Colorectal Carcinoma Presentation and Management

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ABSTRACT

BACKGROUND:

Colorectal carcinoma is the most common gastrointestinal tract cancer worldwide. In men, it is the third cancer after lung and prostate cancer, while in women; it is the third common cancer after lung and breast cancer. Despite the clear relationship with aging, colorectal carcinoma is not strictly a disease of elderly and 6-8 % of cases occur in patients below 40 years of age. Colorectal cancers are of favorable prognosis provided they are diagnosed and treated in early stage.

OBJECTIVE:

This study aims to assess the patterns of presentation, distribution, and management of colorectal carcinoma in Gastroenterology and Hepatology Teaching Hospital.

METHODS:

From November 2005 to November 2007, 80 patients with colorectal carcinoma 50 males and 30 females were admitted to the Gastroenterology and hepatology center. The age, sex, presentation, modes of investigation, stage of the cancer, treatments as well as complications have been described.

RESULTS:

Male: female ratio about 1.6:1 with peak age of incidence is 60-69 year age group, 17.5% of cases are below age of 40 most of them were with worse histopathological types and advanced stage. The main presenting symptom was bleeding per rectum 63%.The mean period between onset of presenting symptoms and final diagnosis was 7 months .The most common sites were rectum 35% . Fiftythree percent were moderately differentiated ,47.5% were Duke's-C.

CONCLUSION:

The study highlights the distribution of colorectal carcinoma, presenting symptoms, modalities of treatment, keeping in mind the increasing incidence of colorectal carcinoma in younger age groups.

KEY WORDS: colorectal carcinoma

INTRODUCTION:

Colorectal carcinoma is the most common gastrointestinal tract cancer worldwide. [1] In men, it is the third cancer after lung and prostate cancer, while in women; it is the third common cancer after lung and breast cancer. [2 ,3] It is estimated according to the results of Iraqi cancer registry (in the period between 1995-1997) that it is the 12th most common cancer , with an incidence of about 1.1/100 000 person.[4]

Despite the clear relationship with aging ,colorectal carcinoma is not strictly a disease of elderly and 6-8 % of cases occur in patients below 40 years of age .[5]It has been noted recently that there is an increase colorectal malignancies in young patients.[6]

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Colorectal malignancies are of favorable prognosis provided they are diagnosed and treated in early stage.[7]

The influence of age and sex on the site distribution of large bowel malignancies is widely reported to change with time. There is a relative decrease in frequency in the left side of colon with relative increase on the right.[8,9,10] Signs and symptoms of colorectal malignancies are non-specific, usually depend on sit and type of the tumor.

Following suspicion of these tumors, per rectal examination and fecal occult blood test remain important measures for detecting tumors.[11] Endoscopy is regarded as the most accurate method for diagnosis as well as to role out any synchronous carcinoma or polyp that occur in 3-5 % of cases.[1,12]

Pre operative staging allow surgeons to assess the degree of penetration, thus determining which tumor will be amenable to excision and which will

benefit from pre operative radiation for down staging.[13]

The standard treatment for colorectal cancer is surgery with wide resection and anastomosis. The aim of surgical treatment for cure is to remove the tumor and its lymphatic drainage and provide adequate clear margins ensuring removal of entire tumor burden.[14]

The risk of recurrence after surgery vary from 20% to 45% this results from incomplete tumor excision, implantation of tumor cells or the development of new growth and the risk can be reduced by total mesorectal excision, so that post operative follow up is important in every case especially those regarded as high risk group and this can be achieved by colonoscopy and barium enema. The level of carcino embryonic antigen CEA as a tumor marker can be used also fore follow up every three months then annually .[1]

PATIENTS AND METHODS:
In this prospective study, analysis of the data were done in 80 patients newly diagnosed to have colorectal carcinoma who were treated at Gastroenterology and Hepatology Teaching Hospital-Medical City from November 2005 to November 2007.

