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Study on Colorectal Cancer in Kashmiri (Indian) Patients Undergoing Colonoscopy.

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ABSTRACT

Background: Carcinoma of the colon and rectum is a relatively uncommon malignancy in Kashmir (north India) when compared with the western world. Colorectal cancer is generally a disease affecting individuals 55 years of age and older and is much less common in persons under 35 years of age. **Methods:** One hundred and fifty six colonoscopies were performed by a single gastroenterologist in GMC Srinagar. We find the anatomical distribution and age at diagnosis of colorectal cancer patients diagnosed by colonoscopy for evaluation of their symptoms in a teaching hospital in Kashmir India, Records of patients who had complete colonoscopic examination till the cecum, presence of tumor in the colon or rectum, and biopsy showing adenocarcinoma, were scrutinized. **Results:** Age-stratified incidence of CRC showed that majority of the cases were in the age group 55–65 years (30.76%), followed by 45-55 years (20.5%). There were 19 (12.2%) cases of CRC below the age of 35 years. **Conclusion:** Colorectal cancer (CRC) in Kashmiri (Indian) occurs at a younger age and is often distal to the splenic flexure.

Keywords:Colorectal cancer and Colonoscopy.

INTRODUCTION

The risk of development of colorectal cancer (CRC) in varies in literature. CRC is one of the most common forms of gastrointestinal malignancies in the world.[1] CRC is the third most common cancer in men (663,000 cases, 10.0% of the total cancers) and the second in women (570,000 cases, 9.4% of the total cases) worldwide.[2] Incidence rates of CRC vary 10-fold in both sexes worldwide, the highest rates being estimated in Australia/New Zealand and Western Europe, the lowest in Africa (except Southern Africa) and South-Central Asia.[2] Within Asia, the incidence rates of CRC vary widely and are uniformly low in all south Asian countries and high in all developed Asian countries. In the USA, CRC ranks as third most common overall cancer for the period 1992–2001.[3] Compared to the Western world, the incidence rates of colorectal cancer are low in India; for colon cancer they vary from 0.7 to 3.7/100,000 among men and 0.4 to 3/100,000 among women, and for rectal cancer from 1.6 to 5.5/100,000 among men and 0 to 2.8/100,000 among women.[4] The vast majority of patients with CRC are above the age of 55 years.[5] CRC occurring before age of forty years accounts for less than 10% of the total CRC.[6] It has been reported that CRC in the Asia-Pacific region and Africa occur a decade or more earlier compared to the USA.[7] The most common location of CRC is the left side of the colon including the rectum. However, reports from the West suggest that the tumor location of CRC is moving proximal to the splenic flexure.[8–10] Recent reports from Iran, Korea and Japan suggest that the proportion of proximal CRC is increasing in Asian countries as well.[11–13] We present our experience from 156 colonoscopies from a tertiary care hospital in North India, that were performed by a single qualified Gastroenterologist strictly adhering to ASGE's (American Society for Gastrointestinal Endoscopy) guidelines for lower GI examination.[14] Some of the quality metrics we followed included monitored withdrawal time, standardized bowel preparation, and all procedures being done under conscious IV sedation that allowed for adequate visualization of the entire colon. Only a few studies from India addressed age at diagnosis of CRC and their anatomical sub-site location.[4,8] Our aim was to

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basic demography of CRC patients, age, gender and anatomical sub site location of the tumor in patients during colonoscopy.

MATERIALS AND METHODS

This present study was conducted in the Department of Gastrointestinal sciences Govt. Medical College Srinagar, India during the period from 2007 to 2014. A total of 156 colonoscopies were performed by a single gastroenterologist at Department in Govt. Medical College Srinagar. We find the anatomical distribution and age at diagnosis of colorectal cancer patients diagnosed by colonoscopy for evaluation of their symptoms in a teaching hospital in India, Records of patients who had complete colonoscopic examination till the cecum, presence of tumor in the colon or rectum, and biopsy showing adenocarcinoma, were scrutinized. Patients who had incomplete colonoscopy, non-epithelial tumors of the colon and rectum and those with adenocarcinoma on a background of pre existing familial polyposis or inflammatory bowel disease were excluded. The case files, surgical notes, laboratory and imaging details of these patients were studied. Colonoscopies had been done by qualified gastroenterologists . Tumors occurring in the cecum, ascending colon, hepatic flexure, and transverse colon were classified as 'proximal CRC' and those in the splenic flexure, descending colon, sigmoid colon and rectum were grouped as 'distal CRC'. Data are reported as mean and standard deviation, numbers and percentage. Student's t-test and Chi-square test were used to compare variables. A p value of <0.05 was considered significant.

RESULTS&DISCUSSION

A total of 156 cases of adenocarcinoma of colorectum were identified from endoscopy(colonoscopy) according to inclusion and exclusion criteria. [Figure 1 & 2] shows the Baseline characteristics of the patients. Age-stratified incidence of CRC showed that majority of the cases were in the age group 55–65 years (30.76%), followed by 45-55 years (20.5%). There were 19 (12.2%) cases of CRC below the age of 35 years.

