Albanian Journal of Trauma and Emergency Surgery (2021) 5/2: 864-868
DOI: 10.32391/ajtes.v5i2.232

ORIGINAL ARTICLE

Some epidemiological data about Stomach Cancer in Kosovo

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Received: 26 May 2021 / *Accepted:* 18 June 2021 / *Published online:* 20 July 2021
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Abstract

Despite the continuing decline in incidence, stomach cancer remains one of the most common and deadly neoplasms in the world [1]. According to the literature, stomach cancer is the third leading cause of cancer deaths worldwide, ranking third after lung cancer and colorectal in global cancer mortality. About 1 in 12 neoplasm deaths can be attributed to stomach cancer, which has 5 times the highest incidence among all cancers, and over one million new cases of stomach cancer are diagnosed each year worldwide.[2]

Our objectives were: Evidence and detailed statistical description of demographic, diagnostic, clinical, pathological data of stomach cancer patients are included in this study were hospitalized in two clinical surgery medical centers in the period from January 2009 to January 2019, in University Clinical Center in Prishtina-Department of Surgery, Regional Hospital in Ferizaj-Department of Surgery.

Material and methods: The study included 115 patients who met the criteria, and the Study variables were obtained from clinical record data that include: Gender (Male, Female); Age; Clinic of the disease: (indigestion Weakness, Weight loss, anorexia, Melena, Abdominal pain, Epigastric pain, Vomiting…); Tumor stage, histopathologic and lesion type...

Conclusion: Stomach cancer affects both gender with a preference of men with a ratio of 1.4: 1 (M; F). The most affected age group is 51-70 years which includes about 61.3% of patients. Depending on the localization of gastric cancer, the most affected part of our study was the body of the stomach (46%), the antral part 38%, the cardia part with 15.7%. Typical symptoms in our patients included; Indigestion 46 (40%); Loss of appetite 41 (35.6%); Abdominal pain 70(60.8%); Nausea/ vomiting 35(30.4%); Postprandial pain 39 (33.9%); Weight loss 56 (48.6%); Melena 19 (16.5%).

Keywords: stomach cancer, screening program, body, cardia, antrum.

Introduction

Despite the continuing decline in incidence, cancer of the stomach remains one of the most common and deadly neoplasms in the world [1].

According to the literature, stomach cancer is the third leading cause of cancer deaths worldwide, coming third after lung and colorectal cancer in global mortality from cancer.

About 1 in 12 deaths from neoplasms can be attributed to stomach cancer, which has the 5 times higher incidence among all cancers, and every year over one million new cases of stomach cancer are diagnosed, worldwide. [2].

The risk of developing stomach cancer from birth to age 74 is 1.87% in men and 0.79% in women worldwide [1].

Stomach cancer is more common in men, and in industrialized countries, it is diagnosed 2.2 times more often in men than in women, while in developing countries, this ratio is 1.83.

In 5 countries of the world, stomach cancer has the highest incidence among all cancers for men [3].

The distribution of gastric cancer is related to specific geographical regions [7].

The incidence of gastric cancer is quite high and varies depending on the geographical region and cultural level of the population, the highest incidence is recorded in the countries of Central and East Asia and Latin America. [4].

In East Asia, its average incidence is 32.1 per 100,000 in males and 13.2 in females.

In North America, this incidence is 5.6 per 100,000 for both sexes.

Original article, no submission or publication in advance or in parallel

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The rate is lowest recorded in North and East Africa, with only 4.7 cases per 100,000 males.

Although declining in incidence, non-cardia localized gastric cancer is diagnosed twice as often as cardia localized cancer [2]. The incidence of stomach cancer tends to decrease steadily worldwide over the past 50 years, due to medication successful H. pylori infection, and changes in eating style, using fewer vegetable pickles, and less smoking, meat processing, from greater availability of fresh fruits and vegetables [6].

As 90% of cases of non-cardia gastric cancer are consequences of H. pylori, which explains why the incidence of that subtype of stomach cancer has decreased since the decline of infection [5]. Meanwhile, in the same period, cardia subtype stomach cancer has increased 7 times, especially in the developed world [5].

