

Presentation of Colorectal Carcinoma, A Local Experience

Shahid Mahmood, Hamad Rana, Sosan Shahid, Abdul Basit Saeed

Abstract

Introduction: Colorectal carcinoma is the third commonest malignancy all over the world. In countries like Pakistan, mostly patients present first time in emergency department with fecal peritonitis or acute intestinal obstruction. These patients got worst prognosis and stormy post-operative time with high percentage of complications. Otherwise prognosis is excellent if diagnosed at stage I or II and treated properly.

Objectives: To compare the common post-operative complications in large bowel malignancy in elective and emergency presentation. **Material & Methods:** It is a cross sectional retrospective study. Patients with histological proof of carcinoma were included in the study. Data over the period of two year was collected and analyzed. **Results:** This study included one hundred patients. Mean age was 49.56 years and 56 % of the patients were males. 40 % of the patients present between the ages of 40 to 60 years.

Mean time of start of symptoms and the time of presentation in the hospital was 6.5 months ranges from 1 to 24 months. 76 % of the patients had history of altered bowel habits and 60% had anorexia and weight loss. 44 out 100 patients presented in the emergency. Rate of post-operative complications was much higher in those patients who admitted through emergency including leak from anastomotic site and wound dehiscence. **Conclusions:** All the patients of 50 years or more should be seen by surgeon for exclusion of large bowel carcinoma if they had symptoms of altered bowel habits associated with weight loss and anorexia. If the colonic carcinoma is diagnosed at an early stage, chances of life threatening post-operative complications are far less as compare to those who presented with advance stage. **Key Words:** Adenocarcinoma, colorectal carcinoma, bleeding per rectum.

INTRODUCTION

Colorectal carcinoma is the commonest malignancy among the gastrointestinal cancers and is the second commonest in order of frequency of all malignant neoplasm¹. Colorectal cancer ranks second after breast cancer in women and third after lung and prostate cancer in men

and is one of the leading causes of cancer-related death in the United States². It is reported rather infrequently in this part of the world. According to Pakistan Medical Research Council's report of multicenter study on malignant tumors, malignancies of large intestine and rectum were the sixth commonest malignancies in 1973-74 whereas it moved to ninth position in 1977-80³. Patients with carcinoma of large intestine may have three different modes of presentations. Patients may present with insidious onset of chronic symptoms, acute intestinal obstruction or peritonitis due to perforation of large gut. Depending on the location of tumor in the bowel,

Corresponding Author:

Dr. Shahid Mahmood

Professor of Surgery

Mohtarma Benazir Bhutto Shaheed Medical
College, Mirpur, AJK.

Tel # 03215001120

E-mail: shahid63@gmail.com

one or other of the following symptoms may predominate, e.g. bleeding per rectum, change in bowel habit, mucin discharge, pain, anorexia, weight loss, obstructive symptoms or palpable mass⁴.

Obstruction of colon by carcinoma implies a more advanced tumor and has usually been identified as a poor prognostic variable. The mortality rate can be twice as that of the non-obstructed group and the ability to perform a potentially curative resection is also low. Perforation is the most fatal complication; the perforated tumor is associated with higher morbidity and mortality. The incidence of perforation associated with carcinoma of colon is 6-12%⁵.

Overall, colorectal cancer affects men and women approximately equally. In recent years, also there is an increase in colorectal carcinoma in younger people⁶. Also, there is a huge amount of literature proved strong association of dietary habits with colorectal carcinoma. It is less common in vegetarians⁷. One interesting meta-analysis provides good evidence for an association between alcohol drinking of more than one drink per day and colorectal cancer risk⁸. Surgical intervention remains the mainstay of therapy for carcinoma of colon. Resections of the involved segments of colon should be performed whenever possible. The surgeon should characterize clearly whether the section has been considered curative, (in which case all of the obvious disease has been resected along with involved lymph nodes and any contiguous structures), or palliative, (in which case the residual local, regional, or distant disease is present at the end of the operative procedure). The importance of this distinction cannot be overestimated because of the need for postoperative adjuvant therapies. Palliative resection is of high value in preventing obstruction, blood loss, and to improve the quality of life. We try to discuss the different clinical patterns of presentation of colorectal carcinoma in

our study. Differences are also highlighted in the management plan of emergency and elective cases of colorectal carcinoma.

