Original Research Article

Clinicopathology figures and survival in the patients with colorectal cancer in Northeast Iran: a review on the literature of Iran

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Abstract: Colorectal cancer (CRC) represents 9.4% of all incident cancers in men and 10.1% in women. The aim of the study is to evaluate clinicopathology figures in CRC patients in Northeast Iran and a review on the literature of Iran. Between of 2009 to 2015, 96 patients with CRC referred to Clinic of Medical Oncology, Mashhad city, Iran. The mean follow-up was 35 months that in this interval, there were 19 deaths and also 9 patients lost the follow-up (censored from survival analysis). The mean age at diagnosis was 57.8 years (range, 23-89 years) that 56.3% were male. Out of 96 patients, 89 patients (92.7%) were non-mucinous adenocarcinoma and 36 patients (39.6%) had colon cancer. The mean tumor size was 4.5cm (range, 1.5-8cm). Forty patients (41.7%) had lymph node metastasis. The 4-year survival rate was 76% and mean survival was 20.4 months. The mean age of CRC patients in Iran is around 55-60 years and the survival rate was more in our study (Northeast Iran) compared with other areas in Iran. Also, more patients with CRC in Iran have higher than 50 years old.

Keywords: Colorectal cancer, Survival, Northeastern Iran.

INTRODUCTION

Colorectal cancer (CRC) represents 9.4% of all incident cancer in men and 10.1% in women [1] that CRC is third common cancer in women and 5th in Iranian men [2]. CRC, however, is not uniformly common throughout the world [1]. It is a important public health problem: there are nearly one million new cases of CRC diagnosed world-wide each year and half a million deaths [3]. The prevalence of CRC is increasing in Asia [4]. The epidemiology of CRC is well known to differ in different geographical regions [5]. The high frequency of positive family history of CRC in Iranian patients indicates that a significant number of CRCs in Iran arise in family members and relatives of CRC patients [6]. The aim of study is to evaluate Clinicopathology figures in CRC patients in Northeast Iran and a review on literature of Iran.

MATERIALS AND METHODS
Patients

Between of 2009 to 2015, 96 patients with CRC referred to Clinic of Medical Oncology, Mashhad city, Iran. We checked age, sex, type of pathology, tumor size, tumor site, stage, grade, lymph node metastasis and survival in all patients. The mean follow-up was 35 months that in this interval, there were 19 deaths and also 9 patients lost the follow-up (censored from survival analysis). Overall survival (OS) was defined from the date of diagnosis until death from any cause or the date of the last follow-up.

Statistical analysis

The data were analyzed in IBM SPSS version 19 and the survival was calculated by GraphPad Prism 5 and also the graph was plotted in Microsoft Excel 2007.
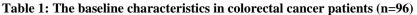
RESULTS

The mean age at diagnosis was 57.8 years (range, 23-89 years) that 54 patients (56.3%) were male (Table 1). Out of 96 patients, 89 patients (92.7%) were non-mucinous adenocarcinoma and 36 patients (39.6%) had colon cancer. The mean tumor size was 4.5cm (range, 1.5-8cm). Out of 90 patients, 3 patients (3.3%) were stage I at diagnosis, 40 (44.4%) stage II, 23 (25.6%) stage III and 24 (26.7%) stage IV. Of 92 patients, grade I, grade II and grade III were in 42 patients (45.7%), 49 (53.3%) and one patient (1.1%), respectively. Forty patients (41.7%) had lymph node metastasis.

The 4-year OS has been shown in Figure 1. The survival rate was 76% and mean survival was 20.4 months.

Figure 2 shows the prevalence of patients in male and female based on age groups. More male patients have older age than female patients and also more patients with CRC are older than 50 years (green line).