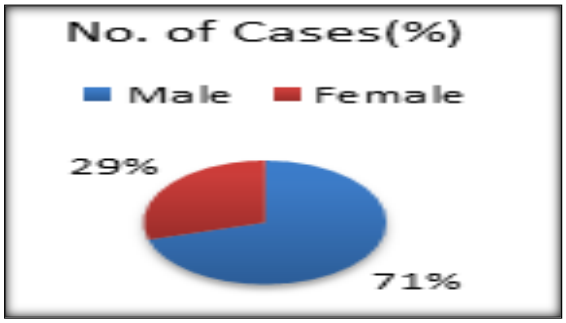

Figure 1: Shows the gender distribution

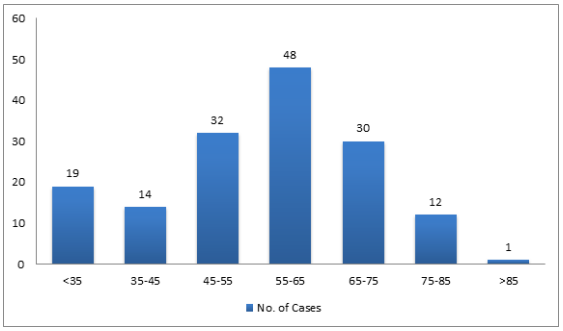

Figure 2: Age Distribution in Year.

Table 1: Comparison of proximal and distal colorectal tumors by colonoscopy.

Variables	Colorectal Tumors	
	Proximal (40)	Distal (116)
Gender		
Male	37	79
Female	13	27
Mean age (years)	55.26	58.54
Age ≤40 years	09	10
Clinical presentation (n)		
Bleeding per rectum	17	87
Constipation	08	42
Weight loss	19	37
Abdominal pain	14	44
Anorexia	18	40
Palpable mass	20	16
Hemoglobin (g/dL)	11.2	12.1

Table 2: Anatomic distribution of tumor as detected during colonoscopy and surgery

	Colonoscopy(%) n=156	Surgery(%) n=128
Proximal		
Cecum	8(5.12 %)	8(53.9%)
Ascending colon	18(11.5%)	16(12.5%)
Hepatic flexure	6(3.8%)	3(2.3%)
Transverse colon	6(3.8%)	3(2.3%)
Splenic flexure	2(1.3%)	1(0.8%)
Distal		
Descending colon	5(3.2 %)	3(2.3%)
Sigmoid colon	42(26.9%)	29(22.6%)
Rectum	69(44.2%)	65(50.8%)

[Table 1] Shows the one hundred and four 104(66.6%) patients presented with bleeding per rectum, 56 (35.9%) had lost significant weight and 50 (32.05%) had constipation. Bleeding per rectum and constipation were more often associated with distal CRC, whereas abdominal pain, anorexia, low hemoglobin and palpable abdominal mass were more often associated with proximal tumor. Multivariate logistic regression analysis showed that bleeding per rectum was associated with distal CRC and palpable mass with proximal CRC. Colonoscopy showed proliferated growth in 54.5%, ulcerated growth in 28.8%, and ulcer in 16.7%. Forty 40(25.6%) tumors were proximal CRC and One hundred & sixteen 116 (74.4%) were distal. [Table

2] shows the anatomic distribution of the tumor in each segment of the colon and rectum as found during colonoscopy and surgery.

In contrast to the United States of America or the UK, screening colonoscopy for asymptomatic individuals is not yet widely practiced in India. CRC is prevalent in Western developed countries.[16] Compared to the Western world India has a low incidence of CRC.[4] Reports from Japan and Korea suggest that the incidence of CRC is increasing in Asia.[17,18] We found that the age at presentation of CRC in Indians (54.5 years) was a decade earlier compared to non-African Americans in the USA (70.5 years).[19] Some studies from India have suggested that CRC may occur even earlier. Deo et al reported a mean age at presentation of 45.3 years.[20] One study from Srinagar noted that 68.7% of the CRC patients' age at diagnosis was between 41 and 60 years.[21] Similar to our observation, CRC in Asian and African countries occurs one decade earlier than in the Western population.[11,22] The risk of CRC increases with advancing age. In USA maximum incidence of CRC is seen in age group 70–79 years, compared to 55–65 year age group in the present study. In USA 90% of cancers occur in persons aged 50 years and older compared to 78.7% of CRC in the present study.[23] The most common location of CRC is left side of the colon and rectum. However reports from the West suggest that there is a shift of tumor location to proximal parts of the colon.[24–27] This trend has been noticed in Asian countries such as Korea11 and Japan.[13] In Japan the rightward shift was due to decrease in the proportion of rectal cancer.[28] In our study, 74.3% of CRC were located distal to splenic flexure, bringing them within the reach of the flexible sigmoidoscope. In a retrospective study comparing the anatomical distribution of CRC in whites and Chinese patients, the latter were found to have more distal CRC.[7] Majority of CRC from Malaysia, Iran, Japan, Africa, India, and Egypt are on the left side of the colon.[21,29] Symptoms and signs at presentation were different for proximal and distal CRC. Presence of bleeding per rectum and constipation were highly suggestive of distal CRC. Abdominal pain, anorexia, low hemoglobin, and a palpable mass were highly suggestive for proximal CRC. Multivariate logistic regression analysis showed bleeding per rectum associated with distal CRC and palpable mass with proximal CRC. Our study had some limitations, mainly because of its retrospective nature. Many details such as family history of CRC, presence of polyps on colonoscopy, metastasis, staging and prognosis and treatment details were incomplete. Nevertheless the study provides current data on the age and location of CRC in Indian patients. We believe that our data can therefore be used for head-to-head comparison with similar studies done in western populations.

CONCLUSION

These findings suggest that, the CRC in Kashmiri papolution (Indian) occurs at a younger age and is often distal to the splenic flexure. Colonoscopy showed proliferated growth in 54.5%, ulcerated growth in 28.8%, and ulcer in 16.7%. Forty 40(25.6%) tumors were proximal CRC and One hundred & sixteen 116 (74.4%) were distal.

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