Clinicopathological study of colorectal carcinoma

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Abstract

Colorectal carcinoma is one of the most frequent malignancies in the world. It is the second foremost cause of cancer mortality in the United States. The incidence of colorectal cancer in India is lower than that in the western countries, and it is the seventh leading cancer in India, but apart from geographical variations, the incidences are rising rapidly in India.Incidence rate varies with age, gender and race. Colorectal cancer is the third most common cancer in men (746,000 cases, 10.0% of the total) and the second in women (614,000 cases, 9.2% of the total) worldwide.Hence, colorectal cancer poses a severe concern to public health. China and India, have relatively low incidence rates of 14.2 and 6.1 cases per 100,000 men and women, respectively.

Keywords: Colorectal carcinoma, Adenomatous polyps, Prognosis.

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Introduction

Colorectal carcinoma is one of the most frequent malignancies in the world. It is the second foremost cause of cancer mortality in the United States. The incidence of colorectal cancer in India is lower than that in the western countries, and it is the seventh leading cancer in India, but apart from geographical variations, the incidences are rising rapidly in India [1].Incidence rate varies with age, gender and race. Colorectal cancer is the third most common cancer in men (746,000 cases, 10.0% of the total) and the second in women (614,000 cases, 9.2% of the total) worldwide [2]. Hence, colorectal cancer poses a severe concern to public health. China and India, have relatively low incidence rates of 14.2 and 6.1 cases per 100,000 men and women, respectively. But as their economies have developed, their incidence of colorectal cancer has increased.

Colorectal cancer is the cancer of the colon and/or rectum which begins with the development of pre-cancerous polyps from the lining of the colon and rectum. These cancers can also be named colon cancer or rectal cancer, depending on where they start site of origin. It's the pathogenesis of colorectal cancer is influenced by hereditary or genetic and environmental or acquired factors [3]. An individual with a history of adenomatous polyps or inflammatory bowel disease has an increased risk of developing colorectal cancer compared to an individual with no history of either. This type of cancer cells may in the long run multiply to regional lymph nodes and later to more distant lymph nodes and in the other organs. Symptoms of colorectal cancer includes altered bowel habits like diarrhea/ constipation, tenesmus (feeling of incomplete defecation), malena/ hematochezia, abdominal pain with bloating sensation, loss of appetite with early satiety, unexplained significant weight loss and unexplained iron deficiency anaemia.

Several factors have been shown to put individuals at risk to Colorectal cancers and these include age, the presence of polyps, inflammatory bowel disease, lifestyle, genetic background and family medical history. Environmental factors such as obesity, physical inactivity, poor diet, smoking and heavy alcohol consumption account for approximately 80% of all colorectal cancer cases. Genetic susceptibility is associated with Familial Adenomatous Polyposis (FAP) and Lynch Syndrome (Hereditary Non-Polyposis Colorectal Cancer (HNPCC) which accounts for 10% of all colorectal cancer cases. Individuals who have these diseases have an increased lifetime risk of CRC of up to 80% [4].

The treatment, prognosis and survival rate largely depends on the stage of disease at diagnosis. Screening for colorectal cancer is particularly effective. Screening can detect cancer in early stages occurring as it can detect adenomatous polyps that can be successfully removed thereby removing the potential source of malignancy. Treatment for colorectal cancer varies according to tumor location and stage at diagnosis. Depending upon the stage of the disease, the patient undergoes multimodal treatment, surgery, chemotherapy, radiotherapy and hormonal therapy. Surgical removal of tumor and nearby lymph nodes is mainstay of treatment for early stage of colorectal cancer. However, even after a potentially curative surgery alone, up to 50% patients will ultimately relapse and die of metastatic disease.

The survival of colorectal cancer greatly rely on the stage of the disease at diagnosis and typically ranges from a 90% 5-year survival rate for cancers detected at the localized stage; 70% for regional; to 10% for people diagnosed for distant metastatic cancer [5]. Survival for colorectal cancer has increased substantially and has been better in countries with high life-expectancy and good access to modern specialized health care.Only a few studies from India retrospectively reviewed the incidences of colorectal cancer. Although exact incidence rate cannot be provided by a hospital-based study, the information would be useful in showing patterns of malignancies in our region. This study is designed to describe the distribution of the colorectal carcinoma while considering age, gender, site of

tumor, tumor pathology and other related diseases in a retrospective fashion.

