

Incidence of Colorectal Carcinoma in Rectal Bleeding Patients

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Abstract

Introduction: In Bangladesh there is no complete data which would reflect the idea about the incidence of colorectal carcinoma in rectal bleeding patients. Nowadays the incidence of colorectal carcinoma is increasing day by day. The number of patient attending physician are increasing day by day due to increased consciousness, improved health care facility and availability of more advanced investigative tools. Rectal bleeding is one of the commonest symptoms which is commonly diagnosed and managed in the surgery department. This study is designed to evaluate the incidence as well as diagnosis of colorectal carcinoma in rectal bleeding patients in the surgery department. **Aims and Objective:** To evaluate the rectal bleeding patients attending outdoor and indoor in surgery department in Cu M C H. Study the incidence of colorectal carcinoma in rectal bleeding patients. **Methods:** All patients who presented with rectal bleeding and consequently diagnosed as colorectal carcinoma by clinical examinations, colonoscopic evaluation and histopathological examination were analyzed prospectively. Sociodemographic data & results of laboratory investigations, findings on examination were noted. The patients of rectal bleeding who give consent were included. Patients who refused & patients less than 15 years, seriously ill patients were excluded. **Results:** Among the 250 patients studied, 18 of the patients were diagnosed as colorectal carcinoma and incidence was 7.2%, 58 patients(23.2%) were diagnosed as haemorrhoid, 20 patients(8%) had ulcerative colitis, 08 patients(3.2%) had ileocaecal TB, 06 patients(2.4%) had caecal ulcer, 10 patients(4%) had colonic polyp. Among 18 patients of colorectal carcinoma, 15 patients distributed ≥ 50 years (about 83.33%) and next was 21-49 years 3 patients (about 16.67%). 12 patients were male (66.67%) and 6 were female (33.33%). 13 patients were muslim (72.22%), 5 were hindu (27.78%). 10 patients (55.56%) came from urban areas, 8 patients (44.44%) came from rural area. Among 18 case of colorectal carcinoma, 10 were in rectum (55.55%), 4 in sigmoid colon (22.22%), 3 in caecum (16.67%), 1 in transverse colon (5.56%). 4 patients had a family history of colorectal carcinoma (22.22%). Among 18 case of colorectal carcinoma all were adenocarcinoma (100%) on histological examination. **Conclusion:** Rectal bleeding is a common problem in our community. Overall the awareness and knowledge about this symptom is poor. This study is aimed at arousing consciousness as well as diagnosis of colorectal carcinoma who presented with rectal bleeding.

Key words: Colorectal Carcinoma and Rectal Bleeding Patients.

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Introduction:

Colon cancer is a common malignant tumor of digestive tract system and has great threat to our health¹. Globally greater than 1 million

