Original Article

Demographic and Clinicopathological Patterns of Colorectal Cancer at a Tertiary Care Hospital of Chattogram

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Abstract

Background: *Colorectal cancer is a disease in which cells in the colon or rectum grow out of control. Colorectal carcinoma is one of the most frequent malignancy in the world. The purpose of the present study was to see the demographic and clinico-pathological patterns of colorectal cancer among patients attended at a tertiary care hospital of Chattogram.*

Materials and methods: *The study was a retrospective, single centre, observational type, carried out in the Department of Medical Oncology & Radiotherapy of Chattagram Maa Shishu-O-General Hospital. Baseline data were collected in a semi structured questionnaire and all reports were documented from pathology or from medical record departments.*

Results: *A total of 70 cases of colorectal cancer patient's ages ranges from 16 to 73 years where 30% of the patients were within 46-55 years and both sexes were included in the study. Majority of them were male 44 (62.85%) and from rural area (60%). 50% of patients were from the middle class group. Among all 70 cases, rectal site was in 37 (52.85%) patients and most of the patients 44 (62.85%) were histopathologically found in stage IV. Among 70 cases Immunohistochemistry (IHC) was done only 14.28% and histopathological types of colorectal carcinoma showed majority adenocarcinomas 90%.*

Conclusion: *In conclusion, middle-aged and middle-class male patients are most vulnerable to colorectal cancer, and most of them are diagnosed at stage IV.*

Key words: Colon cancer; Colorectal cancer; Demographic & clinicopathological pattern; Rectal cancer.

INTRODUCTION

Colorectal Cancer (CRC) is the third most common cancer in the world.[1] It is the second leading cause of cancer related deaths in the United States.[2] Globally, the incidence of CRC varies widely with higher incidence rates in North America, Australia and Northern and Western Europe.[3-5]

In the South Asian population, patients tend to present with CRC at a younger age and typically at later stage.[6-7] CRC is relatively uncommon in Indian sub continent. In India the incidence of colorectal cancer was found to be 4.2 and 3.2 per hundred thousand for male and female population respectively.[8]

Early detection of colonic cancers is a challenging task as because clinical symptoms develop slowly. Patients with colorectal cancer have usually presented with abdominal pain, alteration of bowel habit, loss of weight, vomiting, frequently with colic, anorexia, bleeding per rectum, lump, indigestion and acute on-chronic obstruction.[9] Screening tests like digital rectal examination, simple laboratory investigations like estimation of CEA, estimation of hemoglobin, fecal occult blood test and visualization of the gut mucosa by sigmoidoscopy and colonoscopy examination may be a helpful in the diagnosis.[10]

The incidence of colorectal cancer in Bangladesh is not exactly known, it appears to be common and occur in younger age group with slight male preponderance. [11] This study was undertaken to see the demographic and clinicopathological patterns of colorectal cancer in tertiary hospital.

MATERIALS AND METHODS

The study was a retrospective, single centre, observational type carried out in the Department of Medical Oncology & Radiotherapy at Chattagram Maa Shishu-O-General Hospital. Baseline data were collected in a semi structured questionnaire and all reports were documented from pathology, radiotherapy or medical record departments. The sample size of the study was seventy (70) cases of colorectal cancer patients, who were diagnosed after confirmation with histopathological examination. Patients presented with a disease of colon and rectum cancer.

A semi-structured questionnaire with a typical presentation of colon and rectum cancer was used for the collection of information through history-taking and the findings reported in the hospital records. All relevant information was recorded in a redesigned data collection sheet. After the collection of all relevant data, it was analyzed by SPSS version – 22.

RESULTS

Table I Age distribution of the study participants (n=70)

Age group (Years)	Frequency	Percentage (%)
16-25	2	2.85
26-35	11	15.71
36-45	13	18.54
46-55	22	31.48
56-65	16	22.85
66 & 73	6	8.57
Total	70	100

The age of patients in this study ranged from 16 to 73 years with peak age between 46-55 years (31.48%) followed by 56-65 years (22.85%). Table I showed that majority 22 (31.48%) of the study subject of Colorectal cancer were between 46-55 yrs of ages about 13 (18.56%) were below 35 yrs.

