

Changing Trends of Presentation in Colorectal Carcinoma

ASHFAQ AHMAD, AMEER AFZAL, HAFIZ MUHAMMAD ASIF, ABHISHEK CHAUDARY, KHALID MASOOD ALAM, ALI AZIM KHAWAJA, MUHAMMAD AZIM KHAWAJA

ABSTRACT

Aim: To determine the changing trends of presentation in colorectal carcinoma.

Place of study: East Surgical Ward, Mayo Hospital, Lahore.

Study design: Descriptive case series

Methods: This was a descriptive cases series. It was conducted at East surgical ward, Mayo Hospital, Lahore. Total 40 patients are included in the study. A comprehensively designed Performa was used to collect all relevant data.

Results: Mean age of male and female patients was 40.50 ± 15.94 and 41.56 ± 13.19 years respectively. Gender distribution of patients shows that 60% patients were male and 40% patients were females. Most frequent site of tumor was rectum (40%) and cecum (20%) respectively. Tumor type of patients shows that 97% of the patients had Adenocarcinoma and 3% of the patients had other types of tumors.

Conclusion: According to the results of this study it was found that onset of CRC was higher among the age group between 30-50 years, 77.5% cases were below 50 years which is against the present standard literature. Male predominance was seen over female patients. This shows that the rise in incidence of colorectal carcinoma is mostly due to environmental cause. This also shows that per rectal bleeding even in younger age group should not be overlooked and should have through examination and investigation.

Keywords: Colorectal, carcinoma, trend, adenocarcinoma,

INTRODUCTION

Colorectal carcinoma is the second most common cause of cancer mortality among men and women¹. The risk for colorectal carcinoma varies from country to country and even within countries. The risk also varies among individual people based on diet, lifestyle, and hereditary factors¹.

Colorectal cancer comprises 9.4% of the global cancer burden in both sexes¹. Collective cancer registry report of Shaukat Khanum Memorial Cancer Hospital and Research Center reported 7.40% of colorectal carcinoma in 2010. There was male predominance with 9.98% and 4.61% female presented with colorectal carcinoma².

Colorectal cancers develop slowly over many years. We now know that most of these cancers start as a polyp (18-36%)¹ and risk factors are Hereditary non-polyposis colon cancer (HNPCC)(3-5%)³, family history of colorectal carcinoma at early age(10-30%)³, certain familial syndrome like familial adenomatous polyposis syndrome(1%)³, inflammatory bowel disease (5%), Other risk factor are age of more than 50³, smoking⁴, excessive alcohol⁵ diets rich in red meat⁶ and saturated fat⁶, and physical inactivity these all can lead to colorectal Ca.

No symptom is diagnostic of colorectal cancer, rectal bleeding or anemia are high risk features⁷. Common clinical manifestations include change in bowel habits such as constipation and diarrhea, bleeding per rectum, tenesmus, and other features are cramping abdominal pain, weakness, anorexia, weight loss⁸. Around 20% present in emergency with intestinal obstruction and peritonitis⁹.

The test begins with proctoscopy which can be used as initial screening. Sigmoidoscopy and colonoscopy helps in finding lesion high up and to take biopsy. Over 95% of colon and rectal cancers are adenocarcinomas. There is no screening program in Pakistan. However its incidence is increasing day by day on younger age group.

MATERIAL AND METHODS

This study was conducted at East surgical ward, Mayo Hospital, Lahore for a period of one year. The calculated sample size is 40 cases with 9% margin of error, 95% confidence level taking expected percentage of rectal carcinoma i.e., 9.4%.Per year. Sampling technique was non probability purposive sampling. Patients above 12 years of age having carcinoma rectum were included in the study. While patients with colorectal carcinoma due to metastasis from other site were excluded from the study.

