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Clinical Presentation and Postoperative Complications In Patients With Colorectal Carcinoma: 7-Year Experience

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ABSTRACT

Objective — *To find out clinical presentation and postoperative complications in patients with colorectal cancer.*

Study design — *Cross sectional study.*

Place & Duration of study — *Department of Surgery, Dr. Ruth K.M. Pfau Civil Hospital Karachi, from July 2010 to September 2017.*

Methodology — *A total of 70 patients diagnosed with colorectal cancers and treated in our unit were included in the study. All biopsy proven colorectal carcinoma patients of more than 14 years of age were enrolled. Percentages were calculated for qualitative data like gender, age group, mode of admission, symptoms, location/site and stage of colorectal tumor, type of surgery performed and postoperative complications. Mean and standard deviation were determined for age. Student t-test and Chi square test were used to determine significance where appropriate.*

Results — *There were 46 (57.14%) males and 24 (42.85%) females. Median age was 60 year whereas mean age was 52.83+17.51 year. Most of the patients belonged to age group 20-40 years (n=25 35.71%) with a statistically significant male predominance in this age group (p = 0.009) in contrast to older age groups. Twenty-five (35.17%) patients had rectal tumors and the predominant stage in them was stage IV at presentation in contrast to stage III being more prevalent in tumors located in colon. Bleeding per rectum was experienced by 48 (68.57%) patients and midline wound infection was the most common postoperative complication observed.*

Conclusions — *More males presented with colorectal carcinoma. Patients in their third and fourth decades of life were more affected by CRC and even in this group male predominance was observed. Bleeding per rectum remains the most commonly experienced symptom by the CRC patients while rectum being the most common site of tumor.*

Key words — *Colorectal cancer (CRC),Colon cancer, Rectal cancer, Epidemiology, Surgery.*

INTRODUCTION:

Colorectal cancer(CRC) is a major cause of morbidity and mortality all over the world. It is the third most commonly diagnosed cancer in the world and fourth most common cause of death worldwide.[1] Highest incidence has been observed in Europe whereas it is less prevalent in areas like, Asia and some parts of South America.[2] In developing countries the incidence of CRC has been low as compared to developed countries but mortality is high because of late presentation, ignorance, myths related to disease and poverty.[2]

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CRC incidence is higher in patients with hereditary conditions as familial adenomatous polyposis and hereditary nonpolyposis coli. It is also associated with history of adenomas, breast, ovarian and endometrial cancers and chronic ulcerative colitis and Crohn's colitis.[3] In recent years, an increase in frequency of CRC cases reported from our region. The exact prevalence rate of this cancer is not available, however hospital-based data can be used to analyze the pattern of CRC patients in Pakistan. This study was conducted to find out clinical presentation, patient related characteristics and postoperative complications in CRC cases.

METHODOLOGY:

This was cross sectional study conducted in the Department of Surgery, Dr. Ruth K.M. Pfau Civil Hospital Karachi, from July 2010 to September 2017. All biopsy proven colorectal carcinoma patients of more than 14 years of age were included. Patients without histopathological evidence of colorectal carcinoma and who already had resections elsewhere, were excluded. Patients underwent colonoscopy and computed tomography scans of abdomen with intravenous and oral contrast. Patients who had rectal tumor underwent Magnetic Resonance Imaging of pelvis to assess the tumor stage and the circumferential invasion. The patients who had tumors in lower third of the rectum and tumor stage >T2 were sent for neo-adjuvant chemo-radiotherapy and were restaged prior to surgery.

Data was collected on a specifically designed form. Variables noted were patients' biodata, mode of admission, clinical features, the operability status of the tumors, histopathology findings. Postoperatively, patients were observed for any bleeding, perineal wound infection, anastomotic leakage, postoperative ileus and postoperative intestinal obstruction. Patients after discharge were followed in the Out Patient Clinics on a weekly basis. They were assessed for stoma related complications, wound dehiscence, re-admission for any other complications (fistulae, stenosis etc) and recurrence of the primary disease.

