Clinical Course of Colorectal Carcinoma in a Developing Country

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Abstract

Background: To study the clinical presentation of colo-rectal carcinoma in a developing country.

Methods: In this non- interventional descriptive study, 75 patients were diagnosed to have color-rectal carcinoma in the eight years between November 1997 and December 2005. All the presenting features were recorded in a proforma. Detailed family history of gastro-intestinal or extra gastro-intestinal malignancy was obtained. Enquiry was made about the known risk factors of colo-rectal carcinoma. The information was analyzed to identify the common presenting features and role of known risk factors in the pathogenesis of disease.

Results: Bleeding per rectum was the commonest presentation. However, surgical emergency was the second most common presentation in our study. The disease was found to be most common below fifty years of age. Rectosigmoid region (57%) was the commonest site. Histologically fifty perent of cases revealed well – differentiated morphology. Known environmental factors had no significant role in pathogenesis of the disease.

Conclusion: Colorectal carcinoma is a disease of younger age in our society. Screening programs should include patients below 50 years of age.

Key words: *Colorectal carcinoma.*

Introduction

Colorectal Carcinoma is the third most common malignancy in U.K. [1]   It is the second leading cause of death from cancer in the developed world[2] . It is generally considered to be a disease of the elderly population.[1] The screening programs recommend screening in individuals above fifty years of age [3] . This is not applicable in our country as most of our patients are below fifty years of age. Epidemiology of colorectal carcinoma has been attributed to various environmental factors, yet in our set up incrimination of any environmental factor in its causation still lacks substantial evidence [4] .

Patients and Methods

75 patients with colorectal cancer were seen and treated between November 1997 and December 2005 at hospitals affiliated with the Islamic International Medical College Hospital Trust in Rawalpindi and Islamabad (Pakistan). Detailed history including family history of gastro-intestinal or extra gastro-intestinal malignancy was recorded on a proforma. Detailed dietary history was obtained specially concerning intake of meat, fruits, vegetable, and milk products. Enquiry was also made about smoking and alcohol intake. Investigations included full blood count, liver function tests, carcino-embryonic-antigen, ultra-sound of abdomen. Digital rectal examination, sigmoidoscopy, colonoscopy and CT of the abdomen were performed as and when required and agreed by the patient. All these patients were subjected to surgical management either in emergency or electively as dictated by their mode of presentation. After operation, all the samples were submitted for histo-pathological examination.

Chemotherapy or radiotherapy before or after the operation was given according to the recommendations of the oncologist. Patients remain under regular follow- up at three or six monthly intervals depending on the stage of disease.

Results

Out of 75 patients included in the series, 53 were males and 22 females, with a male to female ratio of 2.4:1

The average age of the patients was 37 years, with males being in the range of 18 to 64 years and a mean of 36 years. In females average age was 38 years with a range of 22 to 57 years and a mean of 38 years.

Thirty-four patients (45.3%) were in the third decade while 15 (20%) were in the fourth decade. Overall 66 (80%) patients out of 75 were below 50

years of age. (Table 1)

Table 1 Age Distribution of Patients

Age(Years)	Patients
<20	1
20-29	16
30-39	34
40-49	15
50-59	7
>60	2

Bleeding per rectum was the most common presenting feature. Acute abdomen and changes in bowel habits were the next most common presentations. (Fig 1). Twelve patients gave family history of gastro intestinal tract malignancy, 6 of the upper gastro intestinal tract and 6 of rectum and colon.

