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Research Article

**ANALYSIS OF COLORECTAL CARCINOMA IN PATIENTS  
BELOW 40 YEARS OF AGE WITH SUSPECTED CLINICAL  
FEATURES**<sup>1</sup>Dr Zeeshan Rasul Awan, <sup>2</sup>Dr Hassan Mohsin, <sup>3</sup>Dr Muhammad Muddassar Shafiq

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**Abstract:**

**Objectives of the study:** The main objective of the study is to analyse the colorectal carcinoma in patients below 40 years of age with suspected clinical features.

**Methodology of the study:** This descriptive study was conducted in Health department Punjab during 2018 to 2019. Hospital records of patients under the age of 40 years who underwent CRC operations were included in this study. Specifically, the following documents were reviewed; admission notes, operative notes, discharge summaries, endoscopy records, and pathology reports. The main study variables included: demographics, presenting symptoms leading to diagnosis, family history of CRC, tumor location, type of surgical resection, stage and differentiation of disease, and post-operative complications.

**Results:** One hundred eighty patients under 40 years of age (87 females, 93 males; range 17-49 years; mean 40.4 ± 3.2 years) underwent a CRC operation. When the total population of 180 patients under age 40 is considered, the distribution of CRC within age categories is as follows: under age 30 years, 8 patients (4%); age 30-39 years, 46 patients (26%); age 40-49 years, 126 (70%). Of note, 30% of the patients were younger than 40 years of age. One hundred and seventy patients (94%) reported symptoms upon presentation. **Conclusion:** It is concluded that the incidence of rectal and rectosigmoid cancer appears to be increasing in patients aged less than 40. Data confirms that in an ethnically diverse young population, CRC tends to be at an advanced stage, aggressive and frequently non-operable at the time of diagnosis.

**Corresponding author:**

Dr. Zeeshan Rasul Awan,

QR code



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**INTRODUCTION:**

Colorectal cancer (CRC) remains a notable source of morbidity and mortality worldwide. CRC is consistently the third most commonly diagnosed cancer in the United States. The American Cancer Society estimated that there would be 103170 new cases of colon and 40290 new cases of rectal cancer in 2012; in addition, 51690 deaths were predicted. Although common, the overall incidence of CRC in the general population declined by 2.9% in men and 2.2% per year in women between 1998 and 2009 [1]. An increase in the proportion of the population undergoing screening colonoscopy and the removal of benign precancerous polyps is thought to account for, at least, part of this decrease.

Patients with a first degree family history of CRC are advised to begin screening colonoscopy at age 40 or 10 years prior to the youngest age at which a family member with CRC was diagnosed [2]. In addition, screening programs for CRC are now widely implemented for “average risk” patients, defined as those without a first degree family history of CRC or other risk factors, other than age. Universally, it is advised that screening begin at age 50 years for “average risk” patients [3]. Asymptomatic patients under 50 years of age without a family history are excluded from almost all screening programs. Perhaps, in part, because of the age 50 years cut off many patients and doctors have a low index of suspicion for CRC in young patients without family history who present with bleeding or other symptoms. It is also the impression of many doctors and patients that the majority of young patients who develop CRC have a positive family history [4]. Although less common than in older patients, sporadic CRC accounts for the majority of cases in patients under age 50 years.

Colorectal cancer (CRC) is the commonest malignancy in the gastrointestinal tract and the third leading cause of cancer associated death in the world. Usually, CRC is thought as a common disease affecting old people, with most cases diagnosed during the 5<sup>th</sup> and 6<sup>th</sup> decades and a higher prevalence among men [5]. Therefore, it is often thought of as a disease of the elderly, what makes screening not usually recommended for those individuals younger than 50

years, considered to have an average risk of carcinogenesis. Colorectal cancer (CRC), also known as colon cancer or large bowel cancer, includes cancerous growth in the colon, rectum and appendix. With about 65000 deaths per year, it is the fourth most common neoplasm worldwide and second leading cause of cancer-related deaths in the United States [6].

**Objectives of the study:**

The main objective of the study is to analyse the colorectal carcinoma in patients below 40 years of age with suspected clinical features.

