SHORT COMMUNICATION

Clinical characteristics of colorectal cancer in Southern Iran, 2005

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Abstract

Background: Colorectal cancer is the second leading cause of cancer-related mortality and represents a major public health problem in developed countries. The objective of present investigation was to determine the epidemiologic aspects and clinical characteristics of colorectal cancer in Shiraz, southern Iran.

Methods: This was a retrospective study carried out during 2000-2005, and comprised 491 subjects with pathologically documented colorectal cancer. They were registered in Fars Cancer Registry, affiliated to Shiraz University of Medical Sciences, southern Iran. A questionnaire including data on demographic information, histological types of cancer, site of primary cancer and metastasis were completed by trained interviewers.

Results: Among 491 subjects, 57.2% were male and the most common age was 65-75 years. Patients under 45 years of age represented 22.8% of all colorectal cancer cases while 32% were over 65 years old. Those with a history of cancer in their first-degree relatives included 26.9% of the patients. Adenocarcinoma was the most common reported histological type of cancer (96.1%). Among all subjects, 60.7% suffered from abdominal pain, 28.4% abdominal distention and 28.0% rectal bleeding. Other symptoms included diarrhea/constipation, nausea/vomiting, urogenital problems and mass sensation. The most common sites of metastasis were lung, brain and ovary.

Conclusion: The incidence of colorectal cancer showed a remarkable increase in our region that might be due to changes in life style, decreased physical activity, heavy smoking habits, dietary changes and increased prevalence of obesity. Considering the elderly as the most vulnerable and the growing trend towards involvement of younger subjects, more studies and screening seems to be essential.

Keywords: Characteristics; Colorectal cancer; Southern Iran

Introduction

Colorectal cancer is one of the most common tumor types in the world with approximately 400,000 deaths annually.[1] It is the second leading cause of cancer-related mortality and represents a major public health problem in developed countries.[2,3] Compared to other regions, middle east is among the low incidence colon cancer areas. Nevertheless, a marked increase in the incidence of colorectal cancer was reported in southern Iran.[4] Most cases are probably caused by environmental factors but genetic predisposition may affect the individual's sensitivity to cancer and play an important role in about 5% of the cases.[2,5] This study is performed to determine epidemiologic aspects and characteristics of colorectal cancer in southern Iran, Shiraz.

Materials and Methods

Fars Cancer Registry affiliated to Shiraz University of Medical Sciences in Shiraz, Iran, was established in 1971 to gather data on the prevalent cancers in Fars province, southern Iran as well as medical and demo-

graphic information from various medical centers throughout the province. The Registry is a hospital-based center and covers the patients in Fars province and neighboring regions. It is the major center for referral of patients suffering from cancer in southern Iran due to its equipped units, and specialists in different fields of cancer. All its registrars attended the locally organized courses in cancer registration. Among these, some also received advanced training in checking records of cancer cases from Surgical, Pathology, Oncology, Radiology and other related Departments and transferring the data to be recorded in Cancer Registry. The data provided from all patients are most complete and accurate and all pathology, radiological, chemotherapy and endoscopic documents are recorded. The epidemiologists and pathologists then recheck the data to exclude benign and suspicious cases and reclassify them if necessary. This is a retrospective study carried out during 2000-2005, and comprised 491 subjects with pathologically documented colorectal cancer who were registered in Fars Cancer Registry, affiliated to Shiraz University of Medical Sciences, southern Iran. A questionnaire including data on demographic information, histological types of cancer, site of primary cancer and metastasis were completed by trained interviewers. The collected data were analyzed using t-test and Chi-Square SPSS software (version 11.5, Chicago, IL).

Results

Among 491 subjects, 57.2% were male and 42.8% were female. The mean age of patients was 55.11 years. The most common age group was 65-75 years. Those with a history of cancer in their first-degree relatives, constituted 26.9% of the patients. The most common reported histological type of cancer was adenocarcinoma (96.1%). In terms of differentiation, well-differentiated (43.7%) and poorly differentiated types showed higher prevalence, whereas the moderately differentiated type was found in 22.97% of subjects. Among all patients, 60.7% presented with abdominal pain, 28.4% abdominal distention, 19% diarrhea or constipation and 17% nausea and vomiting. Rectal bleeding along with sign and symptoms of anemia were present in 28% of patients with 15.7% complaining of urogenital problems. Mass sensation was reported in 3.4% of the subjects. The most common sites of metastasis were lung (99.5%), brain (99.5%) and ovary

(99.2%). Patients under 45 years of age comprised 22.8% of all colorectal cancer cases while 32% were over 65 years- old.

Discussion

Rate of colorectal cancer varies considerably according to geographic regions. The disease is common in USA, Western Europe, Australia and Scandinavia but it is relatively uncommon in Asia, Africa and South America.[1] Compared to western countries, the incidence of colorectal cancer is low in Iran, though it shows a remarkable increase during last decades.[4] The incidence of colorectal cancer increases with age. Risk of colorectal cancer was reported to increase after the age of 40 and sharply after 50.[4] This pattern was also observed in our study, in which the most common age group was 65-75 years. In this regard, during 70s, the most common age group was 71-80 years and in the 90s, the most prevalent age was 40-50 years.[2] The mean age of subjects in our study was 55.1 years compared to 63 and 52.8 years in the 70s and 90s, respectively.[4] The changes may be due to increased use of colonoscopy leading to an early detection of tumors. The mean age of our colorectal cancer patients was similar to a median age of 55.3 years reported by Xu et al.[6] We found the male to female ratio to be 1.34:1 which is slightly lower than that observed in a study on 3870 colorectal cancer patients in China with a male to female ratio of 1.42:1.[6] Qing et al. also reported that rate of colorectal cancer was higher among men than women and suggested that hormone replacement therapy may reduce the incidence of this cancer in women. Female sex hormones affect cholesterol metabolism, which in turn affects bile acid production, a pathway, linked to the development of colorectal cancer.[7]

In our study, 26.9% of patients had history of cancer in their first-degree relatives. Similarly, a positive family history of colorectal cancer was observed in 10 to 15 percent of the patients in the Netherlands.[2] Other authors have also stated that the relatives of such patients could be at increasing risk of colorectal cancer.[8]

Our Finding showed adenocarcinoma to be the most common cancer type in our region which is compatible to other studies conducted in Kurdistan, Western Iran,[9] Gorgan north of Iran,[10] and Tehran, the capital city of Iran.[11] Studies from China revealed similar results.[6] According to Sheidan et al., colorectal adenocarcinoma has been the third most frequent cancer

in the Grand-Duchy of Luxembourg since 1994.[12] In a study on cancer of the colon and rectum in Jamaica, most of the tumors were well or moderately differentiated adenocarcinomas.[13] We, however, found the well and poorly differentiated types to be most prevalent.

In our study, the most reported symptom was abdominal pain (60.7%), which was also the predominant symptom in developed countries.[14] In contrast to our results; Sarmast et al. reported hematochezia as the most common complaint.[15]

Previous research showed that liver was the most common site of metastasis from colorectal cancer.[16]

However, we found lung, brain and ovary to have the highest frequency of metastasis. We can conclude that the incidence of colorectal cancer showed a remarkable increase in our area, which may be due to changes in lifestyle along with decreased physical activity and heavy smoking habits.[4] Additionally, dietary habits including high fat and low fiber diet intake and increased prevalence of obesity may be considered as other causes.[17] Considering the elderly as the most vulnerable, and the growing trend towards involvement of younger subjects, further studies and screening seems to be essential.

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