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Original Article

Evaluation of Demographic and Clinical Presentation of Colorectal Carcinoma in Rajshahi Region

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Abstract

This cross-sectional, descriptive, observational study was carried out for a period of 24 months from January 2014 to December 2015 in the Department of Pathology and Department of Surgery, Rajshahi Medical College, Rajshahi for evaluation of clinical and histological presentation of colorectal carcinoma patients in total fifty four patient. Data were collected by face to face interview, clinical examination. The study revealed that the colorectal carcinoma was highest in the 5th and 6th decade and rectal area (46.3%) and male predominance was observed with male to female ratio being 3:2. Abdominal pain (61.1%), weight loss (61.1%), per rectal bleeding (57.4%), altered bowel habit (24.1%) and melena (24.1%) are the main presenting symptoms. In terms of ABO blood grouping, blood group 'B' was found predominant (44.4%), followed by group 'A' (24.1%), group 'AB' (14.8%) and group 'O' (16.7%).

Key words: Colorectal carcinoma. clinical presentations.

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Introduction

Colorectal cancer (CRC) is a global public health concern, with an increasing incidence and mortality rates in the developing countries.[1] Various estimates indicate that CRC incidence is increasing in countries with limited healthcare resources.[2] Worldwide, CRC is the third leading cause of cancer mortality in men and the second in women.[3] Certain demographic features associated with the disease differ between world regions such as distribution by sex, age, and race. Environmental exposures, and personal and family history of colorectal polyps[4, 5, 6, 7.8] and cancer[9] are both known risk factors for CRC development. CRC outcomes depend primarily on the distribution and spread of the disease, and also early diagnosis and intervention.[10] In Bangladesh it is the third most common Cancer in case of male (10.1%) and fourth (10%) most common Cancer in case of female.[11] Tumours greater than 3 cm[12, 13, 14, 15,16] and anaplastic tumours are accompanied with high concentration of CA 19.9 antigen.[17,18,] The aim this study was to evaluate clinical presentation of colorectal carcinoma for early detection of metastasis and recurrence of colorectal carcinoma in clinically suspected or established patient or in patient with family history.

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Materials and Methods

This cross-sectional, descriptive, observational study was carried out for a period of 24 months from January 2014 to December 2015 in the Department of Pathology and Department of Surgery, Rajshahi Medical College, Rajshahi for estimation of serum 19-9 level in total fifty four patients. All the patients with clinically diagnosed and later on histopathologically confirmed as colorectal carcinoma were included in this study. Clinically suspected patients but not confirmed as colorectal carcinoma histopathologically, patients with upper GIT infection, gall bladder infection, hepatic infection, inflammatory bowel diseases, pancreatitis were excluded from this study. The data was analyzed with the help of SPSS software.

Results

Out of 54 patients, about 28% of the patients were in their 5^{th} decade and another 28% in 6^{th} decade of life. About one-quarter (24.1%) of patients was < 30 years old and 16.4% 40 - 50 years old. The mean age of the patients was 47.6 years (range: 16 – 103 years). A male predominance was observed in the series with male to female ratio being 3:2 (Table I). Nearly half (46.3%) of the tumours were located in rectum, 20.4% in sigmoid colon, 14.8% in caecum, 9.2% in ascending colon. Very few were in descending colon and hepatic flexure (Table II). The patients of colorectal carcinoma mainly presented with abdominal pain (61.1%), weight loss (61.1%), per rectal bleeding (57.4%) followed by altered bowel habit (24.1%) and melena (24.1%), nausea/vomiting (20.4%) and abdominal distension (22.2%) (Table III). Over one-third (35.2%) of the patients exhibited lump in the abdomen, 18.5% had abdominal distension, 25.9% had oedema. Tender abdomen and hepatomegaly were found in 16.7%, 13%, 13% and 9.3% cases respectively. Digital rectal examination was found positive in 50% cases, positive proctoscopy and colonoscopy each was found in 22.2% cases (Table IV). In terms of ABO blood grouping, blood group 'B' was found predominant, followed by group 'A' (24.1%), group 'AB' (14.8%) and group 'O' (16.7%) (Table V). Based on size, 63% of the tumours were small sized (4 cm or less) and the rest (37%) were 5-6 cm (Table VI).

