المجلة الإلكترونية الشاملة متعددة التخصصات
العدد الخمسون شهر (٨) ٢٠٢٢

Clinical and Demographic Profile of Colorectal Cancer

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Abstract

Background: colorectal cancer is a major cause of mortality and morbidity throughout the world and the incidence is increasing in developing countries including Libya. **Objective:** The aim of this study was to analysis the incidence of colorectal cancer among the Libyan patient in National Cancer Institute (NCI). **Material and Methods:** A retrospective cross-sectional study where all colorectal cancer cases from January 2013 to December 2013 presented to all surgical and oncological department of (NCI) were reviewed. The records of subjects were analyzed for information on their demographic, clinical and pathological parameters. **Results:** In all, 47 cases of colorectal cancer were identified. The mean patient age of study was 54 and ranged from 27- 80 years. 91% of the patients were over 40 years old. Male incidence was 22 (47%) and 2% of the cases showed records of family history of cancer and the prevalence of comorbidities Diabetes Mellitus, Hypertension and Ulcerative Colitis were 5 (11%). The major clinical symptoms presented were; constipation (30%), Per-rectal bleeding (26%) and abdominal pain (15%). Majority of the patient presented with Recto-sigmoid cancer 38 (80%). The Rectum and Sigmoid were the most common anatomical sites for colorectal cancer each 40%, followed by Cecum 4 (9%), Hepatic flexure 4 (9%) and descending colon 1 (2%). However, Adenocarcinoma was the main histopathological tumor in all patients. Majority showed moderate differentiation 25 (53%). According to TUMOUR NODE METASTASIS staging of cancer majority of the patients 32 (68%) were in late stage (M1) and Liver was the most common metastatic site (80%). Conclusion: Overall, our study has established that, there is middle age predominance, slightly higher incidence among females, Distal colon disease and obstructive symptoms were main presenting complaints and unfortunately late staged presentation among colorectal cancer patients.

Keywords*: Colorectal Cancer, Misurata, Demography*

INTRODUCTION

Colorectal cancer is one of the most common pathological problems in the world particularly in western countries. More than 1 million new cases worldwide. Colorectal cancer (CRC) is contributing to 13% of all cancers (Boyle & Ferlay, 2005; Hamilton & Aaltonen, 2000; Parkin et al., 2005). It is well known that the colon cancer more frequently in male than female patients, and its prevalence increases with age in both genders. Over thirty percent of patients with CRC are over the age of 70 in the Western world (Boyle & Ferlay, 2005; Abir, 2004; Finnish cancer registry, (2007); Kiran et al., 2007). The term colorectal cancer refers to slowly developing cancer that begins as a tumor or tissue growth on the inner lining of the rectum or colon (Walker & Quirke, 2002). If this abnormal growth, known as a polyp, eventually becomes cancerous, it can form a tumor on the wall of the rectum or colon, and subsequently grows into blood vessels or lymph vessels, increasing the chance of metastasis to other anatomical sites (Walker & Quirke, 2002; American Cancer Society, 2014). Of the cancers that begin in the colorectal region, the vast majority (over 95%) are classified as adenocarcinomas (Walker & Quirke, 2002). These begin in the mucus-making glands lining the colon and rectum (Walker & Quirke, 2002; What is colorectal cancer?, 2016). Colorectal carcinoma (CRC) is the most common malignancy of gastrointestinal tract. It is the second most common cancer in males and fourth in females (Valastyan & Weinberg, 2011). In developed countries incidence varies from 50-60/100000 population (Colorectal Cancer,

2015). The risk of developing colorectal carcinoma increases with age (Elamyal et al., 2017). It has been seen that about 90% of new cases are diagnosed in patients over 50 years of age (Sule & Mandong, 1999). The literature suggests that there is a gradual shift of colon cancer towards right (Center et al., 2009). The aim of this study was to analysis:

- *Demographic:* Age, gender and Family history.
- *Clinical:* main presenting complaint.
- *Pathological aspects*: site, Histopathology and staging of colorectal cancer among the Libyan patient in NCI.

METHODS

This is a one-year (2013) retrospective analysis of the data of patients diagnosed with colorectal cancer who were admitted and managed at the Department of surgical oncology, National Cancer (NCI). Retrospective data were retrieved from the patient files, pathology department and Operating theatre records.