**METHODOLOGY OF THE STUDY:**

This descriptive study was conducted in Health department Punjab during 2018 to 2019. Hospital records of patients under the age of 40 years who underwent CRC operations were included in this study. Specifically, the following documents were reviewed; admission notes, operative notes, discharge summaries, endoscopy records, and pathology reports. The main study variables included: demographics, presenting symptoms leading to diagnosis, family history of CRC, tumor location, type of surgical resection, stage and differentiation of disease, and post-operative complications. Patients with inflammatory bowel disease or known polyposis syndromes such as familial adenomatous polyposis syndrome, Gardner’s syndrome and the like were excluded from the study.

**Statistical analysis**

Statistical methods for comparing stage and tumor distribution between the under age 40 years and the 50 and over years groups included a 2-proportion Z test.

**RESULTS:**

One hundred eighty patients under 40 years of age (87 females, 93 males; range 17-49 years; mean  $40.4 \pm 3.2$  years) underwent a CRC operation. When the total population of 180 patients under age 40 is considered, the distribution of CRC within age categories is as follows: under age 30 years, 8 patients (4%); age 30-39 years, 46 patients (26%); age 40-49 years, 126 (70%). Of note, 30% of the patients were younger than 40 years of age. One hundred and seventy patients (94%) reported symptoms upon presentation.

**Table 01: Patients' presenting signs and symptoms of colorectal cancer n (%)**

Clinical presentation	Patients
Rectal bleeding	99 (57)
Anemia	19 (11)
Abdominal pain	54 (31)
Rectal pain	7 (4)
Change in bowel habits	37 (21)
Weight loss	20 (11)
Bowel obstruction	16 (9)
Perforation	5 (3)
Perforated diverticulitis	1 (0.6)
Screening	5 (3)
Unknown	7 (4)

**Table 02: Colorectal cancer staging n (%)**

Present series	Value	SEER <sup>2</sup>	Value
Age < 50 yr			
Stage 1 <sup>1</sup>	37 (21)	Localized	30%
Stage 2	47 (26)	Regional	40%
Stage 3	70 (39)	Distant	27%
Stage 4	26 (14)	Unstaged	3%
Age ≥ 50 yr			
Stage 1	88 (22)	Localized	38%
Stage 2	143 (36)	Regional	37%
Stage 3	135 (34)	Distant	19%
Stage 4	26 (7)	Unstaged	6%

**DISCUSSION:**

The definition of what age would be considered young for a patient developing CRC is controversial. In an interesting retrospective study, O'Connell *et al.* collected data on 6425 patients from 55 manuscripts in the literature. While the majority of articles (n=37) defined "young" those patients under 40 years of age, four articles (7%) focused attention on patients younger than 35 years, 14 articles (25%) looked at patients before 30 years and only one article looked at patients before 25 years [7].

According to the literature, a non-worthless fraction of CRC patients are diagnosed before 40 years in approximately 0.8 to 14.6%. Furthermore, recent publications have documented a disproportional increase in CRC incidence among young people. Especially within this young group, one recognizes the need to investigate if the malignancy represents an apparent sporadic CRC or if it is associated with some form of hereditary CRC (mainly Familial Adenomatous Polyposis or Lynch Syndrome) or inflammatory bowel disease [8].

Attempts to describe clinical, pathological and molecular features in young patients have reached controversial conclusions regarding tumour grade and disease stage at diagnosis. So far, there is no consensus if age should be considered an adverse independent prognostic factor if other features such as topography and staging are considered together [9]. However, it is commonly accepted that diagnosis in young patients is always difficult, because both patient and the doctor usually don't give credit to the presenting symptoms, leading to a frequent unfavourable outcome of the disease [10].

**CONCLUSION:**

It is concluded that the incidence of rectal and rectosigmoid cancer appears to be increasing in patients aged less than 40. Data confirms that in an ethnically diverse young population, CRC tends to be at an advanced stage, aggressive and frequently non-operable at the time of diagnosis. It is important for physicians to recognise the poor outcome of CRC in a younger population and consider an aggressive approach to early diagnosis and treatment.

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