MATERIAL AND METHOD

It is a cross sectional retrospective study. Patients with histological proof of carcinoma were included in the study. Data over the period of two year was collected and analyzed.

This multicenter study was conducted in the Department of Surgery, Shalimar Hospital Lahore, Social Security Hospital Lahore and the Department of Surgery, King Edward Medical University Lahore from 1st January 2007 to 31st December 2008. Written permission was obtained from the ethical committee of hospital. Informed consent was taken from all the patients or their attendants. All patients admitted in the surgical wards of Social Security Hospital, Shalimar Hospital and Mayo Hospital with colonic carcinoma were included in the study. Basic demographic details including age, gender, area of residence, marital status and duration of symptoms were taken. Data was analyzed on SPSS 17.

RESULTS

Total 100 patients who were operated at Shalimar Hospital, Social security Hospital and Mayo Hospital Lahore were included in the study. Out of these, 56 (56%) were males while 44 (44%) were females with a male to female ratio of 1.27:1. Age at the time of presentation was ranging from 11 to 90 with a mean age of 49.56.

Table-1
Showing Age Groups

Less than 40 years	28 (28%)
40 to 60 years	40 (40%)
More than 60 years	32 (32%)

Mean time of start of symptoms and the time of presentation in the hospital was 6.5 months ranges from 1 to 24 months. It was noted that rectal ca presented earlier with a mean duration of 5 months, range 1 to 18 months as compare to colonic carcinoma where mean time of presentation was 8 months, ranges from 3 to 24 months. Among colonic group right sided masses presented late as compare to left colonic tumors. Mean time was 9.5 month as compare to left side where mean time was 6.5 months.

Now we will discuss the mode of presentation in our patients. 44 out 100 patients presented in the emergency while 56 attended the OPD for different symptoms. Out of 44 patients who presented in emergency, 30 (68.18%) had partial or complete obstruction. 4 (9.09%) had perforation and peritonitis. 56 patients who presented in OPD, only 6 had complaint of obstructive symptoms.

Table-2
Presenting Complaints in Total 100 Patients

No.	Symptoms	%
1	Altered bowel habits	76 (76%)
2	Anorexia and weight loss	60 (60%)
3	Pain abdomen	56 (56%)
4	Bleeding P/R	40 (40%)
5	Abdominal distension	32 (32%)
6	Mass abdomen	24 (24%)
7	Vomiting, tenesmus, etc.	16 (16%)

Incidence of all the postoperative complications was much higher as compare to those who presented in outpatient department. Chance of chest infection is three times more in those who operated in emergency. The most lethal complications are intra-abdominal leak and collection with or without wound dehiscence are also higher in the emergency group. Anastomotic leak occurs in 6 patients and 4 of them operated in emergency. Similarly wound dehiscence was

noticed in 13.66% patients and all operated in emergency.

Table-3
Post op Complications

Complications	Total	Emergency	Elective
Chest infections	32	54% (24)	14% (8)
Wound infection	24	44% (20)	7.14% (4)
Intra-abdominal collection	12	18% (8)	7.14% (4)
Wound dehiscence	6	13.66% (6)	0% (0)
Leak	4	9% (4)	3.57% (2)

DISCUSSION

The relationship of age of patient and the diagnosis of colorectal carcinoma has been a point of discussion in many studies. In our study, male to female ratio was 1.27:1 which is comparable with Mahmood et al, Wasim Jafri et al, Kenda JFN et al, and Muhammad Sarfraz et al⁵. As compare to these studies, recently Gwen Murphy proved that male rates were higher than female rates at all sub sites for all racial and ethnic groups⁹.

It was also noted that patients below the age of 40 have worst prognosis than patients above that age. Also patients above the age of 70 present at an earlier stage¹⁰. Horn JW et al estimated that less than 5% of colorectal carcinoma occurs in patients who are less than 40 years of age but in our study 28% are younger to that age. The mean age of presentation in our study was 49.56 years. There are other studies from Pakistan⁵ which shows the same age distribution. The result of age distribution is comparable with other studies carried out in Pakistan^{9,11}. In contrast to this, Nawa T et al mentioned that colorectal carcinoma is much more common in older individuals. More than 91% of patients are diagnosed with colorectal cancer over the age of 50¹².