- Health care set up: Tertiary care Hospital.
- Setting: National Cancer Institute (NCI), Misurata – Libya.
- Duration of study: 2013 (January to December)
- Type of study: Retrospective.
- Level of evidence: Level IV.
- Sample size: 47

- Sampling technique: Convenient Sampling.
- Assessment: History, Examination, Imaging and Histopathology.
- Inclusion Criteria:
    - Any age groups.
    - Patients who were clinically, Radiologically and Histopathologically diagnosed with Colorectal Cancer.
- TNM Classification include in this study (Table1):

Table 1. TNM Classification of 2006

Clinical stage	DUKE stage	Corresponding TNM categories
0	0	TisN0M0
1	A	T1N0M0
	B1	T2N0M0
2	B2	T3N0M0
		T4N0M0
3	C1	T(1/2)N(1/2)M0
	C2	T(3/4)N(1/2)M0
4	D	AnyT Any N M1

RESULTS

The descriptive statistics were reported as mean (Average) for continuous variables, frequencies and percentages for categorical variables and (n) for numbers.

Data were statistically evaluated with R (R Core Team 2021), and Microsoft Excel 2010. P-value less than 5% was considered significant.

Demography: among (n=47)patients with the diagnosis of CRC was admitted to the Department of surgery. 22 were males ($P = .662$), all patients belong to age between 27-80 years eligible for study, the average age of the patients enrolled in this study was 53.5 years (SD = 13.28). The age distribution is shown in figure 1. The peak incidence was in patients aged between 40 and 49 years. 6 patients (13%) were aged less than 40 years. Family history was positive in 2% of patients.

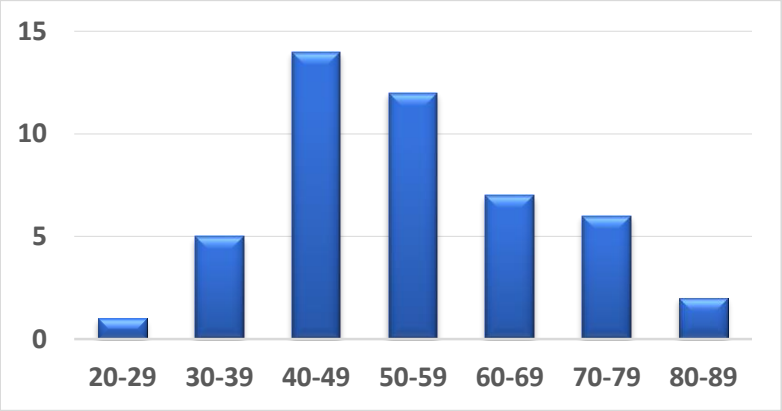

Figure 1. Age distribution

Clinically: 14 patients (30%) presented with constipation, others with PR bleeding (26%), abdominal pain (15%), Anemia (9%), jaundice and weight loss (6%) each are shown in figure 2. The site of Tumor is shown in Table 2.

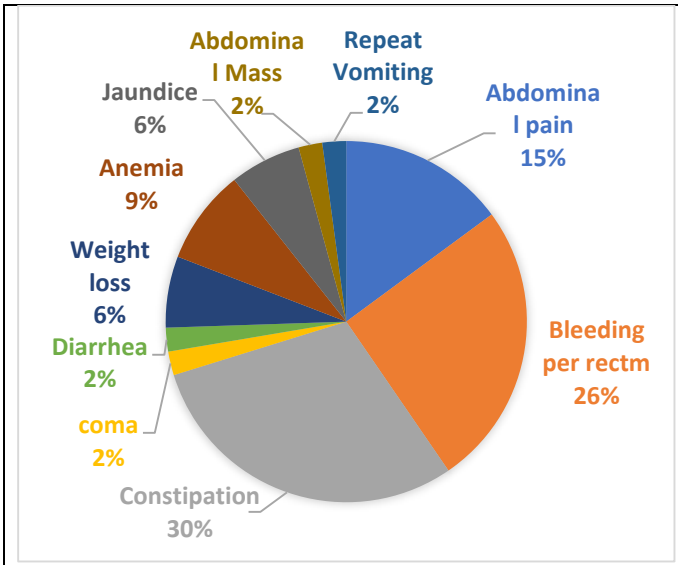

Figure 2. Main presenting complaint

Table 2.Site of Colorectal cancer.

Site of tumor	Count	Percent
Rectum	19	40.4%
Sigmoid	19	40.4%
Cecum	4	8.5%
Descending colon	1	2.1%
Hepatic Flexure	4	9.0%

Pathological aspects: 40% of tumors occurred in Rectum and Sigmoid each, and more than 82% were distal to splenic flexure Table2. The pathologic features of the tumors 100% were Adenocarcinoma. According to TUMOUR NODE METASTASIS staging of cancer, majority of the patients 38 (81%) were in late stage (M1), whereas 9 (19%) in early stage (M0) ($P < .001$), liver was the most common metastatic site (80%), both liver and lung (7%) and Peritoneum was (13%) as shown in figure 3.