Table II Sex distribution of study participants (n=70)

Sex	Frequency	Percentage
Male	44	62.85 (%)
Female	26	37.15
Total	70	100

Among 70 cases of colorectal cancer male (62.85%) is predominant than female (37.15%) with a male and female ratio 1.69:1.

Table III Distribution of study patients by their place of residence (n=70)

Area	Frequency	Percentage (%)
Urban	28	40
Rural	42	60
Total	70	100

Compared with urban patients (40%) presenting colorectal cancer patients from rural areas (60%) were more.

Table IV Distribution of subjects by their socio-economic status (n = 70)

Socio-economic status	Frequency	Percentage (%)
Lower class	28	40.0
Middle class	35	50.0
Higher class	7	10.0
Total	70	100

Among 70 cases most of the subjects are from the middle class which is 35 (50%) cases followed by lower income and higher income which are 28 (40%) cases and 7 (10%) cases. Their socio-economic conditions were assesed according to patient's statement.

Table V Distribution of blood group (ABO) among subjects with colorectal cancer (n=70)

Types of blood group	Frequency	Percentage (%)
Type A	26	37.14
Type B	22	31.42
Type AB	8	11.42
Type O	14	20.0
Total	70	100

The relation between different blood groups with the colorectal cancer has been recorded. The highest frequency is found among the 'A' group which is 26 (37.14%) followed by 'B' group 22 (31.42%).

Table VI Dietary habit of study participants (n=70)

Dietary preference	Frequency	Percentage (%)
Fish + Vegetable	17	24.28%
Red Meat + Vegetable	13	18.57%
Dry Fish + Meat + Vegetable	30	42.85%
Others	10	14.28%
Total	70	100

Among the study population majority of the patients were habited on mixed-type food consumers, eating red meat, dry fish and vegetables.

Table VII Distribution of patients according to the site of lession colorectal cancer (n=70)

Site of cancer	Frequency	Percentage (%)
Rectum	37	52.85
Colon	33	47.15
Total	70	100

A total number of 37 (52.85%) patients were diagonsed with rectal cancer while 33 (47.14%) patients were from colon cancer.

Table VIII Distribution of patients according to Stage of colorectal cancer (n=70)

Stage	Frequency	Percentage (%)
Stage I	0	0
Stage II	14	20.0
Stage III	12	17.14
Stage IV	44	62.85
Total	70	100

Among 70 cases of colorectal cancer cases, majority patients of Stage IV is 44 (76%) followed by Stage II and Stage III which are 7 (14%) and 5 (10%).

Table IX Histopathological types of colorectal cancer (n=70)

Histopathological variants	Frequency	Percentage (%)
Adenocarcinoma	63	90
Signet ring cell	1	1.5
Mucinous	2	3
Others	4	5.5
Total	70	100

Among all 70 cases, histopathological variants of colorectal carcinomas are listed such as adenocarcinoma 63 (90%), signet ring cell 1 (1.5%), mucinous 2 (3%) and others 4 (5.5%).

Table X Immunohistochemistry (IHC) status of colorectal cancer (n=44)

IHC	Frequency	Percentage (%)
Done	10	22.72
Not Done	34	77.28
Total	70	100

Among the 70 cases, 44 patients were stage IV and among them, the IHC status of all patients reported that, only 10 (14.28%) had done IHC.

