
Research Article**Epidemiologic and pathologic indices of gastric cancer in Kermanshah province, Iran****Ali Shahriari-Ahmadi¹, Mehrdad Payandeh², Masoud Sadeghi^{3*}, Edris Sadeghi⁴**¹Rasoul-e-Akram Hospital, Hematology and Medical Oncology Ward, Iran University of Medical Sciences, Tehran, Iran^{2,3,4}Medical Biology Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran***Corresponding author**

Masoud Sadeghi

Email: sadeghi_mbrc@yahoo.com

Abstract: Gastric cancer is the second prevalent cancer and the second reason of death caused by cancer in the world. The aim of this study was to identify the epidemiologic and pathologic characteristics of gastric cancer in patients hospitalized in Taleqani Hospital, Kermanshah, Iran, that can be a model for the West of the Iran. In a descriptive research, the medical records of 184 patients were presented with gastric cancer at Taleqani Hospital, during 1997-2005 in Kermanshah province, Iran, were studied. The method of collecting data was extracting them from the files and the recording them in a "Collecting Data Form". Frequency and percent related to each variable was checked by SPSS software and tables were drawn accordingly. The mean age for the patients at diagnosis was 59.7±12 years (range, 25-85 years) that 132 patients (71.7%) were male. Percentage of gastric cancer was the lowest in 25-34 years and the most in 65-74 years. Adenocarcinoma was the most type of pathology for the patients (83.1%) and also body and cardia were the first and second site of involvement of stomach. Out of 184 patients, 25 patients (13.7%), 3(1.6%), 3 (1.6%) and 153 (83.1%) had stage I, II, III and IV, respectively. In conclusion, considering the fact that the symptoms of gastric cancer are non-specific and vague and also early diagnosis and proper surgery are the most important factors in prolonging the life of patients.

Keywords: Gastric cancer, Adenocarcinoma, Epidemiology, Pathology

INTRODUCTION

Gastric cancer is the second prevalent cancer and the second reason of death caused by cancer in the world [1]. Despite, the decrease in the rate of gastric cancer in recent decades, it is the most common cancer in north and northwest Iran [2]. The provinces of Semnan, Golestan, and East Azerbaijan as well as the Tehran metropolitan area also have high rates of gastric cancer in both men and women. In contrast to the northern areas, Kerman, a province in the south, shows a lower incidence of gastric cancer with a rate of 10.2 and 5.1 in men and women [3]. Gastric cancers have different distribution in different parts of the world and its epidemiologic and pathologic features have changed in recent decades. There are several reports considering the age. For instance, the mean age of affection is higher than 57 years [1,4]. According to previous studies, half of the gastric cancers start from the terminal part of stomach [5]. The clinical symptoms of gastric cancer at early stages are undetectable due to their being vague and non-specific, making the diagnosis difficult [2]. Moreover, the patients usually consult a doctor when the tumor has developed and

reached almost the advanced stage and survival is short at this stage, Because of this, an early diagnosis is very valuable in gastric cancer. Because there are various reports about the age of affection, clinical symptoms and other epidemiological and pathological characteristics indifferent societies, having more Knowledge and information can lead to an early diagnosis and treatment.

In this study, it has been tried to take an effective way in the process of screening patients, improving health care services and preventing gastric cancer by determining its prevalence and frequency. The aim of this study was to identify the epidemiologic and pathologic characteristics of gastric cancer in patients hospitalized in Taleqani Hospital, Kermanshah, Iran, that can be a model for the West of the Iran.

MATERIALS AND METHODS

In a descriptive research, the medical records of 184 patients were presented with gastric cancer at Taleqani Hospital, during 1997-2005 in Kermanshah province, Iran, were studied. The method of collecting data was extracting them from the files and the

recording them in a “Collecting Data Form”. In this relation, the necessary information about age, sex, stage of the disease, pathologic result, habitation, site of involvement and type of lesion were recorded. Frequency and percent related to each variable was checked by SPSS software and tables were drawn accordingly.