people get colorectal cancer yearly resulting in about 0.5 million deaths². As of 2008 it is the second most common cause of cancer in women and the third most common in men with it being the fourth most common cause of cancer death after lung, stomach, and liver cancer³. It is more common in developed than developing countries². The rectum is the last portion of the large bowel that ends just before the anus. Bleeding from this area can be mild or serious, even life-threatening. The presence of rectal bleeding must be carefully checked because it indicates something is wrong³. Patients presenting with symptoms of rectal bleeding commonly seek medical advice in primary care. However, the majority of patients with rectal bleeding in primary care do not have serious disease, with estimates of the risk of colorectal cancer varying between 2.4 and 11.0%. As rectal bleeding is recognized early symptom of colorectal cancer⁴ primary care has an important role in its early detection⁵. Colorectal cancer, commonly known as colon cancer or bowel cancer, is a cancer from uncontrolled cell growth in the colon or rectum (parts of the large intestine), or in the appendix⁶. Most colorectal cancer occurs due to lifestyle and increasing age with only a minority of cases associated with underlying genetic disorders⁷. It typically starts in the lining of the bowel and if left untreated, can grow into the muscle layers underneath, and then through the bowel wall. Screening is effective at decreasing the chance of dying from colorectal cancer and is recommended starting at the age of 50 and continuing until a person is 75 years old⁸. There are several causes of rectal bleeding. Such as, Congenital (FAP, Meckel's diverticulum, Hereditary haemorrhagic telangiectasia.), Inflammatory (Tubercular ulcers, Enteric ulcers, Crohn's ileocolitis, Ulcerative colitis, Necrotising enterocolitis, Dysentery-Amoebic, Bacillary, Strangyloides infestation), Neoplastic (Papilloma of rectum, Carcinoma of colon & rectum, GIST, Lymphoma, Carcinoma small bowel), Vascular (Angiodysplasia, Ischaemic colitis, Vasculitis-Polyarteritis nodosa, Haemangooma), Clotting disorders (Haemophilia, Thrombocytopenia, Leukaemia, Warferin therapy, DIC), Miscellaneous (Piles, Anal fissure, Prolapse, Injury to the rectum, diverticular disease)⁹. Symptoms of colorectal cancer typically include rectal bleeding and anemia which are sometimes associated with weight loss and changes in bowel habits. In early stage, colon cancer has no obvious symptoms, while as time goes by, a series of symptoms and physical signs would appear⁹. Presentation depends on the site of cancer. Right colon cancers (wt. loss, anaemia, occult bleeding, mass in right iliac fossa) disease more likely to be advanced at presentation. Left colon cancers (often colicky pain, rectal bleeding, bowel obstruction, tenesmus, mass in left iliac fossa, early change in bowel habit) less advanced disease at presentation¹⁰. Majority of colon cancer patients have different degree of abdominal pain or abdominal discomforts, like abdominal hidden pain, left side abdominal distention, nausea, vomiting, loss of appetite and so on. After food

feeding, the symptoms may get worse and sometimes may company with intervallic diarrhea or constipation, which are easily confused with the common diseases of right lower quadrant, like chronic appendicitis, ileocecal tuberculosis, ileocecal junction segmental enteritis or lymphoma¹¹. It is generally believed that the symptoms of rightward abdomen colon cancer manifest as pain in the part above navel; while symptoms of leftward abdomen colon cancer manifest as pain in the part under the navel. If cancer tumor penetrates intestine wall, it may cause local inflammatory adhesion or local abscess after the formation of chronic perforation. The location of pain is just the place where tumor localizes¹². The development of a bowel cancer from a polyp may take between five and ten years and early on there may be no symptoms at all. The most common symptoms are bleeding from the bowel, a change in bowel habit, such as unusual episodes of diarrhoea or constipation, or an increase in the amount of mucus in the stool. A bowel cancer can enlarge so that it partially or completely blocks the bowel leading to abdominal pain, constipation and bloating¹³. Sometimes tiny amounts of bleeding may go unnoticed but result in the development of anaemia which may cause tiredness and a decreased ability to work and exercise¹⁴. There may be continuous capillary hemorrhage when there is an ulcer on the surface of the tumor due to necrosis. Blood being mixed with dejecture may fail to catch the attention of colon cancer patients. Anaemia, emaciation, adynamia or weight loss may be caused due to chronic blood loss, toxin absorption or malnutrition. Advanced stage colon cancer patients may suffer from edema, hepatomegaly, ascites, hypoproteinemia, cachexia and so on¹⁵. Colon cancer can spread locally or via the lymphatics, blood stream or transcoelomically around the peritoneum. Direct spread can be longitudinal, transverse or radial. Radial spread to adjacent organ has the greatest impact on surgical resectability, as an adequate oncologic resection can still be achieved, despite longitudinal spread. Radial spread may be retroperitoneal into the ureter, duodenum and posterior abdominal wall muscles, or intraperitoneal into the small intestine, stomach, pelvic organs or the anterior abdominal wall; causes fistula¹⁶. There are actually 2 types of staging for colorectal cancer. The most commonly used staging system for colorectal cancer by American Joint Committee on Cancer (AJCC), sometimes also known as the TNM system. TNM staging system is a standardized way in which the cancer care team describes the extent of the cancer. Older staging systems for colorectal cancer is the Dukes and Astler-Coller system¹⁷. Microscopically 98% of all colorectal carcinomas are adenocarcinoma. The major subtypes are non mucinous adenocarcinomas, mucinous or colloid adenocarcinoma and signet ring cell carcinoma. Adenocarcinomas of colon and rectum are graded predominantly on the basis of the extent of glandular appearance and are classified into well, moderately and poorly differentiated adenocarcinomas¹⁸. Localized bowel cancer is usually diagnosed through sigmoidoscopy or colonoscopy. Increase the risk of colorectal cancer are-