Table I. Distribution of patients by demographic characteristics (n = 54)

Demographic characteristics	Frequency	Percentage
Age		
< 30	13	24.1
30 – 40	2	3.7
40 – 50	9	16.4
50 – 60	15	27.9
≥ 60	15	27.9
Total	54	100%
Sex		
Male	33	61.1
Female	21	38.9
Total	54	100%

Table II. Distribution of patients by location of tumour (n = 54)

Site carcinoma	Frequency	Percentage
Caecum	8	14.8
Ascending colon	5	9.2
Hepatic flexure	2	3.7
Descending colon	3	5.6
Sigmoid colon	11	20.4
Rectum	25	46.3
Total	54	100%

Table III. Distribution of patients by presenting symptoms (n = 54)

Symptoms	Frequency	Percentage
Abdominal pain	33	61.1
Weight loss	1	61.1
Per rectal bleeding	31	57.4
Altered bowel habit	13	24.1
Melena	13	24.1
Nausea / Vomiting	11	20.4
Ascites	1	1.9
Fever	4	7.4
Painful defecation	5	9.3
Intestinal obstruction	1	1.9

Table IV. Distribution of patients by presenting signs (n = 54)

Signs	Frequency	Percentage
Abdominal lump	19	35.2
Abdominal distension	10	18.5
Tender abdomen	9	16.7
Hepatomegaly	5	9.3
Oedema	14	25.9
Positive per rectal examination	27	50.0
Positive proctoscopy	12	22.2
Positive colonoscopy	12	22.2

Table V. Distribution of patients by ABO blood grouping (n = 54)

Blood group	Frequency	Percentage
A	13	24.1
B	24	44.4
AB	8	14.8
O	9	16.7

Table VI. Distribution of patients by size of the tumour (n = 54)

Size of the tumour (cm)	Frequency	Percentage
≤ 4	34	63.0
5-6	20	37.0

Discussion

The present study focused on frequency of colorectal carcinoma clinical presentation histologic grading and Carbohydrate Antigen 19-9 (CA 19-9) serum level. The study revealed that the colorectal carcinoma was highest in the 5th and 6th decade and rectal area (46.3%) and male predominance was observed with male to female ratio being 3:2. Galante et al in 1996[19], Iversen et al in 2005[20] and Floyd et al in 1992 [21] reported the peak incidence in the 6th decade and rectal area and a male predominance. About 70% study samples were left sided tumours and were presented with commonly per rectal bleeding (82%), altered bowl habit (18%), diarrhoea (16%) and melena (8%). The right sided tumours (30% of the study samples) were presented with melena (63%), altered bowl habit (38%) and diarrhoea (13%). A study by Aune et al found that a high intake of fiber was associated with a reduced risk of colorectal cancer.[22] In particular; cereal fiber and whole grains were found to be effective. Common clinical presentations include iron-deficiency anemia, rectal bleeding, abdominal pain, change in bowel habits, and intestinal obstruction or perforation. Right-sided lesions are more likely to bleed and cause diarrhea, while left-sided tumors are usually detected later and may present as bowel obstruction.[23] Positive per rectal examination and abdominal lump were the commonest presenting sign in this study. A study that used data from England's Clinical Practice Research Datalink found that abdominal pain was the most common presenting symptom of colorectal cancer. Compared with other age groups, these younger patients had the lowest percentage of typical 'red-flag' signs and symptoms (i.e., rectal bleeding, anaemia, change in bowel habits, diarrhoea, and abdominal mass). Instead, these patients were more likely to have presented to their primary care provider, in the year before diagnosis, with nonspecific symptoms.[24] Individuals having ABO blood group B were in peak regarding developing colorectal carcinoma according to this study. 63% colorectal carcinomas were presented with tumour size ≤ 4 cm in this study.

Conclusion

In the present study, about 70% tumours were the left sided tumour and about 45% of the patients had blood group B. Further studies including larger populations are required to evaluate this potentially deadly disease.

References

1. Ferlay J, Soerjomataram I, Dikshit R. Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. Int J Cancer. 2015; 136: E359–386.
2. Jemal A, Bray F, Center MM. Global cancer statistics. CA Cancer J Clin. 2011; 61:69–90.

