



Short Communication

## Profile of Colorectal Cancer among Yemeni Patients: Five Year of Experience

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## Abstract

**Background:** Colorectal cancer is the third most common malignancy, after lung and breast cancers, in the developing countries including Yemen. However, no nation-wide figures about this lethal disease.

**Aim:** This work was aimed to study the profile of colorectal carcinoma among Yemeni patients from our five years of experience in the management of the disease.

**Methods:** We retrospectively analyzed the clinical features, management, and outcomes of 164 patients diagnosed with colorectal carcinoma and operated upon at Thamar University Al-Whadah Teaching Hospital, Dhamar, and Al-Kuwait Teaching Hospital, Sana'a, between 2003 and 2008.

**Results:** This study reported that 64 cases (39.02%) were less than 40 years of age and 100 patients (60.98%) were 40 years or older. Sites of pathology were cecum (11; 6.71%), ascending colon and hepatic flexure (15; 9.15%), transverse colon (9; 5.49%), splenic flexure (4; 2.44%), descending colon (11; 6.71%), sigmoid colon (38; 23.17%), rectosigmoid junction (21; 12.80%) and rectum (55; 33.54%). Potentially-curative surgery was performed in 124 cases (75.61%). Forty (40; 24.39%) metastatic cases were reported.

**Conclusion:** Colorectal cancer in Yemen is on the rise, this highlights the need for more extensive screening programs especially in the high-risk groups.

**Keywords:** Colorectal Cancer, Yemen

## 1. Introduction

Colorectal cancer (CRC) is one of the most important public health issues affecting human worldwide. After lung and breast cancers, colorectal cancer is the third most common cancer with 1.8 million new cases in 2018 [1]. There are about one to two million new cases being diagnosed yearly and more than half a million death [2]. CRC mostly affects western countries with high incidence is being reported in some developing countries [2]. Many risk factors for CRC are suggested such as age (past the fifth decade of life), inflammatory bowel diseases, a positive family history of CRC, adenomatous polyp or an inactive lifestyle [3,4]. However, sporadic (nonhereditary) colorectal cancer represents about 75% of the reported cases.

In Yemen, there are a little information about CRC. A pervious study was carried out in Aden concluding that CRC is the leading digestive system cancer [5]. This study, the profile of colorectal carcinoma among Yemeni patients from our five years of experience in the management of the disease at Thamar University Al-Whadah Teaching Hospital, Dhamar, and Al-Kuwait Teaching Hospital, Sana'a.

## 2. Methods

A It was a retrospective study carried out to analyze the clinical features, management, and outcomes of 164 patients at Thamar University Al-Whadah Teaching Hospital and Al-Kuwait Teaching Hospital between 2003 and 2008 diagnosed with colorectal carcinoma and operated upon. Data on age of the patients were recorded.

Mode of presentation, site of the pathology, surgical procedures, were reported. Patients were followed-up for 6-18 months: Clinical examination, chest x-ray, pelvic-abdominal U.S./ C.T. (+/-), CEA and colonoscopy. Median follow-up was 12 months. Thirty-four patients were lost to follow-up. Preoperative investigations included laboratory investigations, and CEA. Imaging involved chest x-ray, abdominal ultrasonography, barium enema, IVP for sigmoid and rectal lesions, CT. abdomen and pelvis as well as colonoscopy and biopsy.

### 3. Results

The study showed that 64 of the 164 cases (39.02%) of colorectal cancer were younger than 40 years of age. The remaining 100 patients (60.98%) were 40 years or older. Mode of presentation of the study cases is shown in Table 1. The majority (132/164; 80.45%) of the CRC cases were presented electively. However, 20 and 12 of the patients were presented in an emergency setting or by peritonitis, respectively.