Data were entered and analyzed using SPSS 20. Percentages were calculated for qualitative data like gender, age group, mode of admission, symptoms, location/site and stage of colorectal tumor, type of surgery performed and postoperative complications. Mean and standard deviation were determined for age. P-value was calculated for difference between the mean age of male and female patients in the study by t-test and chi-square test was applied to compare the gender frequency in the study population as well as amongst the four age groups i-e age group 1 (20-40 years),age group 2 (41-60 years), age group 3 (61-80 years) and age group 4 (>80 years). A p-value of less than 0.05 was taken as significant. All the record was kept confidential.

RESULTS:

A total of 70 patients were included. Mean age of patients was 52.83+17.51 year. Most of the patients belonged to age group 20-40 years (table I) with a statistically significant male predominance in this age group (p= 0.009) in contrast to older age groups (Figure I).

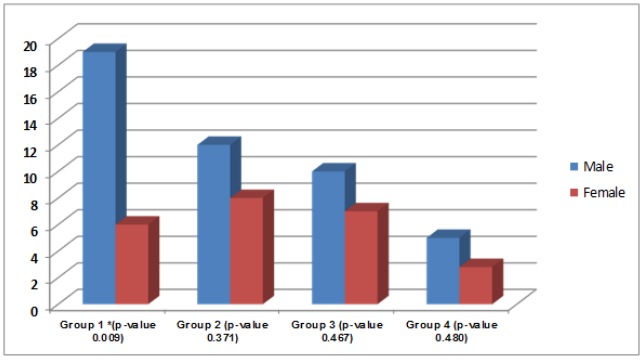

Figure I: Gender Distribution In Different Age Groups

There were 46 (57.14%) males and 24 (42.85%) females. The difference between the percentage of male and female patients was statistically significant (p=0.009). The mean age of male patients was 51.02+18.20 and female patients was 56.29+15.90, there was no difference between the mean ages of both gender statistically(p= 0.235).

Of the total 51.42% patients were admitted via OPD and 48.57% through emergency room. Most common presenting symptom was bleeding per rectum (n=48 - 68.57%) followed by weight loss (n=38 -54.28%),

Table I: Age Distribution of Patients With Colorectal Cancer

	Group 1 (20-40 year)	Group 2 (41-60 year)	Group 3 (61-80 year)	Group 4 (>80 year)
No. of Patients	25	20	17	8
Percentage	35.71%	28.57%	24.29%	11.43%

Table II: Site of Colorectal Malignancies

Site	Number & Percentage
Descending colon	19 (27.1)
Rectum	25 (35.71)
Ascending colon + Cecum	16 (22.8)
Sigmoid colon	5 (7.1)
Transverse colon	5 (7.1)

Table III: Stage of Tumor

Clinical Stage	I n (%)	II n (%)	III n (%)	IV n (%)
Rectum 25 (35.71%)	1 (4%)	2 (8%)	10 (40%)	12 (48%)
Colon 45 (64.83%)	4 (8.89%)	12 (26.67%)	15 (33.33%)	14 (31.11%)

Table IV: Surgical Procedures

Rectal Carcinoma		Colonic Carcinoma	
Procedure	**n (%)**	**Procedure**	**n (%)**
Abdomino-Perineal Resection	7 (10)	Right Hemicolectomy	16 (22.85)
Hartmann's Procedure	7 (10)	Left Hemicolectomy	8 (11.4)
Anterior Resection	5 (7.1)	Diversion Ileostomy +Mucus Fistula	7 (10)
Diversion Colostomy	3 (4.2)	Diversion Ileostomy	7 (10)
Diversion Ileostomy	3 (4.2)	Diversion Colostomy	3 (4.2)
		Total Colectomy	4 (5.7)

abdominal pain (n=30 -42.85%), altered bowel habits (n=25 - 35.71%), mucous anal discharge (n=17 - 24.28%), tenesmus (n=15 -21.42%), sub-acute intestinal obstruction (n=12 - 17.14%), acute intestinal obstruction (n=10 - 14.28%), peritonitis (n=7 - 10%) and abdominal mass (n=7 - 10%).

