestive endoscopy and Helicobacter pilory search should be popularized in high risk patients.

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