Table 2:Pattern of Involvement

Site	Pts	Percentage (%)
Recto – Sigmoid	43	57%
Caecum & Ascending Colon	16	21.5%
Descending Colon	09	12%
Trasnverse Colon	07	9.5%

Only one patient had a history of ovarian cancer. Recto- sigmoid region was the commonest site (Table 2) and well-differentiated morphology was the commonest finding (50.66%) (Table 3)

Table 3: Histological findings

Type	Pts	Percentage(%)
Well differentiated	38	50.66%
Moderately differentiated	20	26.66%
Poorly differentiated	14	18.66%
Malignant Melanoma	02	2.67%
Non- Hodgkin's Lymphoma	01	1.34%
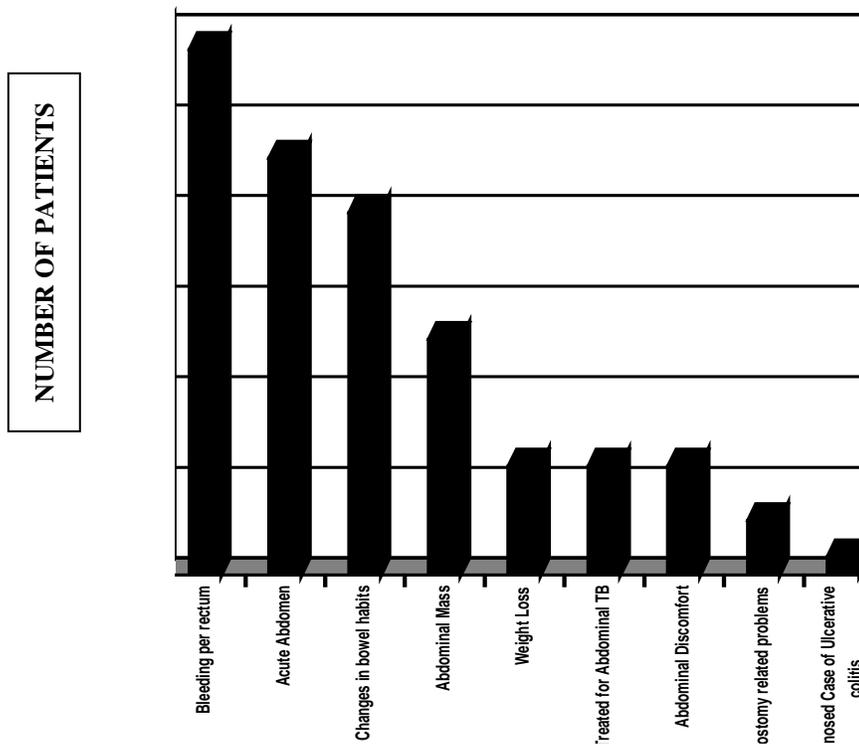
Figure 1:Presenting features of Colorectal Carcinoma

Discussion

Colorectal carcinoma is the second leading cause of death due to malignancy in the western world[2] . Incidence of the disease has gradually increased over recent years in both developed and developing countries [1] . It is the fourth commonest form of cancer occurring worldwide with a life time risk of disease of 1 in 40 and risk of death of 1in 20 [5].

Changes in bowel habits, obstructive

symptoms with positive faecal occult blood test in an individual above the age of 50 are the usual presenting features in the western countries.

Bleeding per rectum was the most common complaint in present series. However, it was ignored by patients and by their treating physician. Hence, there was a significant patient as well as doctor's delay in initiating investigations. Acute abdomen and changes in bowel habits were the next most common presentation. Intestinal obstruction or perforation is a well-recognized presentation, especially in the elderly population, however, it is a less common presentation due to large diameter of colon and liquid consistency of its contents. Complete obstruction requiring surgical intervention occurs in 10% of the cases [6]. In our series 1/5th of the patients presented with features suggestive of acute appendicitis and acute or sub-acute intestinal obstruction requiring surgical intervention. This can be attributed to the patient's delay in seeking medical attention.

A small number of patients had been treated with a provisional diagnosis of intestinal tuberculosis. It is a common medical problem in developing countries and has a similar presentation. Anti-tuberculous therapy was given empirically for at least 6 months and when there was no improvement, further investigations were undertaken.