The survival rate of stomach cancer has also been constantly improving over the past 40 years thanks to early diagnosis and better treatment options [6].

Despite the lack of epidemiological data at the national level, the same epidemiological character of stomach cancer has been observed in Kosovo in the last 20 years.

Our objectives were: Evidence and detailed statistical description of demographic, diagnostic, clinical, pathological data of stomach cancer patients is included in this study were hospitalized in two clinical surgery medical centers in the period from January 2009 to January 2019, in University Clinical Center in Prishtina-Department of Surgery, Regional Hospital in Ferizaj-Department of Surgery.

Material and methods

The study included 115 patients who met the criteria, and the Study variables were obtained from clinical record data that include: Gender (Male, Female); Age; Clinic of the disease: (indigestion Weakness, Weight loss, anorexia, Melena, Abdominal pain, Epigastric pain, Vomiting…); Tumor stage, histopathologic and lesion type...

Analysis of Data: Continuous data are shown as mean values (SD), for nonparametric values are presented as median values with 95% reliability in value. Categorical variables are shown as a percentage.

Comparative statistical analysis was done with the help of a chi-squared test for qualitative data. For statistically significant data the value P <0.05 was taken.

Results

In our study are included 115 patients, and the stomach cancer affects both gender with a preference of men with a ratio of 1.4: 1 (M; F).

For study convenience and to assess the most affected age, we grouped in 8 decades the patients studied, the most affected age group was, the age range was from 17-90 years.

The most affected age group is 51-70 years which includes about 61.6% of patients.

In according the localization of gastric cancer in our study (tab 2), the patients were separated into three groups: Group A – with localization in gastric cardia was 18 (15.7%); M – 11(61.1%); F – 7 (38.9%); Group B – with localization in the gastric corpus was 53 (46%); M – 35(66 %); F – 18 (34 %); Group C – with localization in the antral part of the stomach was 44 (38.3%); M – 29(66 %); F – 15 (34 %);

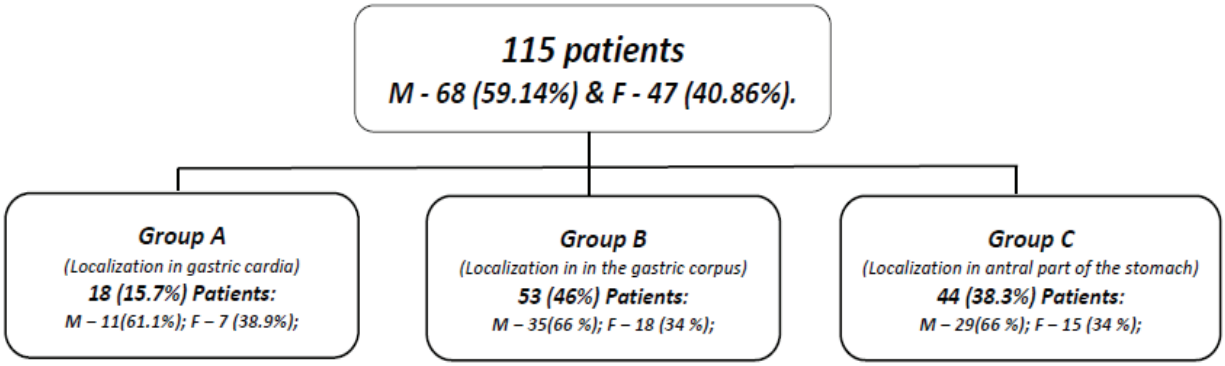
Our data are consistent with the Stomach Cancer Clinic, which is usually asymptomatic at an early stage until they reach an advanced stage. Typical symptoms in our patients included; Indigestion 46 (40%); Loss of appetite 41 (35.6%); Abdominal pain 70(60.8%); Nausea/ vomiting 35 (30.4%); Postprandial pain 39 (33.9%); Weight loss 56

Table 1. The age distribution of all patients (M + F)