Data was collected from the patients admitted in east surgical ward through outpatient department and

Department of Surgery, Mayo Hospital/King Edward Medical University, Lahore

*Correspondence to Dr. Ashfaq Ahmad, Associate Professor Email: ashfaq156@hotmail.com
Cell: 0300-8407752*

emergency with history, examination and investigation suggestive of colorectal carcinoma. The data collection procedure was explained to each patient and informed and written consent was taken. Confidentiality of the patient was maintained. Patient undergo physical examination including digital rectal examination, proctoscopy and further test was done accordingly required like complete blood test for determining general condition of patient, sigmoidoscopy and colonoscopy for site of tumor, USG and chest x-ray for secondaries and CT scan for staging, CEA level as a tumor marker. After complete evaluation for all signs and symptoms and preoperative preparation surgical management of the patients was carried out according to the basic pathology and site involved. Then with histopathology report patient were referred to oncology department for chemotherapy and radiotherapy as per required. A comprehensively designed Performa was used to collect all relevant data. Data was tabulated and analyzed by SPSS version 17. The quantitative data was presented in form of mean \pm S.D and qualitative data was given in frequency (%). Chi-square test was used to see the association in qualitative attribute. A p-value \leq 5% was taken as significant.

RESULT

Among male patients maximum and minimum age was 14 and 70 years whereas among female patients minimum and maximum age of patients was 20 and 75 years respectively. Mean age of all 40 patients was 40.92 \pm 14.73 years. Minimum and maximum age of patients was 14 and 75 years. Mean age of male and female patients was 40.50 \pm 15.94 and 41.56 \pm 13.19 years respectively. This shows that most of case falls below age 50 years. Maximum cases are between 35-40 years. Gender distribution of patients shows that 40% patients were female and 60% patients were males showing male dominance over female. Smoking status of patients shows that 45% of the patients were smokers and 55% of the patients were non smokers. On differentiating gender wise maximum male were found to be smoker, however none of the female use to smoke.

Clinical presentation of all patients on their presentation was noted down. According to the results there were 19 patients who presented with bleeding per rectum, 32 patients had constipation, 17 had Tenesmus, 12 patients presented with abdominal mass, 29 had abdominal pain, 39 patients had complaint of weakness, 36 patients had Anorexia, 21 had weight loss and 4 patients presented with absolute constipation in emergency. Symptom of the patient varies with the site of the tumor. Carcinoma of rectum and sigmoid colon mostly present with

bleeding per rectum. Carcinoma of cecum and tumor on rt. Side of colon present with mass abdomen and pain. Constipation, weakness, anorexia and weight loss is present in almost all case. In our case 3 symptoms were present in maximum number of cases that was weakness, anorexia and constipation. This signifies that, no matter how insignificant the symptoms are they should never be taken lightly and should be thoroughly investigated. 36(90%) patients presented in outpatient department, 4(10%) patients presented in emergency with intestinal obstruction.

There were 40% patients who had pallor and 60% of the patients had no pallor. Minimum and maximum of Hb level was 5 and 17 respectively. Mean Hb level of male and female patients was 11.94 \pm 1.89 and 9.90 \pm 1.91 respectively, female patients having lower than that of male Hb level. Colonoscopy showed 8 patients had cecum involvement, 3 had ascending colon, 1 had hepatic flexure of colon, 4 had transverse colon, 2 had descending colon, 6 had sigmoid colon and 16 had involvement of rectum.

In altogether of 40 cases we had 22 cases which had elevated CEA level preoperatively. Histopathology findings and per operative findings shows that 3 cases had Stage A, 9 cases had Stage B, 24 cases had Stage C, 4 cases had Stage D. Tumor type of patients shows that 39(97%) of the patients had Adenocarcinoma and 1(3%) of the patient had Malignant melanoma of rectum.

DISCUSSION

Colorectal cancer (CRC) is the second most common cause of death in the world. The distribution seems to be related to industrialization and socioeconomic standards, so there is high incidence in the developed world and in the developing world the incidence appears to be low, this might be due to the poor registration of cancer patients. CRC is called a disease of the western world and is one of the leading causes of death in Western countries. The register of General Statistics for England and Wales showed that there are about 17000 deaths per year from colorectal cancer, a figure which has not improved over the last 40 years. In USA 3% of the population will develop colonic cancer by the age of 75 years, and another 1-2% will develop rectal cancer. The cure rate for CRC remains 50% and the impact of screening program for colorectal cancer has been disappointing^{9,10,11}.

