



Original Article

Frequency of Gastrointestinal (GI) Cancers Based on Upper and Lower Endoscopic Findings in Lorestan Province, Western Iran

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Abstract

Background: In view of high prevalence of GI cancers in Lorestan Province, western Iran, and a large number of esophageal cancer patients in this region, this study was done to determine the frequency of various GI cancers in the area.

Methods: In a cross-sectional study, all patients from Lorestan Province for whom endoscopy and colonoscopy were performed and biopsy was provided entered our study. Distribution of cancers in terms of age, sex, site of involvement and type of pathology was determined.

Results: Of 3088 endoscopic patients, 408 cases (13.2%) were with GI cancers. The most prevalent one was esophageal cancer with 216 cases (52.93%) followed by gastric and colon cancers. All the studied cancers were more common among men than women. The most frequently observed pathology was squamous cell carcinoma (SCC) in esophageal cancer and adenocarcinoma in gastric and colon cancers.

Conclusion: The most prevalent GI cancer in the present study was esophageal cancer followed by gastric and colon cancers. So further studies concerning prevalence and etiology of GI cancers are needed to be undertaken.

Keywords: Gastrointestinal cancer; Endoscopy; Colonoscopy; Lorestan; Malignancy

Introduction

Gastrointestinal (GI) cancers are one of the important causes of mortality worldwide, among them gastric cancer is the second cause of deaths due to malignancy

in the world and esophageal cancer as the fifth.¹ These two cancers are more common in some parts of Asia compared to other parts of the world. Esophageal cancer has a higher prevalence in some regions such as China, northern Iran, southern Turkey, central Asia, Afghanistan and northern Africa. It is also prevalent in Finland, Iceland, Venezuela, southeast Africa and northwest France.^{1,2}

Gastric cancer is highly distributed in Eastern Asia including Japan, China, South Korea, Russia, Ireland, and Chile. Colorectal cancer is an important cause of

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morbidity and mortality in North America and Europe and other regions with similar food habits.¹⁻⁵ GI cancers have a relatively high prevalence in Iran, so that some parts of northern Iran are located in the “Asian belt for esophageal cancer”. Gastric cancer occurs frequently and is the most common GI cancer in our country. Although colorectal cancer is less frequent than esophageal and gastric cancers in Iran, it is still a significant cause of deaths due to malignancies.^{1,2} Early diagnosis of GI cancers using endoscopic findings leads to a longer survival and a significantly lower cost of treatment.

High prevalence of GI cancers in Iran and particularly the high rate of gastric and esophageal cancers in Lorestan province have prompted the present study which aims at investigating the frequency of such cancers in the region for the past 3 years based on upper and lower endoscopic findings.

Materials and Methods

In a retrospective cross-sectional study, all the patients referred to the Endoscopic Clinic of Lorestan University of Medical Sciences entered our study. All the admitted and out-patients for whom endoscopy and colonoscopy were done comprised 3088 subjects for the study. The patients included were suffering from different GI symptoms such as chronic epigastric pain, heartburn, GI bleeding, frequent vomiting, loss of appetite, weight loss, lower GI bleeding, constipation and change in bowel habits who had undergone endoscopy

and colonoscopy (and biopsy in the case of suspected malignancy) from October 1999 to October 2003.

Pathology reports in different centers were compared and the distribution of cancers was determined based on the patient’s age, sex, site and type of cancer.

Results

Of 3088 patients for whom endoscopy and colonoscopy were done, 408 (13.2%) had GI cancers including esophageal (216), gastric (153) and colonic (39) cancers (Table 1 and Figure 1).

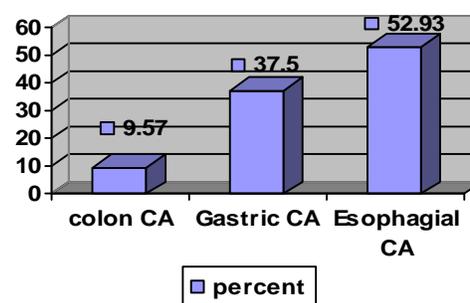


Figure 1: Frequency of GI Cancers according to site of cancer.

