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Original Research Article

Clinico-Pathological Study of Colorectal Cancer

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ABSTRACT

Colon cancer is cancer of the large intestine (colon), the lower part of digestive system. Rectal cancer is cancer of the last several inches of the colon. Together, they're often referred to as colorectal cancers. In spite of modern treatment modalities; it is a major cause of mortality and morbidity till date. The aim and objectives of this study were to find the age at presentation, incidence ratio between male and female, incidence of colon and rectal tumors, socioeconomic distribution and their histopathological pattern. This study was conducted on thirty patients of colorectal cancer admitted in Department of Surgery, Govt. Medical College and Associated Hospitals, Jammu. We concluded in our study that the peak incidence was in fifth decade with male preponderance, commonly seen in higher income groups Rectal carcinoma comprised 50% of the total colorectal carcinoma and histopathologically well-differentiated adenocarcinomas were the commonest.

Key words: Colorectal cancer (CRC), Adenocarcinomas.

INTRODUCTION

As reported by the International Agency for Research on Cancer, colorectal cancer (CRC) causes about 608,000 deaths worldwide per year, making it the fourth leading cause of cancer-related deaths after lung, stomach and liver cancer. [1] CRC is a tumor of older adults; its frequency peaks at age 65 years. Because CRC is rare in children and adolescents, it is frequently overlooked in the differential diagnosis of abdominal pain, weight loss, and anemia. [2] In spite of modern treatment modalities; it is a major cause of mortality and morbidity till date. [3]

The aim and objectives of this study were to find the age at presentation, incidence ratio between male and female, incidence of colon and rectal tumors and histopathological pattern.

MATERIALS AND METHODS

This study was conducted on thirty patients of colorectal cancer admitted in Department of Surgery, Govt. Medical College and Associated Hospitals, Jammu. All patients with history of bleeding per rectum, palpable mass and intestinal obstruction irrespective of age and sex were selected for this study.

Per-rectal examination was done in all 30 cases. Rectal biopsy was taken in 13 cases. Plain barium enema was done in 18 cases CATSCAN abdomen was done in 8 cases. Seven cases with abdominal lumps were subjected to fine needle aspiration cytology. Fourteen cases were admitted with obstructive symptoms two got relieved of obstructive symptoms within 24 hours after putting them on intravenous fluid and Ryle Tube Suction. In twelve patients who were not decompressed,

written consent was taken and exploratory laparotomy was done. Defunctioning transverse loop colostomy was done in eleven patients. One was subjected to total right and left colectomy with ileo-sigmoid anastomosis and one patient died in immediate post-operative period. Ten patients were subjected to second stage surgery.

Sixteen cases were admitted in routine admission. Pre-operative transfusions were given to all of them. Five right hemicolectomies, three left hemicolectomies, seven abdomino-perineal resections were done. Local resection with posterior vaginal wall excision was done in all who underwent surgical procedure. Tumor mass was sent for histopathology in 10% formalin solution for differentiation of tumor, depth of penetration or number of regional lymph-node involved.

Patients were followed- up for a period of 6 months for chemotherapy and find recurrences, if any.

RESULTS

Sex distribution of cases

SEX	21-30	31-40	41-50	51-60	61-70	71-80	Total
Males	4	2	4	5	3	1	19
Females	2	3	4	1	1	nil	11

Out of total 30 patients, 19 were males (63.3%) and 11 females (36.7%)

Age distribution of cases

Age	Males	Females
21-30	4	2
31-40	2	3
41-50	4	4
51-60	5	1
61-70	3	1
71-80	1	Nil

Average age of patients was between 41-50 years, with a range of 24-80 years. Peak incidence was found in fifth decade

Socioeconomic distribution of cases

No. of cases	Socio-economic status
20	Middle class
10	Lower class

Out of total 30 patients, 20 patients were from middle class (66%) and 10 patients (33%) from lower class.