Mean time of start of symptoms and the time of presentation in the hospital was 6.5 months ranges from 1 to 24 months. Kingsley found that symptom duration shortened with advanced tumor stage ($P < 0.0006$) and was also shorter for patients

presenting with bowel obstruction. Altered bowel habit is the commonest presenting symptoms of colorectal carcinoma. In our study the most common presenting symptoms were altered bowel habit which is comparable with Cormann et al.¹³ and Wasim Jafri et al.⁹. In contrast to this, another study claim that only 51% present with altered bowel habit and according to them, it is not the commonest symptoms¹⁴. (second commonest)

As in our study no patient is presented in Duke A stage therefore bleeding per rectum, as presenting symptoms was present in less 20(40%) patients. Anorexia and weight loss of more than 5 kg are associated with advance cancer¹⁵. The American Cancer Society lists the bleeding in the rectum and change in bowel habits as the two commonest symptoms of this disease. As most of the patients in the present study were in advance stage, next common symptoms of presentation were anorexia, weight loss (60%) and pain abdomen (56%) which is comparable with the reported presenting symptoms¹⁰.

In our study 28(56%) patients presented in outpatient department whereas 22(44%) presented in emergency. This is higher incidence as compared with Colin S Mc Ardle, Gordar D Murray and David Hole which reported 65% and 35% respectively¹⁶.

The higher incidence of presentation of patients in emergency explains higher incidence of obstruction i.e. 30% in our study. As right sided carcinoma do not often have obstructed symptoms they are likely to be discovered at a later stage, whereas distal carcinoma presents earlier as it causes symptoms to appear at an early stage¹⁷. This is evident in our study where the mean time of presentation of right sided tumor was 9.5 months and that of left sided tumor 6.5 months. Rectal carcinoma presented even earlier i.e. 5 months. The mean time duration of presentation in our study is comparable with other studies carried out in Pakistan^{9,10}. Thirty (30%) of the total patients had complete or partial intestinal obstruction which is on the higher side. Literature

shows the incidence of obstruction is 7 to 29 %. Since the presentation in emergency was higher in this study as compared to other studies it explains the higher incidence of colonic obstruction⁵

The incidence of perforation associated with carcinoma of colon is, in the range of 6-12%⁶. In a review of 2004 patients with colorectal carcinoma, Welch and Donaldson¹⁷, found 118 cases (5.9%) with perforation which is comparable with our study in which 4% of all patients and 9% of emergency patients presented with perforation.

It is a well-documented fact that postoperative complications were high in patients who were treated in emergency with higher morbidity and mortality, longer hospital stay, advanced pathologic stage, poor long-term survival, and higher health care costs¹⁸.

Chest infection was the commonest complication (32%) more so in emergency patients i.e. 54% versus 14% elective cases. This is in accordance with Mahmood et al and others⁵. An increased incidence of wound infection (54%) and abdominal collection (7.14%) in emergency group (as compared to elective group 18% and 2%), emphasize the importance of preoperative bowel preparation. Anatomic leak was seen in 3 (6%) cases which is comparable with literature¹⁸.

The overall morbidity in our study was 32% which is higher than reported by Mahmood et al 28%⁵ but is comparable with Vignati PV et al¹⁹ who reported morbidity to be 35-40%. Thirty days mortality of our study was 8% higher (13.66%) in emergency group as compared to 3.57% in the elective group.

The overall mortality rate is high as compared to overall mortality rate of 5% reported by K.K. SINGH¹⁷ but their reported 13% mortality rate of emergency patients is comparable with our study. Recently, fifty-three prospective cohort studies and 45 randomized controlled studies with 36,315 patients were published with very impressive results. The anastomotic leak rate, reported in 84 studies, was 11%. The pelvic sepsis rate, in 29 studies, was 12%; the postoperative death rate, in

75 studies, was 2%; and the wound infection rate, in 50 studies, was 7%²⁰.