personal history of previous colorectal polyps or colorectal cancer, history of IBS, family history of colorectal cancer and/or FAP or HNPCC. Any patient with FAP is usually informed by his surgeon to send the rest of his family for screening¹⁹. Early diagnosis is essential for effective treatment to provide the greatest chance of survival²⁰.

Materials and Methods:

This Prospective study was carried out in Department of Surgery, Cumilla Medical College Hospital, Cumilla from April 2013 to October 2013. Study population: Patients with rectal bleeding during this study period. Sample size: 250 cases during this study period. Inclusion criteria was Patients with rectal bleeding above 15 years, Participants, who will give consent and willing to comply with the study procedure, will be included. Exclusion criteria were Patient or attendants unwilling to give informed consent to take part in the study, Patients presenting with rectal bleeding below 15 years, Patients with known case of Chronic liver, renal & cardiovascular disease and Seriously ill patients. Methods: All consecutive patients who presented with rectal bleeding and consequently diagnosed with Colorectal carcinoma were analyzed prospectively. Sociodemographic data, times of admission into and discharge from the surgery department, adjunctive complaints, results of laboratory investigations, findings on examination were noted. Addressing ethical issues: Keeping compliance with Helsinki Declaration for medical research involving human subject 1964, patients and legal guardians of the patient were informed verbally about the study, written consent was obtained from each subject. Permission and approval from institutional ethical committee was taken.

Results:

Table-I: Age pattern in rectal bleeding patients (n=250).

Age of Patients.	No. of Patients.	Percentage.
20-29 years.	43	17.2%
30-39 years.	35	14%
40-49 years.	59	23.6%
50 years.	113	45.2%

Total Patients. 250 100%

Among the 250 patients studied, 45.2% patients of rectal bleeding patients were ≥50 years group.

Table-II: Clinical diagnosis in rectal bleeding patients (n=250).

Diagnosis.	No. of Patients.	Percentage.
Haemorrhoid.	58	23.2%
Colorectal carcinoma.	18	07.2%
Ulcerative colitis.	20	08%
Ileocaecal TB.	08	3.2%
Chronic anal fissure.	16	6.4%
Undetectable.	130	52%

Total Patients. 250 100%

Among the 250 patients studied, 7.2% patients of rectal

bleeding patients had colorectal carcinoma.

Fig-I: Shows that 62.8% of the patients were from rural area.

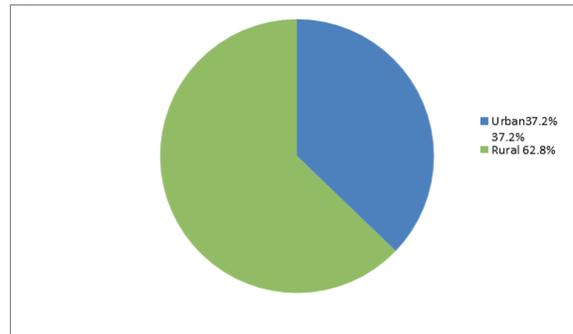


Figure -I: Area distribution in rectal bleeding patients.

Table-III: Findings on colonoscopy in rectal bleeding patients (n=250).

Causes	No. of patients (n-250)	Percentage(%)
Normal findings	130	52%
Colorectal carcinoma	18	7.2%
Haemorrhoid	58	23.2%
Ulcerative colitis	20	8%
Ileocaecal TB	08	3.2%
Caecal ulcer	06	2.4%
Colonic polyp	10	4%
Total	250	100%

Among the 250 patients studied, 7.2% Patients of rectal bleeding patients had colorectal carcinoma.