The most striking observation in our series was the occurrence of the disease at a younger age. Generally, it is reported that most cases occur above the age of 50 years. Between 6-8% of the cases occur in individuals under the age of 40.[7] Patients with familial risks, such as hereditary non-polyposis colorectal carcinoma were reported to make up 20% of cases with colorectal carcinoma [8]. In these patients, average age of the patient was reported to be 45 years as compared to 63 years for sporadic cases [8]. In our series the average age of the patient was 37 years. Majority of our patients were in the third or fourth decade suggesting hereditary pre-disposition.

Amsterdam criteria has been devised to identify individuals harbouring germ line mutations for genetic testing [9,10]. It includes three or more first degree family members with colorectal carcinoma or any other associated cancer, colon carcinoma involving at least two generations and at least one colonic cancer diagnosed before the age of 50[9,10]. In our series, definite family history of gastro-intestinal malignancy was obtained in 12 patients(16%), upper gastro intestinal malignancy in 06 (8%) patients and colo-rectal carcinoma in 06 (8%) patients. Extra colonic carcinoma especially of ovary and stomach has been reported from Asian countries like Japan and Korea [11,12]. In present series only one patient of ovarian malignancy was reported. Unfortunately, facilities or resources to do a molecular screening in these patients or their relatives, who met the Amsterdam criteria in order to identify a genetic predisposition is lacking in our set up.

Occurrence of upper gastrointestinal malignancy at an earlier age is also reported.[13] It appears that both upper and lower GIT are vulnerable to develop malignancy at a younger age in our population.

Colorectal carcinoma is widely believed to be an environmental disease which include a wide range of ill defined cultural, social and lifetime practices[14] .Very low physical activity, alcohol consumption, cigarette smoking and high dietary animal fat and meat intake are positively related to risk of colorectal carcinoma[4,15-18]. Combination of regular physical exercise, diet rich in fruits and vegetables appears to have a protective role. Dietary fibre has been proposed to be an important aspect in accounting for the differences in rates of colorectal carcinoma between Africa and Western world [17-20] .Prolonged regular use of aspirin, NSAIDs, Calcium carbonate, folate and hormonal replacement therapy has shown a reduction in relative risk [21].

It seems that most of the above mentioned risk factors had no significant relevance in our situation. Majority of our patients had very low consumption of animal fat and meat, were physically active and did not give a history of alcohol consumption. Vegetables and fruits were important components of their diet. We believe it is time to conduct large-scale studies to re-evaluate the risk factors in different cultures.

Colo-rectal cancer is equally prevalent in males and females [1]. In our study there was a male preponderance. This can be attributed to reluctance of females in our culture to seek medical attention especially in the diseases of ano-rectal region. We encountered resistance even in performing digital rectal examination.

Most of the studies have reported recto-sigmoid region as the commonest site, 30% in rectum and 30% in sigmoid region . Some studies have reported 75% of cases occurring in descending colon, recto-sigmoid with caecum and ascending colon accounting for 15% and transverse colon for 10%.Our findings are consistent with the reported distribution with a slight excess of patients with lesions in caecum and ascending colon [22].

Screening programs for early detection of

colorectal carcinoma have been recommended by several gastro-enterology societies in different countries. American cancer society recommends screening to be performed on all asymptomatic individuals, above 50 years of age who are at average risk of colorectal carcinoma by doing a faecal occult blood test annually and flexible sigmoidoscopy periodically [3] . First degree relatives of diagnosed cases of colorectal carcinoma are also recommended to undergo screening programs at an earlier age. It is worth noting that most screening programs in countries like Australia, Canada, USA and New Zealand recommend screening individuals above the age of 50 [23-27]. This is hardly applicable in our area as we have shown that the disease is more common in the population below fifty years of age.

In conclusion, incidence of colorectal carcinoma is increasing worldwide. Screening and early detection is the only way to improve the outcome. We recommend screening should commence in individuals below the age of 50 years in our society. More studies should be done in developing countries to identify risk factors for colorectal carcinoma in different cultures.

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