The data were collected by a special form and the patients were admitted and treated at the surgical department where investigations carried out in form of ultrasound in 80 patients, colonoscopy with biopsy in76 patients, barium enema in 12 patients and others to prove the diagnosis and determine the site and the extent of the disease.

The choice of operation depends on the site of tumor, the condition of the bowel and the general condition of the patient.

All our patients were referred to oncologist post operatively.

Clinical data from physical examination, investigations and operative findings were used for classification of the cases, half of our patients were followed during the period of study, the staging system used in this study was the modified Dukes' staging system.[Table 1]

Table 1:Modified Dukes' staging system(Astler and Coller)

Stage	Extent of tumor	5 years Survival rate
A	Lesion limited to the mucosa.	100%
B1	Lesion limited to the muscularis properia with negative lymph nodes.	66.4%
B2	Lesion penetrating muscularis properia with negative lymph nodes.	53.9%
C1	Lesion limited to the wall with positive lymph nodes.	42.8%
C2	Lesion penetrating through the wall with positive lymph nodes.	22.4%
D	Distant metastasis.	< 10%

RESULTS:
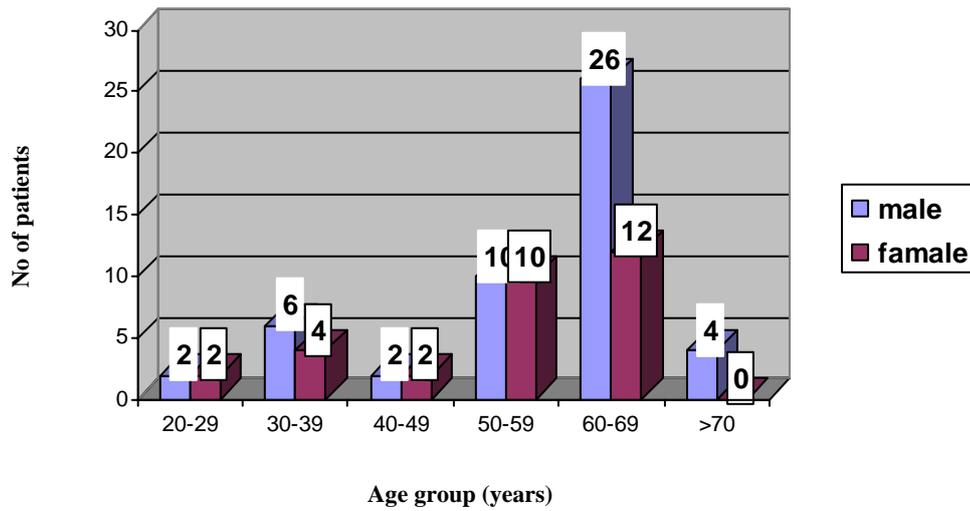**Distribution according to age and sex.**

Figure (1)

There were 50 male patients and 30 female patients.

The mean of age was 58 years for males and56.3 years for females, the range of age was22-79years. There were 14 patients below 40 years(17.5%). The peak age group affected was between 60-69 years age.

Male to Female ratio is 1.6: 1.

The main presenting symptoms was bleeding per rectum in 63% of cases followed by change in bowel habit in 55% of cases, patient might have more than one symptom.
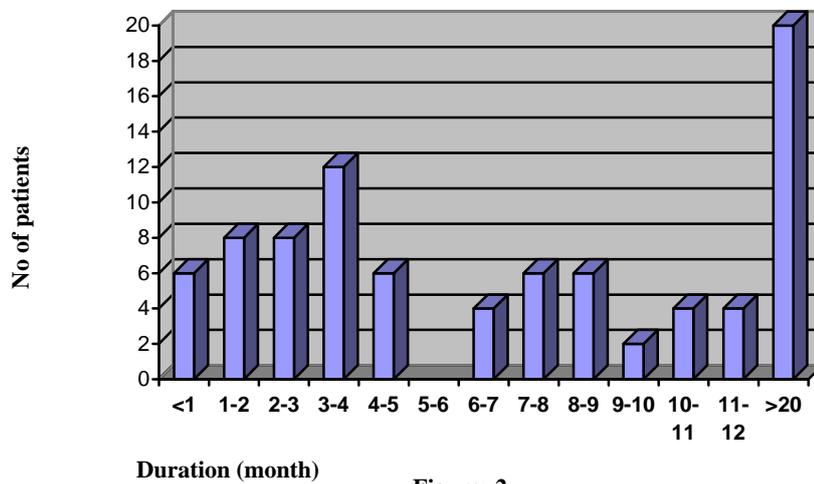
Duration of symptoms.