Distribution depending upon Site

Site	Percentage
Ascending colon	5(16.6%)
Transverse colon	2(6.6%)
Descending colon	1(3.3%)
Sigmoid colon	7(23.3%)
Rectum	15(50%)

Rectal carcinoma comprised 50% of the total colorectal carcinomas followed by Sigmoid colon, Ascending colon. Transverse colon and Descending colon

Distribution of cases depending on Histopathological grading

Grading	No. of cases
Well differentiated	10
Moderately differentiated	5
Poorly differentiated	8
Mucin secreating	7

10 patients were having well-differentiated adenocarcinoma (33.3%), followed by poorly differentiated (26.6%), Mucin secreting (26%), Moderately differentiated (16.6%)

DISCUSSION

In the course of this study the peak incidence of the disease was found in 5th decade with a range of 24-80yrs, with equal sex ratio in this decade. However peak incidence of the disease in males was seen in 6th decade (16.6%) and among females it was 5th decade (13.3%). Males comprised 63.3% and females 36.7% with a ratio of 2:1. 20% of cases were seen below 30yrs of age. The likelihood of colorectal cancer diagnosis increases after the age of 40, increases progressively from age 40, rising sharply after age 50. More than 90% of colorectal cancer cases occur in people aged 50 or older. However, colorectal cancer appears to be increasing among younger persons. In fact, in the

United States, colorectal cancer is now one of the 10 most commonly diagnosed cancers among men and women aged 20 to 49 years. [4]

Rates remain higher in men than women and the male-to-female incidence rate ratio increases progressively across the colon from the cecum to the rectum. [5]

Sex ratio of approximately 2:1 in our study could be explained due to relatively larger number of recto-sigmoid tumors which are more commonly present in young males as reported by officer of population of census and survey 1981. [6]

Baquet 1991 reported that CRC rates are moderately higher in urban resident although socioeconomic is not a consistent risk factor for CRC in studies of US population. [7] Burkit (1971) studied the epidemiology of cancer of colon and rectum. A cross-sectional study was conducted on high and low socio-sectional status. He observed that disease was more common among high socio-economic status. Their close association with the refined diet characteristic of economic development suggests that the removal of dietary fiber may be a causative factor. [8] In this study 66.6% of patients were from middle class and 33.3% were from low class.

Variations in the classification of recto sigmoid growth create difficulties in determining the relative distribution of carcinoma of colon and rectum however, several studies have shown changing incidences rates vis-à-vis site of tumor. The result of the incidence of site of tumor in our study has been found consistent with study conducted by Frazier sir John. [9] In our study incidence of rectal carcinoma was 50%, same as reported by Frezier with a male: female ratio of 2:1 which is incidence consistent with the findings of Ponz-de Leon. [10] Sigmoid colon comprised 23%, right colon 16.6%. Synder et al. (1997) found that incidence rates of colorectal cancer have increased for cancer of right colon and sigmoid colon and decreased for those in rectum. [11] This may reflect differing susceptibilities to neoplastic transformation in the rectum and distal colon. Pornz de Leon, Sacchetti, Sassateli R et al in their study reported a strong preponderance of cancer in males for rectum but for colon it is equal in males and females. [10] In our study, right colon compromised of 16% which is lesser than that reported by Frezier S john [9] (25% rectal growth). Discrepancy could be explained on the basis of small number of cases in our study as compared to other series. However transverse colon and descending colon compromised of 6.6% and 3.3% same as that of above series. Schwrtz A M and Orenstein J M have reported incidence of well differentiated and poorly differentiated adenocarcinoma as 20% and 23%. [12] In our study incidence of well differentiated and poorly differentiated carcinoma were 33.3% and 26.6% respectively. Mucin secreting adenocarcinoma compromise 26.6% in our study. Sasaki O et al reported mucin secreting or colloid filled cells of adenocarcinoma as 18%. [13]

CONCLUSION

Thirty patients between age group of 20-70 years admitted in the Department of surgery, Govt. Medical College Hospital, Jammu formed the study material of this study. Peak incidence of the disease (colorectal carcinoma) was seen in age group of 40-50 years with a male female ratio of 2:1. Disease was prevalent more commonly among middle class who consumed high dietary fat and low fiber diet than among lower class thereby confirming the role of dietary fat as an important etiological factor. Rectal carcinoma comprised 50% of the total colorectal carcinoma and histopathologically well-differentiated adenocarcinomas were the commonest.

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