CRC presents most commonly as altered bowel habits, bleeding per rectum, tenesmus, symptoms of anemia and weight loss. Although colorectal cancer is considered as a disease of elderly, however a significant proportion of patients present below forty

years of age. Higher stage of colon cancer is associated with poor prognosis and is independent of sex of the patients. The incidence of CRC is increasing in this part of the world especially in younger age group and about 42% present with advanced disease^{12,13}.

Studies have highlighted that emergence of colorectal cancer in younger age groups demands thorough workup of presenting bowel symptoms. Thus it is important for surgeons to recognize the potentials for colorectal cancer in young patient and to take an aggressive approach to the diagnosis and early treatment of the disease. Because it produces symptoms relatively early and at this stage generally curable by surgery. Unfortunately these early symptoms are ignored by the patients or more commonly, insufficiently investigated by the physicians¹⁴.

Pakistan is the one of the developing countries having a lot of health care problems. No authentic population based studies are available on colorectal cancer in Pakistan. It is thought that Pakistan is lacking the high risk factors for colorectal cancer. But there is a general impression among the surgeons that the incidence of colorectal cancer is on the rise. In Pakistan it constitutes 25.4% in males and 20.1% in females of malignancies of gastrointestinal tract¹⁵. In two recent local studies it was found that colorectal cancer was found in young patients aged 11-20 years old^{16,17}.

For instance, Salari et al. reported a range of 28-94 years for age of colorectal carcinoma cases and 7.5% of them were younger than 40 years old. Also, In Jalali and colleagues' study, the mean age was 51±15 years. Similarly, in Fateh and coworkers' investigation 17.5% of patients were younger than 40 years old¹⁸. In our study age range of patients was 14-75 years with 24(60%) male and 16(40%) female patients. Male patients were predominating female patients. Overall, 90% of new cases and 94% of deaths occur in individuals 50 and older. The incidence rate of colorectal cancer is more than 15 times higher in adults 50 years and older than in those 20 to 49 years¹⁹.

In our study most of the patients in the age group between 30-50 years were affected. Male to female ratio was 3:2. An altered bowel habit was one of the main symptoms and was present in 86% patients. In our series 72.5% patients complained of pain in abdomen. In western countries pain abdomen is one of the common presenting symptoms in both old and young age group (< 40 years)²⁰.

Rectal bleeding is the earliest and constant symptom in rectal cancer. In our study, 47.5% patients presented with gross rectal bleeding with mean duration of 3 months. Studies from the western

countries showed per rectal bleeding as the most frequent presenting symptoms^{11,14}.

Loss of weight was one of the commonest symptoms. Still there are some contributing factors, these are decreased intake, nausea, vomiting, anxiety, anorexia and the last but not the least is the malignant cachexia. Ahmad M et al reported weight loss in 62% patients²¹. In our study 52.5% of the patients reported complaint of weight loss which is almost same to that of reported results of the local study.

The sigmoid colon and rectum is the most commonly involved site in colorectal carcinoma in all individuals. Nail in his study reported that among 124 patients 47 had tumor on the right colon, 18 had left sided tumors and 59 had tumors in rectum. In the UK, The left side of colon involvement has been reported more than the right side^{22,23}.

According to histopathology results in our study 39(97%) of the patients had adenocarcinoma. Gul Ayaz in his study reported highest percentages of adenocarcinoma i.e., in 47 (94%) patients²⁰. This is also in accordance to study conducted at the Aga Khan University Hospital, Karachi being found in 71.76% patients²⁴. Data relating to colorectal carcinomas (CRC) in this part of the country is still scarce and it needs to be properly registered and documented so that it enables us to map out any change in the pattern of CRC in future.

CONCLUSION

According to the results of this study it was found that onset of CRC was higher among the age group between 30-50 years, 77.5% cases were below 50 years which is against the present standard literature¹⁹. Male predominance was seen over female patients. In this study none of the patient had family history of colorectal carcinoma or the personal history of having polyp. This even shows that the rise in incidence of colorectal carcinoma is mostly due to environmental cause. This also shows that per rectal bleeding even in younger age group should not be overlooked and should have through examination and investigation. However due to the adoption of western life style the colorectal cancer, incidence is rising in many developing countries and Pakistan is among these countries.