Figure: 2

The mean of the period between onset of presenting symptoms and the final diagnosis was 7 months.

Table 2: Site distribution of colorectal carcinoma

Site of tumor	Male	Female	Total No.	%
Upper rectum	2	2	4	5 %
Middle rectum	4	4	8	10%
Lower rectum	14	2	16	20%
Rectosigmoid	2	4	6	7.5%
Sigmoid	12	2	14	17.5%
Ascending coln	0	2	2	2.5%
Splenic flexure	4	0	4	5%
Transverse colon	2	2	4	5%
Hepatic flexure	0	2	2	2.5%
Descending colon	4	2	6	7.5%
Caecum	2	6	8	10%
Synchronous (multiple sites)	4	2	6	7.5%

The commonest site of the tumor was the rectum in 35 % followed by sigmoid colon in 17.5 %. Hepatic flexure tumor was the least 2.5%.
Twenty patients were found to have predisposing factors, 12 of them had adenomatus polyps (15%),(5%)had history of malignancy outside the bowel,(2.5 %)had family history of colorectal carcinoma and (2.5%) were with ulcerative colitis.
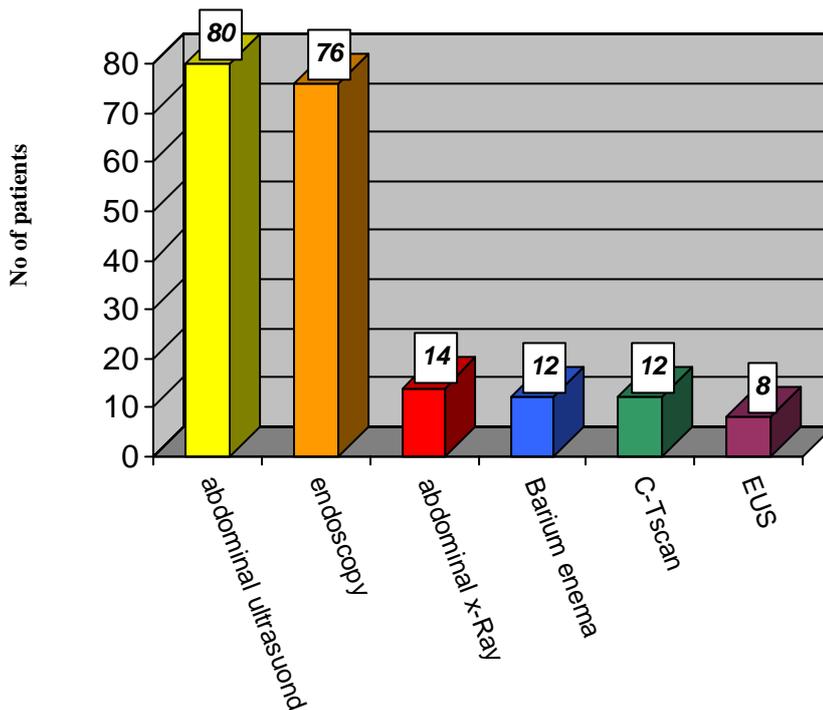

Figure :3
The most common performed investigation was abdominal ultrasonography in 80 patients, followed by endoscopy (colonoscopy) in 76 patients.

