Original article

Socio-demographic Characteristics and Histopathological Type of Colorectal Cancer in the Northern Part of Bangladesh

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Abstract:

Background:

Colorectal cancer is one of the most common causes of death among patients. This study aimed to see the pattern of colorectal cancer from 2018 to 2021 and to explore its association with age and sex, its site of occurrence, histopathological types & its incidence in different regions of the Rangpur division.

Methods:

This cross-sectional study was carried out in the Department of Radiotherapy, Rangpur Medical College Hospital, Rangpur, Bangladesh. All data regarding 434(7.5%) colo-rectal cancers out of 5782(100%) patients were collected from 2018 to 2021. Each of the 434 colorectal cancer patients was interviewed and examined thoroughly before data collection. Age, sex, previous & current data of all patients were recorded properly during the study.

Result:

The study showed out of 436 colo-rectal cancers 266(61.3%) were male and 168(38.7%) female with a male-female ratio of 1.58:1. Highest incidence of cancer was in the age group 41-60 years (194,44.7%). Out of 436 cancers 219(50.4%) found in rectum, 29(6.6%) in sigmoid colon and 186(42.8%) in other parts of colon. The most common histopathological type was adenocarcinoma 415(95.62%). Among eight districts of the Rangpur division highest incidence of colorectal cancer was found in Rangpur 194(44.7%) followed by Nilphamari 64(14.7%), Gaibandha 44(10.1%), Kurigragm 40(9.2%), Dinajpur 35(8.06%), Lalmonirhat 34(7.9%), Panchagarh 12(2.7%) and Thakurgaon 11(2.5%).

Conclusion:

The incidence of colorectal cancer is higher in males than females. Highest incidence of colorectal cancer in the age group of 41-60 years. Adenocarcinoma is the most common histopathological type of colorectal cancer in both males and females. Incidence of the colo-rectal cancer in the Rangpur district is higher than in other districts of Rangpur division.

Keywords: Colorectal Cancer, Socio-demographic, Histopathology

Introduction:

Colorectal cancer (CRC), also known as bowel cancer, colon cancer, or rectal cancer, is the development of cancer from the colon or rectum (parts of the large intestine).[1]

According to recent statistics by the International Agency for Research on Cancer's Globocon 2020 report, globally there were almost 1,931,590 new cases of colorectal cancer cases in 2020, of which around 9,35,173 people died of this disease.[2]

Cancer of the colon is the fourth most incident cancer in the world, while cancer of the rectum is the eighth most incident.Together, CRCs are the third most commonly diagnosed form of cancer globally, comprising 11% of all cancer diagnoses.[3]

The CRC is more common among men than women and is 3-4 times more common in developed than in developing nations. Age-standardized (world) incidence rates per 100,000 of CRC in both sexes is 19.7.[4]

The age-standardized global CRC incidence rate in men (23.4 cases per 100,000 persons) is 44% higher than that in women (16.2 cases per 100,000 persons).[5] The rising incidence of CRC at younger ages (before age 50 years) is an emerging trend.[6]

About 70% of all cancers of the large intestine occur below the midpoint of the descending colon (descending 10%, sigmoid 10%, rectum 50%). The remainder are in the right, middle, and upper descending colon (29.5%).[7] Regarding the most

histopathological type only about 10% of all adenomas progress to invasive cancer, although the risk of cancer increases as the polyp grows larger. Invasive cancer arising from such polyps is known as adenocarcinoma and accounts for 96% of all CRCs.[8]

In the last two decades, the incidence of this cancer has also increased in the Asia-Pacific region. Cancer has spread to South Korea, Singapore, the Philippines, Thailand, and China. Asia has the highest incidence of colon cancer is 49.9% and death from this cancer is 54.2% globally.[9]

According to the report, there were 2,753 new cases of colon cancer in Bangladesh in 2020, of which 1,772 died. The incidence of cancer in the rectum was 2530 & out of which 1467 people died per year.9 The aim of this study was to see the pattern of colorectal cancer with age, sex, site, histopathology & regions of Rangpur division.

