

Association Analysis between Age and Colorectal Cancer

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ABSTRACT

Background: Colorectal cancer is the commonest gastro-intestinal neoplasm. Incidence of colorectal cancer has increased among people having age <50 years in past several years, who mostly present with advanced stage. This trend is very alarming.

Aim: To determine the association of age with colorectal cancer in patients referred to a tertiary care hospital.

Study Design: Longitudinal, retrospective study

Place and duration of study: Department of Radiotherapy and Oncology, Nishtar Medical University Multan from 1st June 2018 to 28th February 2019.

Methodology: Seventy patients with confirmed diagnosis of colorectal cancer were recruited. Data regarding baseline patient's demographics, presenting symptoms, diet intake history was taken for each patient. Patients having age <40 years were labelled as young. Frequency and percentages were calculated for age groups, diet intake and presenting symptoms.

Results: There were 54(77.15%) patients who were having age <40 years, there were 16(22.85%) patients who were having age 40-55 years. Regarding presenting symptoms, main presenting symptom was bleeding per rectum in 60(85.71%) patients, constipation in 50(71.42%), and paradoxical diarrhoea in 10(14.28%) patients. There were 50(71.42%) patients who were having history of red meat intake.

Conclusion: Incidence of colorectal cancer is now very high in young age. In present study we found colorectal cancer in 77.15% patients having age <40 years.

Keywords: Colorectal cancer, Young age, Tertiary care hospital

INTRODUCTION

It is estimated that 1.36 million new cases are found of colorectal cancer worldwide per year¹. Pakistan is located in the low risk region of colorectal cancer (CRC) like all other South Asian countries. In the case of patients over the age of 50 in Pakistan, however, recent studies have suggested a surge of CRCs². High risk of occurrence of CRC is associated with high intakes of preserved food, animal fats, smoking, high consumption of alcohol and inflammatory bowel diseases. Also important contributors to the risk factors are decreasing physical activity levels, combined with important increase in the prevalence of obesity³. In Pakistani culture these risk factors are much more prevalent. Thus, in the next few decades, a rapid increase in CRC cases is projected².

An estimated 36,360 new colorectal cancers were reported in Brazil between 2018 and 2019, 17,380 were reported in men and 18,980 were reported in women. The risk for each 100,000 men and 17.90 for each 100,000 women is 16.83 new cases, these values correlates to the risk. It is men's third and female's second most common cancer⁴.

The CRC incidence is well founded on the literature and continues to rise dramatically following fifth decade of life^{5,6}. While historically 50 years of average recommended age for initiation screening are, over 1/10 (11% of colon tumours and 18% of rectal tumours) in individuals under 50 years of age occur and the incidence and mortality of this population increased^{7,8}.

Colorectal cancer per 100,000 people ranges from 0.85 (20-24 years) to 28.8 (45-49 years) in the United States in patients under the age of 50 years. National Cancer Institute statistics show that between 1987 and 2006, in all age groups

(grouping into five-year ranges) between the ages of 20 and 49, CRC incidence increased significantly. The group aged 40 to 44 years has seen the most substantial growth, with 10.7 inhabitants per 100,000 in 1988 and 17.9 in 2006 per 100,000⁵.

Approximately 15 to 20 percent of CRC patients of all ages have a colorectal neoplastic history in their families⁹. Colorectal cancer is a heterogeneous community of diseases in young patients. The majority of cases, in fact the majority of patients with sporadic illness, are responsible for genetic and inherited syndromes. The development of the CRC is affected by genetic and environmental factors^{9,10}. Age is not yet recognized worldwide as a CRC independent risk. Furthermore, the early CRC diagnosis sometimes is missed as the signs are not known to be delayed diagnosis and the beginning of therapy, as both the clinician and patient themselves are not taken seriously¹¹. The goal of this study is to create the connection between age and colorectal cancer in patients in a Pakistan Tertiary Care Hospital.

MATERIALS AND METHODS

This longitudinal, retrospectively study conducted at Department of Radiotherapy and Oncology, Nishtar Medical University Multan from 1st June 2018 to 28th February 2019. A total number of 70 patients with confirmed diagnosis of colorectal cancer were recruited. Data regarding baseline patient's demographics, presenting symptoms, diet intake history was taken. Patients having age <40 years were labelled as young. Patients were divided into three groups; <40 years, 40-55 years and >55 years. Data was entered and analyzed through SPSS-23.

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RESULTS

There were 54(77.15%) patients who were having age <40 years, there were 16(22.85%) patients who were having age 40-55 years. There were 50(71.42%) patients who were having history of red meat intake and remaining 20(28.58%) patients were having mainly fibre intake. Regarding presenting symptoms, main presenting symptom was bleeding per rectum in 60(85.71%) patients, constipation in 50(71.42%), paradoxical diarrhoea in 10(14.28%) patients, diarrhoea in 04 (05.71%) patients and only abdominal pain in 06 (8.57%) patients (Table 1).

Table 1: Baseline data of study participants (n=70)

Variable	No.	%
Age (years)		
<40	54	77.15
40-55	16	22.85
>55	-	-
Intake history		
Red Meat intake	50	71.42
Fibre Intake	20	28.58
Previous history		
Constipation	50	71.42
Diarrhoea	4	5.71
Paradoxical diarrhoea	10	14.28
Bleeding per rectum	60	85.71
Only Abdominal pain	06	8.57

DISCUSSION

Pakistan is situated in the lower CRC region along with other Asian countries. Nevertheless, Bhurgri et al² recorded a significant increase of the incidence of CRC in Pakistan in excess of 50 years. According to Hagggar et al³ the increased consumption of preserved foods, the consumption of alcohol, an increase in the intake of meat from animals and obesity are CRC risks factors. And the incidence of CRC is now expected to increase in Pakistan in the next future.

A recent study by Hasan et al¹³ has found that the population of Pakistan has less knowledge of CRC. They also found that men have a lower cancer awareness compared with women. This disparity in awareness could be attributed to numerous cancer awareness programmes.

A research by Bailey et al¹⁴ predicted a rise of colon and rectal cancer by 90% and 24.2% for patients aged between 20 and 34, and 27.7% and 46% for patients aged between 35 and 49 years, respectively by 2030.

Hagggar et al³ collected data from 13 registries of cancer and recorded 1.5% increase of the CRC incidence for 100,000 men per year and 1.6% increase for women per year between 1992-2005.

The frequent consumption of red meat in 71.42% of patients was noticed in this report. Some other studies have also identified repeated consumption of red meat as a risk factor for CRC^{15,16}. In this study, 77.15% were <40 years of age and 22.85% were patients 40-55 years of age. No patients > 55 years of age have been present.

Bhurgri et al² conducted a study in Karachi Pakistan, with data from 1995 to 2002, finding that only 5.0% of CRC patients were <50 years of age, 50% were 50 to 60 years of age and 30% were >60 years of age. One patient was 15-19 years old. They found an age ratio of <40 and >40 years, suggesting that young people now face higher CRC risks. In addition, in

younger patients with low distinction they found advanced stage CRC.

We may infer from the listed literature that awareness campaigns on cancer are enormous. In addition, the role of doctors is also extremely critical in reducing obstacles for screening for CRC in the general population.^{16,17} The patients' familiarity with the serious nature of their disease and its complications are also increased.

CONCLUSION

The incidence of colorectal cancer is now very high in young age. We found colorectal cancer in 77.15% patients having age <40 years.

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