Table3:Modalities of treatment

Treatment	No of patients
Aabdominoperineal resction	15
Anterior resction	6
Low anterior resection, sphincter saving, stapler anastomosis	3
Rright hemicolectomy	6
Left hemicolectomy	6
Total colectomy	6
Segmental excison with anastomosis	6
Segmental excision with colostomy	4
Colostomy,iliostomy	10
Bypass	4
Stenting	4
No surgery	10

common   The most operation performed was abdomino perineal resection of the rectum in 20% of our patients followed by palliative stoma(colostomy and iliostomy) in 12.5% .

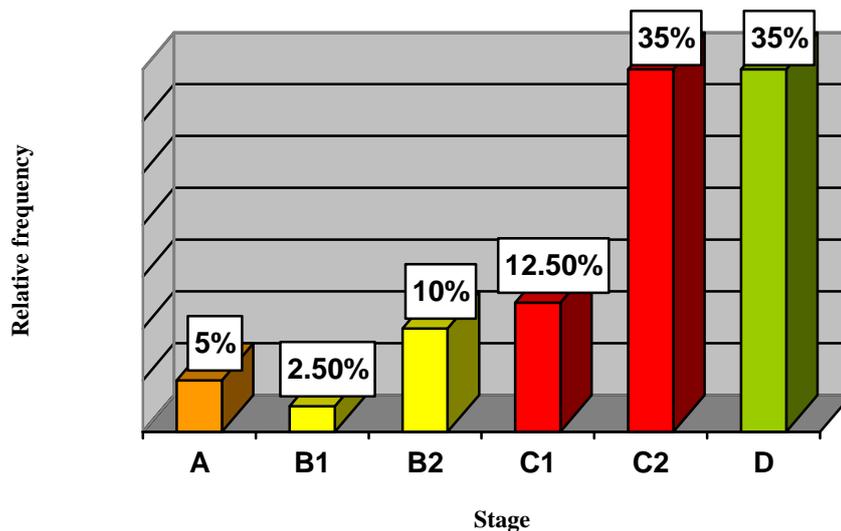**Modified Dukes staging of the patients.**

Figure: 4

The most common pathological stage according to modified Dukes staging system was C2 and D in (35 %) for each stage.

Grading of 76 patients depending on histopathological findings revealed that, moderately differentiated adenocarcinoma represent the commonest pathological grade(53%)

Morbidity and mortality.
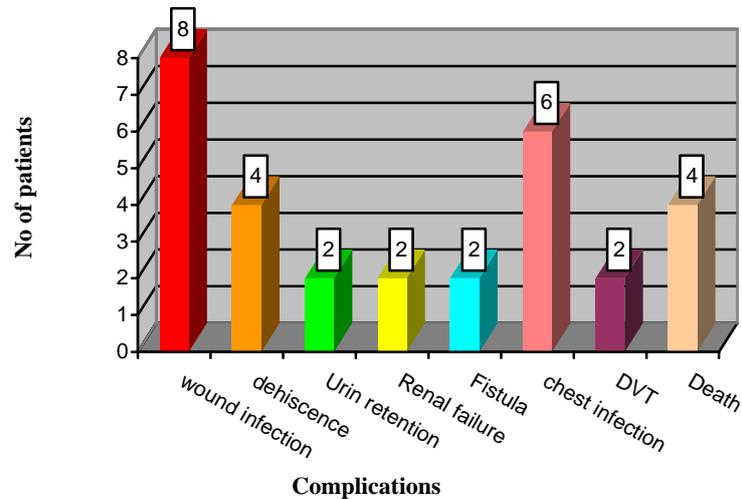

Complications
Figure :5

During period of hospitalization, the most common complication was wound infection in 8 cases. Four patients were died during the period of hospitalization this study, 2 of them were due to coincidental cardiac problem, other one was due to sepsis and the last one was because of pulmonary embolism.