Table-IV: Age incidence in colorectal carcinoma (n=18)

Age (years)	No. of patients (n-18)	Percentage (%)
21-49	03	16.67%
≥ 50	15	83.33%
Total	18	100%

Among the 18 patients studied, >80% of the patients remain among the age group of ≥50 years.

Figure-II: Sex incidence in colorectal carcinoma.

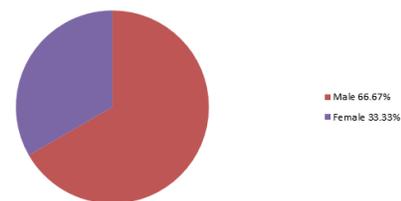
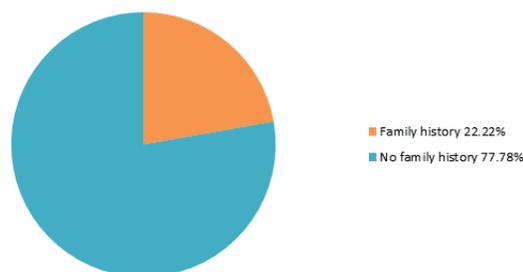


Table-V: Sites of colorectal carcinoma (n=18)

Sites	No of patients (n=18)	Percentage (%)
Caecum.	3	16.67%
Transverse colon	1	5.56%
Sigmoid colon	4	22.22%
Rectum	10	55.55%
Total	18	100%

This table shows that most of the colorectal carcinoma were in rectum (55.55%).

Figure-III: Family History of Colorectal Carcinoma. (n=18)



This pie chart shows that 22.22% of the patients had family history of Colorectal Carcinoma.

Discussion:

The rectum is the last portion of the large bowel that ends just before the anus. Bleeding from this area can be mild or serious, even life-threatening. The presence of rectal bleeding must be carefully checked because it indicates something is wrong. Rectal bleeding is frequently noticed as maroon stools, bright red blood on or in the stool, blood on the toilet tissue, or blood staining the toilet bowl water red. Bleeding from further up in the gastrointestinal tract results in black, tarry stools. Rectal bleeding is commonly associated with other potentially dangerous abdominal disorders. Most cases of rectal bleeding warrant a visit to a physician for evaluation. There are a variety of causes of rectal bleeding. Common causes include hemorrhoids, anal fissure, diverticulosis, infection, inflammation (IBD, Crohn's disease, ulcerative colitis), angiodysplasia. Other causes of rectal bleeding include polyps, tumors, trauma, an upper gastrointestinal source, and Meckel diverticulum (a rare condition that occurs in less than 2% of the population.) In this series, among the 250 patients studied, 18 of the patients were diagnosed as colorectal carcinoma and incidence rate was about 7.2%. A Dutch study of 269 patients who had rectal bleeding, nine of whom had cancer, found a positive predictive value of 3.3% (95% confidence interval 1.2% to 5.4%); A Belgian study of 386 patients who had rectal bleeding, 27 of whom had cancer, found a value of 7.0% (4.6% to 10.0%); and a UK case control study of 2093 patients, 349 of whom had cancer, estimated a positive predictive value of 2.4% (1.9% to 3.2%)^{11,12}. A recent UK study investigated 219 (69%) of 319 patients aged 34 or more whose main symptom was rectal bleeding. Eleven cancers were found, giving a positive predictive value of 3.4%¹⁰. Younger adults can develop colorectal cancer, but the chances increase markedly after age 50. About 9 out of 10 people diagnosed with colorectal cancer are at least 50 years old. In this series among the 18 patients of with colorectal carcinoma, 83.33% of the patients were distributed among the age group of >50 years and next was 21-49 years (16.67%). L.Horvitz,M.D., M.Huber, M.D