Age groups	10-20	21 - 30	31-40	41-50	51-60*	61-70*	71-80	81-90
No. of pat	1	2	8	18	31	40	13	2
%	0.8	1,7	6.9	15.6	26.9	34.7	11,3	1.7

*** ** The age group 51-70 years included 71 (61.6%) of patients*

Table 2- Distribution of data in according dhe localization of gastric cancer



(48.6%); Melena 19 (16.5%). Perforation of the stomach. Perforation from cancer as the first clinical presentation is rare and occurs in only 1% to 4% of cases. In our patients we encounter this clinical situation in 2 patients (1.7%); both cases were stage IV and palliative gastric resection was performed.

The macroscopic appearance of gastric cancer is defined in the Japanese classification of gastric carcinoma [8] in reference to Borrmann's classification as follows:

Type 0 (superficial), typical of T1 tumors; in our study was 5(4.3)%, patients.

Type I (mass), polypoid tumors sharply demarcated from the surrounding mucosa; in our study was 20(17.3%) patients.

Type II (ulcerative), ulcerated tumors with raised margins surrounded by a thickened gastric wall with clear margins; in our study was 40 (34.7%) patients.

Type III (infiltrative ulcerative), ulcerated tumors with raised margins surrounded by a thickened gastric wall without clear margins; in our study was 35(30.4%) patients.

Type IV (diffuse infiltrative), tumors without marked ulceration or raised margins, the gastric wall is thickened and indurated and the margin is unclear; in our study was 15 (13.3%) patients.

Type V (unclassifiable), tumors that cannot be classified into any of the above types. [9]

Histopathological data were classified (Lauren 1965) into three types:

Type I - Differentiated or intestinal (tubular or papillary adenocarcinoma) with 64 (55.6%) patients.

Types II - Undifferentiated or diffuse (weakly differentiated adenocarcinoma, signet-ring cell carcinoma or mucinous adenocarcinoma), with 32 (27.8%) patients.

Type III – Indeterminate type (mixtures of above two types) with 19 (16.8%) patients.

In according the type of lesions, the patients were divided into three groups:

Type I – ulcerative lesions included 58 (50.4%) patients, [M - 38 (65.5%) and F- 20 (34.5%);

Type II – Ulceroproliferative lesion included 24 (20.8%) patients, [M - 15 (62,5%) and F – 9 (37.5%).

Type III – Polypoidal lesion included 33 (28.8%) patients, [M - 25 (75.7%) and F – 8 (34.3%).

In according the Tumor stage (TMN), the patients were divided into two groups:

Group I included 64 patients [38 males (59.37%) and 26 females (40.63%)];

Group II included 51 patients [(30 males (58.82) and 21 females (41.17%)].

The average age value in group I was 54.7 years, while in group II it was 58.1 years.

In group, I, 31 patients (48.43%) were in stages 2 and 3a, while 33 patients (45.09%) were in stages 3b and 4.

In group II 23 patients (45.09%) were in stages 2 and 3a, while 28 patients were in stages 3b and 4 (54.91%).

The presence of H. pylori infection is different in our study, and it was found during FGS procedure with this distribution in according the histopathological subtypes we had this data; in Intestinal type with 59 (92.1%) patients; in Diffuse type 27 (84.4%); in Indeterminate type 19 (31%).

Discussion

There is a diverse spectrum of average age incidence reported in different parts of the world. Where can we single out the following: in Western countries, it was 71 years old (in the US): in Asian countries, the average age is lower (For example, in Japan it was 61 years [10])

In our study, the mean age was 58.5 +/- 11.8 years, which was closely similar to the study done in the US. [1]

The male to female ratio was 1.4: 1, In East Asia, the average incidence of gastric cancer is 32.1 per 100,000 among males and 13.2 among females. In North America, this incidence is 5.6 per 100,000. The rate is lowest in North and East Africa, with only 4.7 annual diagnoses per 100,000 males. Korea has the highest national incidence with almost 60 per 100,000 new cases annually for males. While female incidence rates are lower (only 25 per 100,000 in Korea); they follow the same regional trend [1, 5].