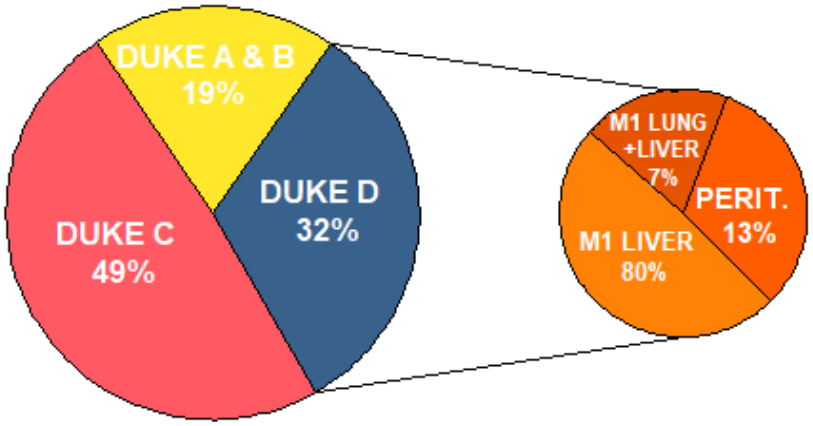

Figure 3. Staging

DISSCUSION

The clinicopathological patterns of colorectal cancer have been reported to vary in different geographical regions. The occurrence of colon cancer in Libyan population is age related with nearly 65% of cases arising in patient who are 50 years or older (Raskin et al., 2013). With contrast to European countries; colon cancer is a rare before the age of 40, with 90% of cases occurring after age 50 years (Akinola & Arigbabu, 1994; Missaoui et al., 2010). Recent reports showed that, in the USA, it was the most frequent form of cancer among persons aged 75 years or older [Kiran et al., 2007; American Cancer Society, 2014). In the present study, the majority of cases was in the age group above 40 years ($P < .001$), which is comparable also to many reports from developed countries (What is colorectal cancer?, 2016). The mean age of our patients at the time of diagnosis was 54 years. In the western world, colorectal cancer is a disease of older patients, with most being diagnosed after the age of 50 years (Center et al., 2009), whereas colorectal

cancer in African population tends to present at a young age with advanced aggressive disease and associated poor prognosis (Sule & Mandong, 1999).

In this retrospective study, we review the clinicopathological patterns and presentations of colorectal cancer at National Cancer Institute. The mean age of participants (54 years) reported in this study is similar to findings in other African studies which reported mean ages of 53 year in Nigeria (Akinola & Arigbabu, 1994), 58.8 years in Tunisia (Missaoui et al., 2010), 58 years in Ghana (Raskin, et al., 2013), 50 years in Central Sudan (Mohamed et al., 2015) and 50.8 years in Burundi (Ntagirabiri et al., 2016). Most studies in Africa show average ages between 43 and 46 years (Abou-Zeid et al., 2002; Irabor & Adedeji, 2009; Chalya et al., 2013). However, the mean age described in this study is younger than the age described in most developed countries (Koo et al., 2008; Altekruse et al., 2010). In the United States, from 2003-2007, the median age at diagnosis was 70 years (Koo et al., 2008). The peak age of presentation in this study was in the age range 40-49 years (26.2%) which coincides with a retrospective study by (Mussa, 2015).

The probability of being diagnosed with colorectal cancer increases after 40 years of age, rises progressively from 40 years and sharply after age 50 (Ries et al., 2008). All these data reflect that, colorectal cancer in Libya and Africa is more common in the young than in Western countries. The majority of patients presented with symptoms of constipation (30%), Per-rectal bleeding (26%), abdominal pain (15%), anemia (9%), jaundice (6%), weight loss (3%), vomiting (2%), Coma (2%), Abdominal Mass (2%), Repeated vomiting (2%) and Diarrhea (2%). In a study by (Raskin, et al., 2013) in Accra, Ghana,

bleeding per rectum was the commonest symptom which concurs with studies in other developing countries (Yawe et al., 2007). The most frequent Libyan colorectal cancer is located at rectosigmoid region. This is in line with other previous studies which show about 40% of large bowel cancers occur in rectum and rectosigmoid area. Adenocarcinoma was the most common histological type (100%) with moderately differentiated tumors accounting for 60% of the cases. These findings are in agreement with studies by (Missaoui et al., 2010; Chalya et al., 2013) who reported similar histopathological patterns.

CONCLUSION

Colon cancer is affected women like men and CRC in Misurata has no age predilection and is dominantly seen in older age group, The adenocarcinoma was the most common type. The disease usually presents in late stage. Finally in our hospital setting, the results of this study could be used as a baseline data for further research studies. Furthermore, to increase the health education and raising awareness about cancers and widespread implementation of screening program which can lead to early detection and significantly improve the outcome.

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