Materials and Methods

This was prospective observational study carried out from July 2017 to October 2019. All patients who were diagnosed as a case of colorectal carcinoma were included in the study. Detailed history of the patients was recorded including age, sex, chief complaints like pain in abdomen, per rectal bleed, lump in abdomen. A standardized sequence of clinical examination was chosen. Patients were examined with respect to details including abdominal lump, bleeding per rectum, mass per rectum and pallor. During the course of study of the total 40 patients (male and female) included in the present work after detail history and physical examination. Patients was subjected for Ultrasound was done for each and every patient to rule out liver metastasis and lymph node status. Colonoscopy was done to know the site and type of growth. Colonoscopic biopsy was taken and sent for histopathological examination. Rectal growths were taken for tissue diagnosis. CT scan was done to assess location, thickness/length of growth. Lymphovascular status, spread, liver metastasis and ascitis. Operable cases were subjected to surgical resection after inter departmental tumor board discussion. Rest were subjected for chemotherapy/radiotherapy.post operative histopathalogical report was confirmed in respect to type of growth, lymph node status, margins. As per the advice from tumour board. Patients were followed up according to ASCO guidelines after 1st, 3rd and 6th months [6]. During 1st and 3rd months. Patient underwent USG and serum CEA was sent to rule out any metastasis and recurrence. At 6th month a CT was added.

Type of study

Prospective observational: Observation those recorded and defected in the study in the form of table, graph, and p value calculated by using a software SPSS Version 24 and statistical data recorded by SPSS Version 24.

Study population

Inclusion criteria: All patients coming with symptoms of colorectal malignancy and diagnosed as colorectal carcinoma at our hospital.

Exclusion criteria: Patients already diagnosed and treated with either surgery or chemoradiation for colorectal malignancy elsewhere will be excluded from the study.

Results

Gender

In this study (Table 2), it was observed that out of 40 cases studied 70% were male patients and 30% were female patients showing that males outnumbered females with a male to female ratio of 2.75:1.25 (Figure 1).

Gender	No of patients	Percentage
Male	28	70
Female	12	30
Total	40	100

Table 2. Distribution of patients according to their gender.

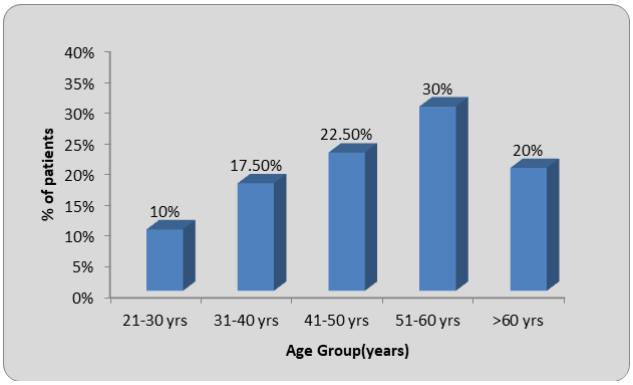

Figure 1: Distribution of patients according to age in years

Discussion

Age

In the present study, it was observed that the mean age of presentation of CRC was 50.90 ± 14.82 (24-87 years), the youngest patient being 24years old and oldest patient being 87 years old. According to a study done by Shyamal [7] a total of 192 patients were included in the study and it was observed that mean age of presentation of CRC was 44.1 years, the youngest patient being 14 years old and oldest patient being 79 years old. In a study conducted by to Muhammad Saleem Shaikh [8] done on 363 patients mean age of presentation of CRC was 56 ± 12.217 (17-88 years) years a mean age of 47 years for males and 51 years for females with a male. Dev Suryanarayana study [9] on 89 patients observed that mean age of presentation of colorectal carcinoma was 45.4 years (age ranging from 18-88 years).

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In studies done by Jessica B. O'Connell [11], it was found that there was no significant difference in gender distribution with respect to the incidence of colorectal carcinoma between the genders, with a cumulative total of around 2,554 men (51.4%) and around 2,497 women (48.6%). In Ashutosh Mukherjee study, 53% of patients were females and 47% were males showing female preponderance.

Study conducted by Tapas Patra [12] revealed that 61.2% were males and 38.8% were females suggesting that females

contributed less when compared to males in colorectal carcinomas.

Conclusion

The incidence of colorectal cancer is lower in India as compared to the western countries where in the leading cause of mortality is second cause of cancer mortality.

However the success rate of detecting early stage colorectal cancer is poor in our country as compared to western world. This is mainly because the symptomatology of colorectal cancer and benign colorectal diseases often overlap second, routine screening programs to detect early colorectal cancer are not followed religiously. The incidence of genetically transmitted colorectal cancer is not common amongst the Indian population, especially in our area.

The age group affected by colorectal cancer in our study appear younger i.e more common in 31 to 40 years and 41 to 50 years affecting male population at their earning stage of the life. Because of limitations on period of compilation of data, the follow up period for the patient who underwent successful treatment in initial months, longtime follow up as per ASCO guidelines cannot be matched. However, early detection of colorectal malignancy and radical surgery well benefit the patients before they become grossly symptomatic.

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