RESULTS

The mean age for the patients at diagnosis was 59.7±12 years (range, 25-85 years) that 132 patients (71.7%) were male and 52(28.3%) were female. The male to female ratio was 2.53 to 1. We divided the

patients to six age groups (**Table 1**). Percentage of gastric cancer was the lowest in 25-34 years and the most in 65-74 years. Adenocarcinoma was the most type of pathology for the patients (83.1%) and also body and cardia were the first and second site of involvement of stomach. Out of 184 patients, 25 patients (13.7%), 3(1.6%), 3 (1.6%) and 153 (83.1%) had stage I, II, III and IV, respectively. Of all patients, type of lesion in 140 patients (76.1%) was ulcerative and 12(6.5%) was polypoid. In all patients, 75 patients (70.7%) were living in Kermanshah city and rest of patients was living in out of Kermanshah city.

Table 1: The baseline characteristics for the patients with gastric cancer (n=184)

Variables	n(%)	Mean±SD	Range
Age(year)		59.7±12	25-85
Age group(year)			
25-34	5(2.7)		
35-44	17(9.2)		
45-54	37(20.1)		
55-64	45(24.5)		
65-74	65(35.3)		
75-85	15(8.1)		
Sex			
Male	132(71.7)		
Female	52(28.3)		
Type of the pathology			
Adenocarcinoma	153(83.1)		
Lymphoma	3(1.6)		
GIST*	2(1.2)		
Others	26(14.1)		
Site of involvement of stomach			
Body	49(26.6)		
Cardia	42(22.8)		
Antrum	35(19)		
Pylor	14(7.7)		
Fundus	11(6)		
Others	33(17.9)		
Stage			
I	25(13.7)		
II	3(1.6)		
III	3(1.6)		
IV	153(83.1)		
Type of lesion			
Ulcerative	140(76.1)		
Polypoid	12(6.5)		
Others	32(17.4)		
Habitation			
Kermanshah City	75(40.7)		
Towns around Kermanshah city	70(38)		
Adjacent Province	29(15.8)		
Others	10(5.5)		

* *Gastrointestinal Stromal Tumors*

DISCUSSION

Our study showed that the mean age of patients with gastric cancer was 59.7 years. Other

studies conducted in the USA and Serbia showed the mean age of 70-74 and 70, respectively [6,7]. While a study reported in three hospitals in Tehran, Iran, the

mean age for gastric cancer patients was 59.9 years [1]. Babaei's research in Zanjan, Iran, reported the mean age was 57.9 years [4]. These results showed that the mean age for gastric cancer patients in Iran is lower than other countries. In this study, the highest rate of gastric cancer was in the age group of 65-74 years. Neugat *et al.*; [8] reported the highest rate of gastric cancer in 60s and 70 and Davood *et al.*; [9] in 70s and 80s. It is clear that there is no significant difference in the reports. Regarding sex distribution, the male to female ratio in this study was 2.53 to 1. This ratio is 2 to 1 in the most of countries [10]. In addition, Iran cancer institute (ICI) reported on gastric cancer within 1986-2000 and showed that the ratio was 2.8 to 1, so again there is no significant difference. In our study, the most common site of involvement was body and the second was cardia and the fundus had the lowest rate. While in Kashan, Iran, the most common site was antrum (44%) [9] And Heber's study, [11] reported that antrum and proximal part of stomach were the most common site. The result of a study showed that distal gastric cancer is more common than proximal gastric cancer in Iran [12]. A study in Iran, [9] reported that the rate of adenocarcinoma was 97.8%.

Surgical resection of stage IV gastric cancer has recently been proposed as the treatment of optimal choice; however treatment results, including prognosis, remain elusive [13]. Advanced patient age is not a contraindication for surgical treatment [14]. Regarding the stage of the disease, stage IV was the most common stage (83.1%), this shows the importance of diagnosis and treatment of the gastric cancer at early stages which means in patients with initial symptoms of epigastric pain, weight loss and strong suspicion of cancer, if gastric endoscopy and the diagnosis happens at the stage of early gastric cancer, a long time survival can be expected in these patients [9]. Over a period of seven years, [15] approximately 40% of gastric cancers were located at the cardiofundic region. Also, the most frequent macroscopic type was the ulcerative type (67%), polypoid (18%) and ulcerative-polypoid type (15%) were less frequent. In our study the ulcerative type and polypoid were 76.1% and 6.5%, respectively. Therefore, in this study, the ulcerative type was higher than other study but polypoid was lower.