REFERENCES

1. Brian J.C. Freeman, Pradeep Madhavan, The Spine in; R C G Russell, Norman S Williams, Christopher Bulstrode. Editors Bailey & Loves Short Practice of Surgery. 25th Edition. 2008 London. P 474-480.
2. Matthew Fleming, Sreelakshmi Ravula, Sergei F. Tatishchev, and Hanlin L. Wang. Colorectal carcinoma: Pathologic aspects. *J Gastrointest Oncol.* 2012; 03: 153–173.
3. Jafery NA, Zaidi SHM: Cancer in Pakistan JPMA, 1987; 37: 178-83
4. Philip H, Gordon Sathat Nivatongs: Malignant neoplasm of the colon and rectum in principles and practice of surgery for the colon, rectum, anal canal. Quality Medical Publishing 2009; 23: 501-653.
5. Lee CG, Hahn SJ, Song MK, Lee JK, Kim JH, Lim YJ, Koh MS, Lee JH, Kang HW. Vegetarianism as a Protective Factor for Colorectal Adenoma and Advanced Adenoma in Asians. *Dig Dis Sci.* 2013 Dec 10.
6. Fedirko V, Tramacere I, Bagnardi V, Rota M, Scottiet L. et al. Alcohol drinking and colorectal cancer risk: an overall and dose–response meta-analysis of published studies. *Ann Oncol* 2011; 22: 1958-1972.
7. Murphy G, Susan, Devesa S, Amanda, Cross J, Peter, Inskip D, Katherine A. McGlynn, and Michael B. Cook. Sex Disparities in Colorectal Cancer Incidence by Anatomic Subsite, Race and Age. *Int J Cancer.* 2011; 128: 1668–1675.
8. Bacon HE: Anus, Rectum, Sigmoid Colon: Diagnosis and Treatment, 3rd ed. Philadelphia, JB Lippincott Co. 1949:603-608
9. Lemon S, Zapka J, Puleo E, Luckmann R, Chasen-Taber L. "Colorectal Cancer Screening Participation: Comparisons with Mammography and Prostate-Specific Antigen Screening." *American Journal of Public Health* 2010. 91: 1264-1272.
10. Majumdar SR, Fletcher RH, Evans AT. How does colorectal cancer present? Symptoms, duration, and clues to location. *Am J Gastroenterol.* 1999; 94: 3039-45.
11. Milburn JJ, Herman R M, Fremgen A: Diagnosing colorectal carcinoma: Clinical and molecular approaches. *CA A cancer Journal for Clinicians.* March/April 2007; 47: 70-93.
12. Levin B, Lieberman DA, McFarland B, Smith RA, et al. "Screening and Surveillance for the Early Detection of Colorectal Cancer and Adenomatous Polyps, 2008: A Joint Guideline from the American Cancer Society, the US Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology". *CA Cancer J Clin* 2008; March 13 2008
13. Colin S, McArdle Gordon D, Murray, David Hole: Outcome following surgery for colorectal cancer. *Recent advances in Surgery.* 25th ed. 2012:69-88.
14. Sugar Baker PH: Carcinoma of Colon, prognosis and operative choice. *Euro ProbSurg* 1981; 18: 762-764.
15. Welch JP, Donaldson GA: Perforating carcinoma of colon & rectum. *Am J Surg* 2011; 180: 734-40.
16. Hamish Hwang, MD, FRCSC. Emergency presentation of colorectal cancer at a regional hospital: An alarming trend? *BCMJ,* 2012; 54: 83-87.
17. Nwiloh J et al Changing patterns in morbidity and mortality of colorectal surgery. *Am J. Surg* 2011; 162:83-85.
18. FeeldingLPet al: Anastomotic integrity after operation for large bowel cancer. A multicentre study. *Br Med J* 2010; 281: 411-14.
19. Vignati PV, Roberts Pl. Preoperative evaluation and post operative surveillance for

patients with colorectal carcinoma. SurgClin
North Am 1993; 73:67-84.

20. Paun BC, Cassie S, MacLean AR, Dixon E,
Buie WD. Postoperative complications
following surgery for rectal cancer. Ann Surg.
2010; 251:807-18.

AUTHORS

- **Dr. Shahid Mahmood**
Professor of Surgery
Mohtarma Benazir Bhutto Shaheed
Medical College
Mirpur Azad Jammu Kashmir
- **Dr. Hamad Rana**
Professor of Surgery
Shalimar Medical & Dental College Lahore
- **Dr. Sosan Shahid**
Consultant Radiologist, Islamabad
- **Dr Abdul Basit Saeed**
House Officer
Shalamar Hospital, Lahore

Submitted for Publication: 22-05-2013

Accepted for Publication: 22-01-2014

After minor revisions