3. Torre LA, Bray F, Siegel RL. Global cancer statistics, 2012. CA Cancer J Clin. 2015; 65: 87–108.
4. Carvajal-Carmona LG, Howarth KM, Lockett M. Molecular classification and genetic pathways in hyperplastic polyposis syndrome. J Pathol. 2007; 212:378–385.
5. Carvajal-Carmona LG, Zauber AG, Jones AM, et al. Much of the genetic risk of colorectal cancer is likely to be mediated through susceptibility to adenomas. Gastroenterology. 2012; 144:53–55.
6. Montazeri Z, Theodoratou E, Nyiraneza C, et al. Systematic meta-analyses and field synopsis of genetic association studies in colorectal adenomas. Int J Epidemiol. 2016; 45: 186–205.
7. Wang J, Carvajal-Carmona LG, Chu JH. Germline variants and advanced colorectal adenomas: adenoma prevention with celecoxib trial genome-wide association study. Clin Cancer Res. 2013; 19:6430–6437.
8. Will O, Carvajal-Carmona LG, Gorman P. Homozygous PMS2 deletion causes a severe colorectal cancer and multiple adenoma phenotype without extraintestinal cancer. Gastroenterology. 2007; 132: 527–530.
9. Carvajal Carmona LG, Tomlinson I. The hunting of the snark: whither genome-wide association studies for colorectal cancer? Gastroenterology. 2016; 150:1528–1530.
10. Manne U, Shanmugam C, Katkoori VR. Development and progression of colorectal neoplasia. Cancer Biomark. 2010; 9:235–265.
11. Wahed TB.Distribution of cancer patients and patterns of cancer treatment at Dhaka medical college hospital, Bangladesh. IRJP. 2012; 3(4) 157-161
12. Wang WS, Lin JK, Chiou TJ, Liu, JH, Fan FS, Yen CC. A 19-9 as the most significant prognostic indicator of meta-static colorectal cancer. Hepatogastroen-terology. 2002; 49(43), 160-164.
13. Kannagi R, Izawa M, Koike T, Miyazaki K, Kimura N. Carbohidrate-mediated cell adhesion in cancer metastasis and angiogenesis. Cancer Sci. 2004;95(5): 377-384
14. Mario P, Massimo DP, Daniela B, Glovannil R, Alda G, Fabrizio G, August C. Serum Tumor Markers in Colorectal Cancer Staging, Grading, and Follow-Up. Journal of Surgical Oncology. 1996; 62:239-244
15. Katoh H, Yamashita K, Kokuba Y. Surgical resection of stage IV colorectal cancer and prognosis. World Journal of Surgery. 2008; 32(6):1130–1137
16. Rhodes M, Ching C. Serum diagnostic tests for pancreaticcancer. Clingastroenterol. 1990; 4:835-852.
17. Villano BC, Zurawski VR Jr. The carbohydrate antigenic determinant19.9 (CA 19.9): a monoclonal antibody defined tumormarker. In Abisi RM, Hyun J, eds. Immunodiagnostics. NewYork: Alan R. Liss. 1983;269-282
18. Koprowski H, Steplewski Z, Mitchell K, Herlyn M. Colorectal carcinoma antigens detected by hybridoma antibodies. Somatic Cell Genet. 1979; 5:957-971.
19. Galante M, Dumphy JE, Fletcher WS. Cancer of colon. Ann surg. 1996; 165:732-44
20. Iversen LH, Pedersen A, Riis S, Friis S, Laurberg S. Population based study of short and long term survival from colorectal cancer in Denmark, 1995-1999. British journal of surgery. 2005; 92:873-880
21. Floyd CE, Corley RG, John JR. Local recurrence of carcinoma of colon and rectum. Ann J surg. 1992;109:153-59
22. Aune D, Chan DS, Lau R. Dietary fibre, whole grains, and risk of colorectal cancer: systematic review and dose-response meta-analysis of prospective studies. BMJ. 2011; 343: d6617.
23. Rex DK, Johnson DA, Anderson JC, Schoenfeld PS, Burke CA, Inadomi JM. American College of Gastroenterology guidelines for colorectal cancer screening 2009 [corrected]. Am J Gastroenterol. 2009; 104(3),739-50.
24. Arhi CS, Ziprin P, Bottle A, Burns EM, Aylin P, Darzi A. Colorectal cancer patients under the age of 50 experience delays in primary care leading to emergency diagnoses: a population-based study. Colorectal Dis. 2019; 11:1270-1278.

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