Table 4: Pathological finding in young and old patients.

	No of patients	
Grade of the tumor	< 40 year	>40 year
Well differentiated	2	10
Moderately differentiated	7	33
Poorly differentiated	5	19
Duke's classification		
A	0	4
B	2	8
C	6	32
D	6	22

The percent of patients under forty years who had moderately and poorly differentiated carcinoma was (85.7%) and (85.7%) of them had Duke's stage C & D.

DISCUSSION:
Colorectal cancer continues to be the most common cancer in the gastrointestinal tract world wide.[1] The male to female ratio(M:F) is about equal.[9] In this study the (M:F)ratio was 1.6:1.
Although colorectal carcinoma is a disease of older patients we found that 17.5% of our patients were under the age of 40 years, this is higher than many other studies done world wide like Smith et al(USA1989) who reported 4.8%[15],while in Iraq 2000 Rhman had reported 35.5%[9].

The commonest presenting symptom was bleeding per rectum in 63% of our patients followed by change in bowel habit in 55%, while the results of Rhman and Al-Janabi were 55% for bleeding per rectum and 24% for change in bowel habits[9] Other symptoms were pain, anemia, weight loss, abdominal mass and others.
There was a delay for more than 7 months from the onset of presenting symptoms to the time of definitive diagnosis it is nearly to be the same finding of other study done in Iraq[9] ,therefore any

of presenting symptoms should be taken in consideration and patient should be investigated properly and at early time.

Most tumor were seen on the left side of the colon mainly the rectum, sgmoid and rectosegmoid junction (60%), nearly the same findings of other studies done in Iraq and UK [7,9] .

Pre-existing factors were found only in 20 patients that have been analyzed, Jarvinen et al found that ulcerative colitis represents 1.7% and FAP 0.6 % [16] .

The surgical procedure used in the management of patients under this study depended on the sit of the lesion, clinical presentation and staging of the disease, thus our concern for the sake of patient is the outcome of the procedure in term of survival, complications and reduction of mortality.The most common operation performed was abdomino-perineal resection in 20% of cases followed by palliative colostomy, iliostomy in 12.5%, in comparison toMcCoy and Parks abdomino-perineal resections of the rectum were in 16.6% and stoma in 6.45%. [7]

Regarding the grading of the tumor, the percent of well differentiated , moderately differentiated and poorly differentiated carcinoma was nearly the same finding of other study done in Iraq [17],while McCoy and Parks found that well differentiated carcinoma was (41.39%),moderately differentiated was (22.9%) and poorly differentiated was (35.48%). [7]

In respect to staging of colorectal adenocarcinoma using modified Dukes staging system ,most cases presented with Dukes C at time of diagnosis which account for 47.5% ,Duke D account for 35% ,Duke B represent 12.5% and Duke A was only 5%. It is nearly the same result of McCoy and Parks, where Duke C 41.9%, D 38.7%, B 12.9% and Duke A was6.4 %. [7]

The advanced stage and aggressiveness of pathological grade of disease may be attributed to the late presentation of patients and may be the change in the natural history of the disease from pathological point of view.

The most common postoperative complication in this study was wound infection in 8 patients. Most of our young patients had tumor staged C and D with histopathological reports of moderately to poorly differentiated adenocarcinoma which may suggest that carcinoma of large bowel is more malignant and aggressive in young patients and this is also reported in other studies. [18]

CONCLUSIONS & RECOMMENDATIONS

1 - There is significant percent of colorectal carcinoma among young age group, most of them presented with advanced and aggressive disease.

2 -There was a delay for more than 7 months from the onset of presenting symptoms to the time of definitive diagnosis.

3 - The clinicians should be aware of the possibility of colorectal cancer especially in those patients with bleeding per rectum, changes in bowel habit (especially of recent onset) with or with out abdominal pain regardless the age fore early detection of the disease and fecal occult blood test remain important measures for detecting tumors.

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