REFERENCES

1. World Gastroenterology Organisation/International Digestive Cancer Alliance Practice Guidelines: Colorectal cancer screening 2007.
2. Annual cancer registry report-2010, Shaukat Khanum Memorial Cancer Hospital and Research Center

3. Colorectal cancer prevention and early detection: update 2011, American cancer society
4. Long term smoking increases colorectal cancer risk, article date: December 3, 2009.
5. National alcohol use and cancer- American cancer society, 27 Jan 2012
6. "Red meat 'linked to cancer risk'". BBC News: Health. 15 June 2005.
7. Astin, M; Griffin, T, Neal, RD, Rose, P, Hamilton, W (2011 May). "The diagnostic value of symptoms for colorectal cancer in primary care: a systematic review". *The British journal of general practice: the journal of the Royal College of General Practitioners* 61 (586): 231-43.
8. Clinical features of colorectal cancer before emergency presentation: a population-based case-control study, Jonathan Cleary, Tim J. Peters, Deborah Sharp and William Hamilton. *Family Practice* 2007; 24: 3-6.
9. Bailey & love's, short practice of surgery, 24th edition
10. Gordon PH, Nivatvongs S. Principles and practice of surgery for the colon, rectum, and anus. 2007.
11. Malik KA. Colorectal carcinoma: A six years experience at a tertiary care Hospital of Sindh. *JLUMHS*. 2007;76.
12. O'Connell JB, Maggard MA, Livingston EH, Yo CK. Colorectal cancer in the young. *The American Journal of Surgery*. 2004;187(3):343-8.
13. Olofinlade O, Adeonigbagbe O, Gualtieri N, Freiman H, Ogedegbe O, Robilotti J. Colorectal carcinoma in young females. *Southern medical journal*. 2004;97(3):231-5.
14. Dholia KR MK, Soomro AH, Shaikh SA. Carcinoma of rectum. *J Surg Pak*. 2005;10:26-8.
15. Ashraf K, Ashraf O, Haider Z, Rafique Z. Colorectal carcinoma, preoperative evaluation by spiral computed tomography. *JOURNAL-PAKISTAN MEDICAL ASSOCIATION*. 2006;56(4):149.
16. Mehdi I. Frequency of gastrointestinal tumours at a teaching hospital in Karachi. *JOURNAL-PAKISTAN MEDICAL ASSOCIATION*. 1998;48:14-7.
17. Ahmad Z, Azad NS, Rauf F, Yaqoob N, Husain A, Ahsan A, et al. Frequency of primary solid malignant neoplasms in different age groups as seen in our practice. *J Ayub Med Coll Abbottabad*. 2007;19(3):3.
18. Salari AK DH. Epidemiologic investigation of colorectal cancers in the patients referred to Shahid Dr Rahneemoon and Afshar Hospitals in Yazd. *Shahid Sadooghi Yazd Uni Med Sci*. 2007;3:20-2.
19. SEER*Stat Database: Incidence - SEER 17 Regs Limited-Use + Hurricane Katrina Impacted Louisiana Cases, Nov 2009 Sub (2000-2007) <Katrina/ Rita Population Adjustment> - Linked To County Attributes - Total U.S., 1969-2007 Counties [computer program]: Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov), National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2010, based on the November 2009 submission.
20. Gul A, Gul Sharif G, Alam S, Alam SI. Clinical presentations of colorectal carcinoma In patients below 40 years of age presenting to a Tertiary care level hospital. *J Med Sci*. 2012;20(2):67-70.
21. Ahmad M DK, Tufail M, Khalid K. . Colorectal cancer: five years experience at Shiekh Zayed Hospital, Lahore. *J Pak J Surg* 1995;11:192-95.
22. Hadi Ni, Kafil N, Waseem B, Alamgir M. Incidence Of Colorectal Carcinoma: Is There A "Shift To The Right"? *Pakistan Journal Of Pharmacology*. 2009;2:1-5.
23. Toms J. *CancerStats monograph* 2004. London: Cancer Research UK. 2004.
24. Ahmad Z IR, Ahmed R, Kayani N, Pervez P, Hasan SH. Colorectal Carcinoma, extent and spread in our Population. Resection specimens give valuable information. *J Pak Med Assoc* 2005;55:483-5.