Anatomically most commonly involved site was rectum. A total of 35.17% tumors involved rectum while 64.83% tumors involved different parts of the colon (table II). Furthermore, amongst patients with rectal tumors, stage 4 tumors were most common whereas stage III tumors were most common in patients having colonic tumor (table III). Seven patients underwent neoadjuvant chemoradiation before surgery. All of them had tumor in lower third of rectum. Most common complication in our study was mid-line wound infection (n=7 -10%) followed by postoperative intestinal obstruction (n=6 - 8.57%), perinenal wound infection (n=5 -7.14%), anastomotic leakage (n=4 -5.71%), stomal prolapse (n=3 - 4.28%), bleeding (n=2 - 2.85%), recto-uterine fistula (n=1 - 1.42%) and ureteric ligation (n=1 - 1.42%). Patients underwent different surgical procedures ranging from diversion to abdominoperineal resection (table IV).

DISCUSSION:

In this study we aimed to evaluate the common clinical presentation and complications of operative procedures performed on colorectal carcinoma patients. The main findings of our study were young age males affected more frequently than reported in literature. Commonest clinical symptom was bleeding per rectum and in most cases, patients presented in advanced stages with poor prognosis. Studies suggest that the incidence of CRC is increasing overall and is involving male gender more frequently.[4,5] The reason for gender disparity might be both genetic and environmental factors such as diet, hormonal exposure, reproductive history or willingness to seek medical help.[6,7] The common perception that CRC involves people of older age

group more should now be made with skepticism. Many studies including ours showed that younger population was frequently affected particularly in the age group between 20-60 year.[4,8,9] Mean age in our study was 52.83 year.

Common clinical presentation of CRC is bleeding per rectum. Other symptoms and signs include history of weight loss and abdominal pain.[4] Same was observed in our study. In studies from other countries family history of cancer with genetic predisposition, and mutation are identified as cause of colorectal carcinoma.[6] Early diagnosis is important as delay in diagnosis may lead to dismal outcome. Usually younger age group patients coming to physicians are misdiagnosed as having hemorrhoids. Identifying and controlling the risk factors of colorectal carcinoma can minimize prevalence, death rate and also the cost of treatment. Acceptable screening program should be devised and implemented.

In early stages colorectal carcinoma is usually asymptomatic. Symptoms like blood in stool, abdominal pain, weight loss, altered bowel habits and anemia should not be taken lightly and properly investigated. A study suggested that earlier detection of CRC is possible by taking into consideration the above mentioned symptoms, coupled with digital rectal examination, and test like positive fecal occult blood.[10] Colonoscopy is the most accurate and widely used method for screening colorectal carcinoma.

In this study, American Joint Committee on Cancer (AJCC) classification was used for staging purpose and like our study other studies also concluded that colorectal carcinoma patients usually present in stage III or IV.[8, 9,11] In this advanced stage usually palliative management is done.[12] Patients presenting in early stages or where tumor resection is possible, definitive surgery is performed depending on anatomical site. Most commonly involved sites are descending colon and rectum.[4,13,14] Low rectal tumors are more common.[15] So more often abdominoperineal resection and where possible sphincter saving operation is performed, otherwise Hartman`s procedure is recommended.[12] Right hemicolectomy was performed for the tumors involving ascending colon and cecum in our study.

In follow up main emphasis is made on detection of metastatic disease, the metachronous polyps, psychological support for the patients and also any complication related to disease and treatment.[16] In our study midline wound infection and postoperative intestinal obstruction were the most common causes of readmissions following primary colorectal carcinoma surgery that is also reported in other study.[17]

CONCLUSIONS:

More males presented with colorectal carcinoma. Patients in their third and fourth decades of life were more affected by CRC with male predominance. Bleeding per rectum remains the most common symptom. Rectum was the most common site of tumor.

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Syed Ali Haider: Conception, design, data collection, statistical analysis & reference search.
Muhammad Hassan: Data collection, data interpretation, drafting, revising.
Shuja Shaukat: Data interpretation, drafting, revising.

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