Materials and Method:

This cross-sectional study was carried out in the Department of Radiotherapy, Rangpur Medical College Hospital, Rangpur, Bangladesh. All data regarding 434 colorectal cancer patients were collected from 2018 to 2021. Each colorectal cancer patient was interviewed and examined thoroughly before data collection. Sex, age, previous & current clinical data of all patients were recorded properly during the study. Inclusion criteria were patients with colorectal cancer, both of sex, within age 20-90 years and exclusion criteria were patients with co-morbidity status & children. All the observed data were tabulated in MS Excel and statistically analyzed using IBM SPSS statistic software, version 13.

Result:

Registered data revealed that a total of 434 cancer patients were selected among which 266 (61.3%) were male and 168 (38.7%) were female with male male-female ratio of 1.58:1 (Figure-1).

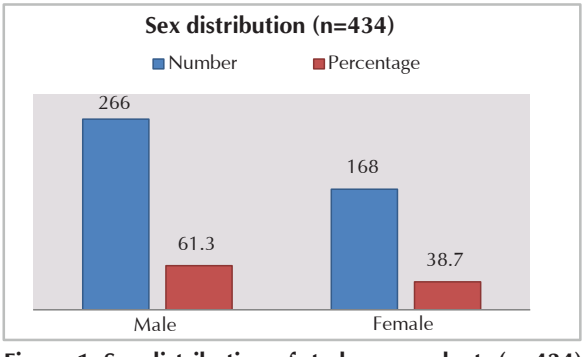

Figure-1: Sex distribution of study respondents (n=434)

The highest incidence of colorectal cancer was 194 (44.7%) in the age group of 41–60 years (Table-I).

Table-I: Frequency & percentage of colorectal cancer according to age (Total=434)

Age Group (Years)	no. (%)
20-40	188(43.3)
41-60	194(44.7)
61-80	51(11.8)
81-100	1(0.2)

Out of 436 cancers, 219 (50.4%) were found in the rectum, 29 (6.6%) in the sigmoid colon, and 186 (42.8%) in other parts of the colon shown in (Figure-2.)

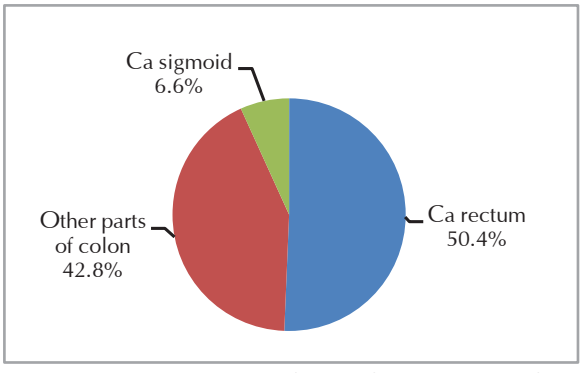

Figure-2: Percentage of colorectal cancer according to sites (Total=434)

Most common histopathological type was adenocarcinoma 415 (95.62%) (Table-II).

Table-II: Frequency & percentage of colorectal cancers according to histopathological types (Total=434)

Histopathological type	no. (%)
Adenocarcinoma	415(95.62)
Others (lymphoma, adenosquamous)	19(4.38)

Among eight districts of Rangpur division highest incidence of the colorectal cancers was in Rangpur district 194 (44.7%) followed by Nilphamari 64 (14.7%), Gaibandha 44 (10.1%), Kurigragm 40 (9.2%), Dinajpur 35 (8.06%), Lalmonirhat 34 (7.9%), Panchagarh 12 (2.7%) and Thakurgaon 11(2.5%) shown in Figure-3.