**Table 1: Mode of presentation of the colorectal cancer cases participated in the study (n =164)**

Mode of presentation	Frequency (%)
Patients presented electively (n = 132)	80.45
Abdominal pain	44
Change in bowel habits	43
Hematochezia or melena	40
Weakness and weight loss	20
Anemia without GI symptoms	11
Hemorrhoids	7
Palpable abdominal mass	5
Patients presented in an emergency setting (n = 20)	12.20
Patients presented by peritonitis (n = 12)	7.32

Table 2 shows the site of the pathology of CRC among the study cases. Rectum showed the highest frequency of the cancer 55 (33.54%) followed by sigmoid colon (38/164; 23.17%), rectosigmoid junction (21/164; 12.80%), ascending colon and hepatic flexure (15/164; 9.15%), transverse colon (9/164; 5.49%), cecum (11/164; 6.71%) as well as descending colon (11/164; 6.71%), and splenic flexure (4/164; 2.42%).

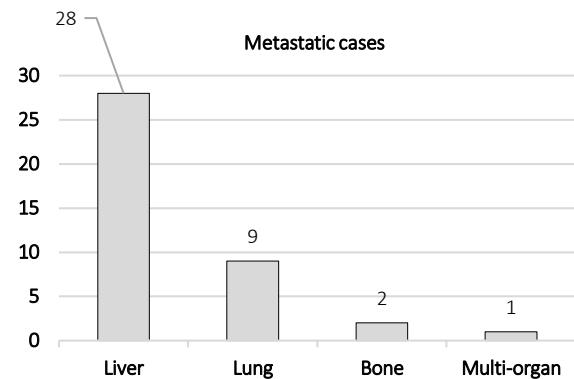
**Table 2: Site of pathology of the colorectal cancer among the patients participated in this study (n = 164)**

Site of the pathology	Frequency (%)
Cecum	11 (6.71%)
Ascending colon and hepatic flexure	15 (9.15%)
Transverse colon	9 (5.49%)
Splenic flexure	4 (2.42%)
Descending colon	11 (6.71%)
Sigmoid colon	38 (23.17%)
Rectosigmoid junction	21 (12.80%)
Rectum	55 (33.54%)
Upper and middle third (28/55; 51%)	
Lower third (27/55; 49%)	

Potentially-curative surgery was performed in 124 cases (75.61%) (i.e. excluding metastatic & inoperable cases) as the following: right hemicolectomy (cecal and ascending colon), extended right hemicolectomy (hepatic

flexure); in one case the tumor infiltrated the right lobe of the liver and anterior wall of the second part of the duodenum; subtotal colectomy in three cases with synchronous cancers in the Rt. & Lt. colons; left hemicolectomy (descending colon carcinoma); anterior resection (sigmoid, rectosigmoid, upper and middle rectal cancers). As well, lower third rectal cancer: low anterior resection in 10 cases; abdominoperineal resection in 13 cases; and three cases with low rectal cancer were inoperable, and two of them were young aged (17 and 23 years) and the 3rd case was 51 years.

As shown in Figure 1, 40 metastatic cases were detected. Isolated liver metastases were reported in 28 cases as follows: left lobe metastases in 15 cases (10 cases underwent partial lobectomy and five cases had left hepatic lobectomy); right lobe metastases in 10 cases (three patients underwent partial Rt. hepatectomy and the other seven cases had cirrhotic liver; and both lobes in three cases. Accordingly, lung metastases were detected in nine cases, bone metastases in two cases and multi-organ metastasis in one case.



**Figure 1: Colorectal metastatic cases reported among the study patients (n = 40)**

### 4. Discussion

Despite limitations of this study, it is showed important descriptive results about colorectal cancer in Yemen. The study showed that the occurrence of CRC among the patients younger than 40 years (39%) was higher than that reported in previous study in Yemen, Aden, (28%) as well as in Egypt 38% and Saudi Arabia (21.4%) [5-7]. The findings also revealed that CRC is the most common cancer in rectum. These results were in agreement with previous study carried out in Yemen by Basaleem and Al-Sakkaf [5]. The rises in CRC incidence can be related to the influence of lifestyle factors and dietary patterns [8]. In Yemen, khat chewing habit can be considered as another risk factor for CRC, where using of chemical pesticides in khat cultivation is widespread.

Further detailed studies are highly recommended in order to investigate the potential risk factors for CRC as well as the knowledge, attitude and practice of the population about the nature of the disease, risk factors, preventative measures. In-depth histopathological and

staging studies are required.

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#### Competing interests

The authors declare that they have no competing interests.

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