CONCLUSION

Considering the fact that the symptoms of gastric cancer are non-specific and vague and also early diagnosis and proper surgery are the most important factors in prolonging the life of patients. It is recommended that in patients with the age above 50 years, weight loss, epigastric pain and anorexia be regarded as screening tools and a great suspicion of gastric cancer and endoscopy with multiple biopsies from suspected areas should be used as a powerful tool for diagnosis.

REFERENCES

1. Hashemi SM, Hagh-Azali M, Bagheri M, Kabir A; Histopathologic and Anatomic Correlation of Primary Gastric Cancers. *RJMS*, 2004; 11(40): 319-26.
2. Malekzadeh R, Derakhshan MH, Malekzadeh Z; Gastric cancer in Iran: epidemiology and risk factors. *Arch Iran Med*, 2009; 12(6):576-83.
3. Mohagheghi MA, Mosavi-Jarrahi A, Malekzadeh R, Parkin M; Cancer incidence in Tehran metropolis: the first report from the Tehran Population-Based Cancer Registry, 1998 – 2001. *Arch Iran Med*, 2009;12: 15 – 23.
4. Babaei M; Gastric cancer. *J Zanjan University of Medical Sciences*, 1993; 7-8:29-43 (in Persian).
5. Prolla JC, Kobayashi S, Kirsner JB; Some Recent Improvements in Diagnosis Based Upon the Japanese Experience. *Arch Intern Med*, 1969; 124(2):238-46.
6. Muñoz N, Franceschi S; Epidemiology of gastric cancer and perspectives for prevention. *Salud Publica Mex*,1997;39(4):318-30.
7. Bakir T, Can G, Siviloglu C, Erkul S; Gastric cancer and other organ cancer history in the parents of patients with gastric cancer. *European Journal of Cancer Prevention*: June 2003 - Volume 12 - Issue 3 - pp 183-189.
8. Neugat AI, Hayek M, Howe G; Epidemiology of gastric cancer. *Semin Oncol*, 1996; 23(3):281-91.
9. Davood Abadi A, Sharifi H, Erfan N, Dianati M, Abdol Rahim Kashi E; An epidemiologic and clinical survey on gastric cancer patients referred to shahid beheshti hospital of kashan(1994-2001). *RJMS*, 2003; 10 (34):211-220 (in Persian).
10. McLoughlin JM; Adenocarcinoma of the stomach: a review. *Proc (Bayl Univ Med Cent)*, 2004; 17(4):391-9.
11. Heberer G, Teichmann RK, Kramling HJ, Gunther B; Results of gastric resection for carcinoma of the stomach: the European experience. *World J Surg*, 1988; 12:374–81.
12. Norouzinia M, Asadzadeh H, Shalmani HM, Al Dulaimi D, Zali MR; Clinical and histological indicators of proximal and distal gastric cancer in eight provinces of Iran. *Asian Pac J Cancer Prev*,2012;13(11):5677-9.
13. Yamashita K, Sakuramoto S, Kikuchi S, Katada N, Kobayashi N, Watanabe M; Surgical resection of stage IV gastric cancer and prognosis. *Anticancer Res*, 2007; 27(6C):4381-6.
14. Medina-Franco H, Contreras-Saldívar A, Ramos-De La Medina A, Palacios-Sanchez P, Cortés-González R, *et al.*; Surgery for stage IV gastric cancer. *Am J Surg*, 2004; 187(4):543-6.
15. Al-Mofleh IA; Gastric cancer in upper gastrointestinal endoscopy population: Prevalence and clinicopathological characteristics. *Ann Saudi Med*, 1992; 12(6):548-51.