DISCUSSION

As the third most common malignancy and the second most deadly cancer, globally, 60% of cases are diagnosed at ages 50–74 years, and almost 10% occur in adults under 50. By 2040, the number of cases of colorectal cancer is predicted to increase to 3.2 million new cases and 1.6 million deaths.The incidence of colorectal cancer is higher in highly developed countries and it is increasing in middle- and low-income countries due to westernization. Moreover, a rising incidence of early-onset colorectal cancer is also emerging.[12]

In this study patients with colorectal carcinoma were taken as study sample which was 70 cases. The frequency of colorectal cancer in this study were 31.48% in age group of 46-55 years followed by 22.85% cases in the age group of 56-65 years, 18.54% cases in the age group of 36-45 years, 15.71% cases in the age group of 26-35 years. So we found that the rate of colorectal cancer patients is high in the younger age group in Chattogram region.

Dimitra Sifaki-Pistolla found that the incidence patterns of Colorectal Cancer (CRC) have changed considerably over the years, tending to rise rapidly in individuals under 50 years old compared with those over 50 years.[13]

According to Gangi reddy, it was found that in the era of CRC screening, the age-adjusted incidence of CRC for males is significantly higher than females.[14] In this study, it was reported that male 62.85% was predominant than female 47.15%. The male to female ratio was 1.69:1.

Compared with urban patients (40%), symptomatic colorectal cancer patients from rural areas (60%) had a significantly bigger. This study showed that the colorectal cancer is mostly prevalent among middle socio-economic class 50%, lower income group is 40% and high socioeconomic class is only 10%. John M. Carethers and Chyke A. Doubeni found that low SES is associated with higher rates of CRC.[15]

Omar Abdel-Rahman found that lower SES is associated with worse colon cancer-specific survival among non-metastatic colon cancer patients, which is different from our study result as, from our region's perspective, middle class populations are more prone to colorectal cancer.[16]

The relation between different blood groups with the colorectal cancer has been recorded. The highest frequency is found among the 'A' group which is 26 (37.14%) followed by 'B' group 22 (31.42%). In this study, we discovered that 30 (42.85%) of the patients were mixed-type food consumers, eating red meat, dry fish, and vegetables.

Quddus MA found that it was difficult to draw a definitive relation between the blood group and colorectal cancer from such a small number of cases. Quddus MA also found that majority of the patients were habited on mixed food containing fish, meat and vegetable.[17]

Rectum 52.85% is the most frequent site of cancer involvement in colorectal cancer than colonic site 47.15%. Burt Cagir found that tumor site tends to vary by patient age. In those younger than 65 years, the rectum is the most common site of colorectal cancer.[18]

Among 70 cases of colorectal cancer cases, majority patients of Stage IV is 44 (76%) followed by Stage II & Stage III which

are 7 (14%) and 5 (10%). Among the all 70 cases, histological variants of all colorectal carcinomas are listed such as adenocarcinoma 63 (90%) signet ring cell 1 (1.5%), mucinous 2 (3%) and others 4 (5.5%) and IHC status of all patients reported that, only 10 (14.28%) had done IHC and 60 (85.72%) had not done.

AKM Maruf RAZA found that on histological examination of 50 colorectal cancer cases, 44 (88%) were usual adenocarcinomas and 6 (12%) were mucin-secreting adenocarcinomas. Adenocarcinoma of the usual pattern was the most common type, another common type was mucin-secreting adenocarcinoma.[19]

CONCLUSION

In conclusion, middle-aged and middle-class people are the most vulnerable to colorectal carcinoma. Furthermore male is predominant than female patients. Among the study sample majority of the patients were habited on mixed food containing fish, meat and vegetable. However none were truly vegetarian. Among all cases of colorectal cancer patients, the rectal site is most commonly reported than the colon site, and the majority of patients are in Stage IV. There is no definitive relation between the blood group and colorectal cancer in such a small number of patients. After histopathological confirmation, it is reported that most of the patients are listed as having adenocarcinoma and among them, only a small number of patients had undergone IHC.

RECOMMENDATION

A multi-centered, large-scale study can reveal the variables more accurately. So it is recommended to do the study with greater involvement, which can contribute a lot in the future to revealing the true facts, which could be helpful for the management of colorectal cancer.

DISCLOSURE

All the authors declared no competing interest.

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