Among the subjects with GI cancers, there were 161 females (39.46%) and 247 males (60.54%). Distribution of patients based on age is shown in Table 2. Of

Table 1: Frequency of GI cancers in Lorestan among men and women

Types and sites of cancers	Women	Men	Total
	No. (%)	No. (%)	No. (%)
Esophageal adenocarcinoma	16(3.93)	45(11.3)	61(14.95)
Esophageal SCC	59(14.46)	96(23.52)	155(37.98)
Gastric adenocarcinoma	69(16.91)	84(20.59)	153(37.50)
Colon adenocarcinoma	17(4.17)	22(5.4)	39(9.57)

Table 2: Frequency of GI Cancers according to age

Age	Esophagus	Stomach	Colon
	No. (%)	No. (%)	No. (%)
30-39	5(2.41)	5(3.27)	-
40-49	19(8.8)	20(13.07)	3(7.69)
50-59	39(18.05)	21(13.72)	8(20.51)
60-69	56(25.92)	49(32.02)	10(25.64)
70-79	52(24.07)	49(32.02)	12(30.77)
80-89	43(19.9)	9(5.90)	6(15.39)
90-100	2(0.95)	-	-
Total	216(100)	153 (100)	39(100)

408 patients, 216 subjects (52.39%) had esophageal cancer: 61 adenocarcinoma (28.2%) and 155 squamous cell carcinoma (71.8%) and there were 141 males (65.3%) and 75 females (34.7%) in this group. Gastric cancer was seen in 153 cases (37.5% of all GI cancers) consisting of 84 males (54.9%) and 69 females (45.1%). The pathology in all gastric cancers was adenocarcinoma. A total of 39 cases (9.57%) had colorectal cancer, including 17 females (43.59%) and 22 males (56.4%; Table 1). All these patients were with adenocarcinoma of the colon.

Discussion

As revealed in the study, the most prevalent cancer was the esophageal cancer occurring in the seventh decade of life, gastric cancer in seventh and eighth decades and colon cancer in the eighth decade. GI cancers as a whole were more prevalent in the seventh decade (60-69 years), and had a higher prevalence in men (247 males, 60.54%) compared to women (161 females, 39.46%). Among all patients with GI cancer, the most common site of involvement was esophagus (216 cases, 52.93%) and the least was colon (39 cases, 9.55%).

Esophageal cancer was reported to be more prevalent in some regions including China, northern Iran, central Asia, Turkey, Afghanistan and northern Africa. In Iran, esophageal cancer was reported to have a higher prevalence than the gastric and colon cancers especially in southeastern coast of the Caspian Sea such as Golestan Province.^{1,2,6,7}

Although gastric cancer is the most common GI cancer in Iran, in Lorestan, a western province, the highest prevalence belongs to esophageal cancer

followed by gastric and colon cancers among the admitted patients to university hospital.

According to the results of Bagheri-Lankarani et al. in Fars Province, southern Iran, esophageal cancer was the third most prevalent GI cancer after gastric and colon cancers.⁸ The prevalence of esophageal cancer showed a decline but the colon cancer has an increasing trend in the region. In previous studies, esophageal cancer was reported as the second most common GI cancer after gastric cancer in Fars Province.⁸ Several studies showed that in Ardebil, north-west Iran, the most prevalent GI cancer was gastric cancer followed by esophageal cancer, and cardia was the most common site.⁹⁻¹¹ Mehrabani et al. (2008) reported an ASR of 1.05, 3.82 and 3.26 for esophageal, stomach and colorectal cancers, respectively while the most common cancer was gastric cancer.¹² Although some countries have reported a rise in the prevalence of esophageal adenocarcinoma compared to squamous cell carcinoma, this study showed that squamous cell carcinoma was more prevalent. Since GI cancers are an important cause of mortality and morbidity in the studied region (Lorestan), and similar to northern Iran, esophageal cancer is more common than gastric and colon cancers, further studies to investigate the prevalence and etiologies are warranted.

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Conflict of interest: None declared.

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