Table 1: The baseline characteristics in colorectal cancer patients (n=96)

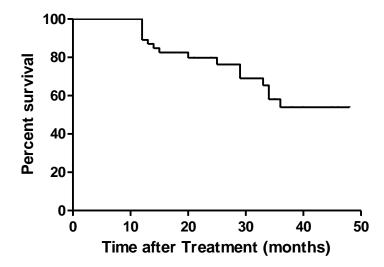| Variables	n(%)	Mean±SD	Range
Age, years		57.8±15.0	23-89
Sex			
Male	54(56.3)		
Female	42(43.8)		
Type of pathology			
Non-mucinous adenocarcinoma	89(92.7)		
Mucinous adenocarcinoma	7(7.3)		
Tumor size, cm		4.5±1.5	1.5-8
Tumor site			
Colon	38(39.6)		
Rectum	58(60.4)		
Stage			
I	3(3.3)		
II	40(44.4)		
III	23(25.6)		
IV	24(26.7)		
Unknown	6		
Grade			
I	42(45.7)		
II	49(53.3)		
III	1(1.1)		
Unknown	4		
Lymph node metastasis			
Yes	40(41.7)		
No	56(58.3)		

Fig-1: The 4-year overall survival in all patients with colorectal cancer
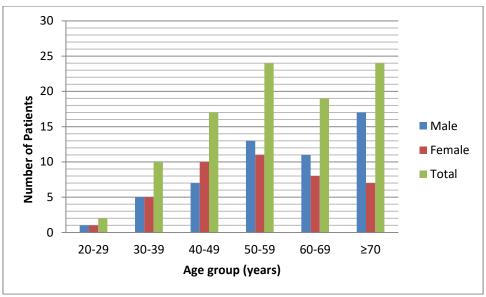
Fig-2: the prevalence of colorectal cancer patients based on sex and age group

DISCUSSION

Cancer is one of the major public health problems in the world. Globally, among common cancers, CRC is the fourth most common cancer in men and the third most common in women [7]. A number of Iranian studies showed that the prevalence of the mean age of CRC patients in Northwest, Center, West, and North was 55-55.2 years, 56.2-60 years, 51-58.6 years and 52-56 years, respectively [8]. In our study (Northeast), the mean age was 57.8 years. These results show that the mean age of CRC patients in Iran is around 55-60 years.

A total of 546 patients were enrolled in a study that 306 patients (56%) were men and 240 (44%) were women [8]. In another studies, Of 1127 cases, 690 males (61.2%) and 437 females (38.8%) [9]. In this study, of 96 patients, 54 (56.3%) were males and 42(43.8%) females. In these Iranian studies, the prevalence of CRC in male was more than female.

Among Iranian CRC patients, 33.6% had an age lower than fifty, 43.4% were between 50 and 69 years, and 22.9% had an age higher than 70 years old [8]. Our study confirmed it, such as the study of Azadeh et al.[10]. Therefore, the more patients with CRC in Iran have higher than 50 years old. There was no significant difference between males and females regarding age at diagnosis [10], similar to this study.

In CRC patients, the most of the tumors were adenocarcinoma and about the grade of tumor, the most patients had well-differentiated tumors [8, 10], followed by moderately and poorly differentiated tumors, respectively, in 30% and 6% of patients. Regarding the stage of cancer according to TNM staging system, 6% of patients were in stage I, followed by 37% in stage II,

33% in stage III, and 24% in stage IV. The tumor was located in rectum in 44.5% and colon (55.5%) [1]. In our study, all patients (100%) were adenocarcinoma and also moderately differentiated (grade II) was the most, followed by well and poorly differentiated tumors. Also, 3.3% patients were in stage I, 44.4% stage II, 25.6% stage III and 26.7% stage IV. The tumor was located in rectum in 60.4% patients. Therefore, in this study, the prevalence of rectum tumors was more compared to another study.

In one study, the 1, 3, 5, 7, 10, and 15 years of survival rates were 91.1%, 73.1%, 61.0%, 54.9%, 47.9%, and 25.9%, respectively [9]. In other studies [11,12], 5-year survival rate was 41%. In this study, the 4-year survival was 76%. Therefore, survival rate was more in our study compared with other studies in Iran.

CONCLUSION

The mean age of CRC patients in Iran is around 55-60 years and the survival rate was more in our study (the Northeast of Iran) compared with other areas in Iran. Also, more patients with CRC in Iran have higher than 50 years old.

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