studied in israel,1035 colorectal cases were reviewed, ages ranged from 15 to 95 years, 133 patients (12.85%) were young (<50 years) and the remaining 902 patients (87.15%) were old (>50 years), a ratio of 1 young patient to every 6.7 old patients^{8,9}. 12 patients of the series were male (66.67%) and 6 were female (33.33%).In this series male to female ration is 2:1. A recent study of colorectal cancer in 147 Lynch syndrome families in the US found lifetime risks of 66% in men and 43% in women, with a median age at diagnosis of 42 years and 47 years, respectively¹⁸. Azadeh Safaee, Seyed Reza Fatemi, Sara Ashtari, studied in Iran, all 19,617 colorectal cancer patients who were registered during 2005-2009. The male to female sex ratio was 1.3:1¹⁹. Several studies, including one by the American Cancer Society, have found that high consumption of red and/or processed meat increases the risk of both colon and rectal cancer^{14,15}. For colorectal carcinoma, religion of the patient is not significant in this series. However food habit of Muslim people (specially red meat habit) is an important factor that predispose to colorectal carcinoma. In this series, shows most of the patient (72.22%) were Muslim. In long-standing economically developed countries, colorectal cancer incidence rates increased in economically transitioning countries, especially those that were once part of the Soviet Union and the Eastern European Communist Bloc such as the Czech Republic, Slovakia, Poland, and Estonia. In fact, male colorectal cancer incidence rates in the Czech Republic and Slovakia exceeded the peak incidence rates observed among males in high-income countries such as the United States. Changes in risk factors in these countries during the transition from planned market economies to open market economies could partly explain this observation¹⁷. Japan, a developed nation with one of the strongest economies worldwide, has recorded dramatic increases in the incidence of colorectal cancer over the past several decades, with rates for Japanese males increasing >90% in two of the three registries (Miyagi and Yamagata) considered. This is most likely due to the modification in dietary intake among the Japanese, including the increased intake of western-type food such as milk, meat, eggs, and fat/oil over the past several decades which has contributed to the increase in obesity in Japan^{18,19}. In our series, we have noted that 55.56% of the patients came from urban areas. People with a first-degree relative (parent, sibling, or offspring) who has had colorectal cancer have 2 to 3 times the risk of developing the disease compared to individuals with no family history; if the relative was diagnosed at a young age or if there is more than one affected relative, risk increases to 3 to 6 times than that of the general population^{6,7}. About 20% of all colorectal cancer patients have a close relative who was diagnosed with the disease²⁴. About 5% of patients with colorectal cancer have a well-defined genetic syndrome that causes the disease⁴. Present study, shows that 4 patients (22.22%) had family history of colorectal carcinoma. Stewart SL, Wike JM studied in USA in 1998-2001 shows that about 96% of colorectal carcinomas were adenocarcinomas, approximately 2% were

other specified carcinomas (including carcinoid tumors), about 0.4% were epidermoid carcinomas, and about 0.08% were sarcomas. Uzma Nabi, Abdul Hannan Nagi studied in Pakistan shows that A total of 100 formalin fixed colectomy/hemicolectomy specimens of colorectal cancer were included in this study. Morphologically all 100 cases were of adenocarcinoma. No other microscopical variants were seen in them. Among 100 cases, 59 were reported as non-mucinous adenocarcinoma, 30 as mucinous adenocarcinoma and 11 as signet-ring cell type carcinoma. In our series we found that out of 18 patients all patients were diagnosed as adenocarcinoma (100%). Among 18 diagnosed case of colorectal carcinoma, 10 were in rectum (55.55%), 4 in sigmoid colon (22.22%), 3 in caecum (16.67%), 1 in transverse colon (5.56%). Sabiha Riaz, waqaas Sami studied, a total of 100 formalin fixed colectomy/ hemicolectomy specimens of colorectal cancer. Among these 100 cases, 37 were located in the right colon, 30 in the left colon and 33 in the rectum²⁰.

Conclusion:

This six months observational study of incidence of colorectal carcinoma in rectal bleeding patients in Comilla Medical College Hospital reveals that the incidence of colorectal carcinoma is 7.2% in rectal bleeding patients, which is almost similar with previous studies. So rectal bleeding is a important symptom to diagnose colorectal carcinoma and rate of incidence increased in old age (>50 years) and who had family history of colorectal carcinoma.

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