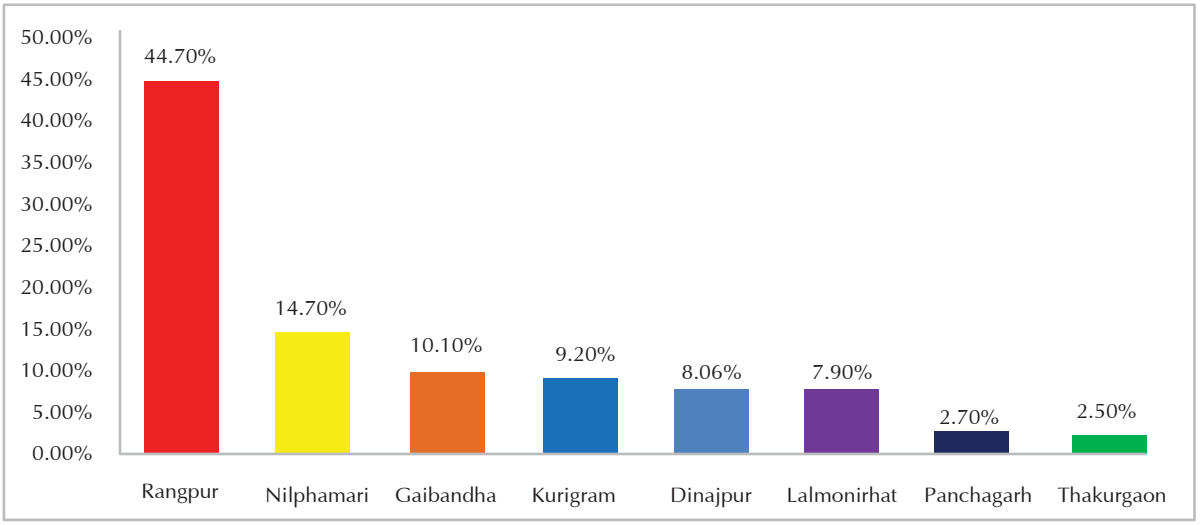

Figure-3: Percentage of colorectal cancer according to region (Total=434)

Discussion:

The present study represents a higher incidence of colorectal cancer in males than in females, with a male-female ratio of 1.58:1. The Highest incidence of colorectal cancer is 194(44.7%) in the age group of 41–60 years, which corresponds to other previous studies globally.[10,11] The incidence and mortality of CRC (Colorectal cancer) are dramatically increasing after the age of 50 years.[12]

According to statistical analysis by the International Agency for Research on Cancer's Globocon 2020 report, cancer in the rectum is more than the colon.[9] Our study revealed out of 436 cancers 219(50.4%) were in rectum, 29(6.6%) in sigmoid colon and 186(42.8%) in other parts of colon.

The most common histopathological type was adenocarcinoma 415(95.62%).These findings are also corresponding to previous studies globally.8,13 More than 90% of colorectal carcinomas are adenocarcinomas arising from epithelial cells of the colorectal mucosa. Other rare types of colorectal carcinoma include neuroendocrine, squamous cell, squamous cell, spindle cell, and undifferentiated carcinomas.[13]

This study reflects the prevalence of colorectal cancer in eight districts of Rangpur division. Our study revealed the highest incidence of colorectal cancers in Rangpur district 194(44.7%) followed by Nilphamari 64(14.7%), Gaibandha 44(10.1%), Kurigragm 40(9.2%), Dinajpur 35(8.06%), Lalmonirhat 34(7.9%), Panchagarh 12(2.7%) and Thakurgaon 11(2.5%). Though the exact data of colorectal cancer patients is unknown a cross-sectional, descriptive study of 60 patients was conducted in the department of surgery, Mymensingh Medical College Hospital, Bangladesh from October 2011 to September 2012. Most of the patients (80.0%) were above 50 years of age. Male to female ratio was almost equal (1.3:1). The Rectum was the principal site of cancer (36.7%) followed by the sigmoid colon (33.3%). Cancer in the cecum and ascending colon were in 15.0% and 6.7% of patients, respectively. Adenocarcinoma was the principal histological type (88.0%) and 36.7% were well-differentiated carcinoma.[14]

Conclusion:

It found that the incidence of colorectal cancer is higher in males than females. The highest incidence of colorectal cancer is in the age group of 41–60 years. The most common site of colorectal cancer is carcinoma of the rectum. Adenocarcinoma is the most histopathological type of colorectal cancer in males and females. Incidence of the colorectal cancer in the Rangpur district is higher than in other districts of the Rangpur division. This is a small group study, further study of a large sample size may reflect the actual statistics of colorectal cancer.

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