Our study showed that the most affected age group was 51-70 years which includes about 61.3% of patients, which may be due to diet disregard in the form of pickled food, high protein diet, and high smoking [6, 7].

In a review of 18,365 patients from the American College of Surgeons, the usual presentations were weight loss (66.6%), abdominal pain (51.6%), nausea/vomiting (34%), anorexia (32%), and melena (20.2%).

Our study found that abdominal pain (60.8%) was the most common symptom after weight loss (48.6%), indigestion (40%), anorexia (35.6%), nausea / vomiting (30.4%), after meals pain (33.9%), and melena (16.5%).

Our study showed that obstructive symptoms like abdominal pain after eating, nausea/vomiting, and weight loss were common in the underlying and obstructive variety of antral carcinoma, which was not shown in any post-detailed study.

Various reports revealed progressive proximal increases in stomach cancer and the concomitant decline of distal stomach cancer in the western world [11, 12].

Reports from Asian countries were conflicted. Japanese and Korean population had the predominant incidence of cardia gastric cancer, while in our study the body was mainly involved (46%) followed by antrum (38%) and fundus (16%).

Qyrshi et al. showed that in the Indian population the incidence of cancer in the proximal, middle, and distal stomach were 42%, 6.2%, and 45.7% respectively [13].

Microscopic appearance of gastric cancer in our study the ulcerative lesion was 58 (50.4%) patients, followed by polypoid lesions 33 (28.8%) patients, and ulceroproliferative lesions 24 (20.8%) patients.

Another study done by *Kabir et al*. showed that the ulcerative lesion was 56%, ulceroproliferative lesions 10%, and polypoid lesions 34% [14].

Over the past 1/2 century, histological classification of gastric carcinoma was mainly based on *Lauren criteria* like; 1) Intestinal subtype, is the extended epidemic type, includes corpus callosum, more common in men, in the elderly, with high presence of Helicobacter pylori, and with intestinal metaplasia, associated with chronic atrophic gastritis [15, 16].

Here, glandular structures are maintained, it is slightly invasive and has a sharp border, and carries a better prognosis. 2) Diffuse endemic cancer is more common in women and young individuals, and the M&F ratio is almost equal [17]. This type originates in areas of atrophy-free pangastritis, consisting of scattered clusters of poorly differentiated cells and deceptive margins, and highly virulent [4]. 3) The third common type, the mixed type (unspecified type), is also a common variant [18].

In our study, the data were 64 (55.6%) for bowel type, with 32 (27.8%) patients for diffuse type, and with 19 (16.8%) patients for indeterminate type.

Afridi et al. showed that both (66.6%) patients had diffuse subtype, 20% had intestinal subtype, and 13.3% gastric lymphoma [19].

While H. pylori infection increases the risk of gastric cancer, it has also been shown to protect against gastroesophageal reflux and esophageal adenocarcinoma.

Conclusions

Stomach cancer affects both sexes with a preference of men with a ratio of 1.4: 1 (M; F). The most affected age group is 51-70 years which includes about 61.3% of patients. Depending on the localization of gastric cancer, the most affected part of our study was the body of the stomach (46%), the antral part 38%, the cardia part with 15.7%. Typical symptoms in our patients included; Indigestion 46 (40%); Loss of appetite 41 (35.6%); Abdominal pain 70(60.8%); Nausea/ vomiting 35(30.4%); Postprandial pain 39 (33.9%); Weight loss 56 (48.6%); Melena 19 (16.5%)…

COI Statement: This paper has not been submitted in parallel.

This research received no specific grant from any funding agency in the public, commercial, or nonprofit sectors. There are no relevant or minor financial relationships from authors, their relatives or next of kin with external companies.

Conflict of Interest Statement; There is no conflict of interest

Authorship Contribution; The first author has done the conception or design of the work and data collection and analysis. The second and fourth author has done the data analysis and interpretation as well as drafting the article and critical revision of the article. The third and fifth author did the English writing of the work, the collection, the data control, the English writing of the Article.

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