

Colorectal Cancers amongst Rural Dwellers: Presentation and Challenges in Management

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Abstract

Introduction: Colorectal cancer was once said to be rare in Africa some decades ago. Published works from various centres in the continent have shown that this is no longer true; although, it is not as common as in Western World and the United States of America. But most of these works from African continent are from big cities where the life style tends towards those obtained in the developed world. The aim of this study is to report our experience and challenges in the management of colorectal cancers from a tertiary Nigerian Hospital in a rural community.

Methodology: This is a retrospective study of all the patients' with colorectal cancer seen at the Federal Teaching Hospital, Ido – Ekiti, Southwest Nigeria, from January 2006 to December 2015. Clinical findings at presentation, as well as findings at surgery were recorded and evaluated. All specimens were histologically confirmed and the data were analysed.

Results: A total of forty-three (43) cases were seen during the study period. There were 27(62%) males and 16 (37.2%) females. The male: female ratio was 1.7:1. The age range was between 22 – 87 years (mean 53.6 years). The peak age of occurrence was the 6th decade. All patients' were symptomatic at presentation; 23(53.48%) of them were admitted as emergency with acute intestinal obstruction and abdominal distension. 20(46.51%) had curative resection and 15(34.88%) had palliative surgery. All operated patients' had adjuvant chemotherapy. 10 (23.25%) died within 3 weeks of operation. The rest 8(18.60%) refused surgery and opted for alternative care. The mean duration of post-operative follow-up was 8 months.

Conclusion: Cancers of the large bowel and rectum are frequently seen amongst rural dwellers in Nigeria. Presentation is often late and the young adults are significantly affected. Further work is required to determine the exact aetiopathogenesis and biology of these tumours found in the continent in order to enhance prognosis.

Keywords: Colorectal Cancer; Semi Urban Centre; Affects the young adults significantly; Further work required to determine exact biology of the tumour.

Introduction

Colorectal Cancer (CRC) is one of the common malignancies in the western world and the USA and one of the most lethal. It is second after cancer of the lungs, in incidence and death rates. About 150,000 new cases were seen in the United States of America in 2003, with 57,000 deaths [1,10] and the life time risk of developing colo-rectal cancer is 1 in 7 or 6% [1]. In Africa, the incidence is said to be low. This has been attributed variously to the young age of the population, low incidence of precancerous lesions and intake of high fibre diet which results in passage of bulky stools with short intestinal transit time. However, the incidence is said to be rising in Africans, from an average of about 10 – 20 new cases to as high as 50 annually [1,15,16]. Most of the previous works on CRC are from tertiary health care centres in big cities in the African continent; where the life style and habits are almost similar to those of the developed world.

The aim of this study therefore is to look at the incidence, pattern of presentation, diagnosis, challenges in treatment and follow-up of CRC in a rural tertiary health centre.

Materials and Methods

This is a retrospective study of all patients admitted and managed for colorectal cancer, between January 2006 and December 2015 at the Federal Medical Centre, Ido – Ekiti, now Federal Teaching Hospital, Ido - Ekiti, Southwest, Nigeria. The records of patients were retrieved and demographic data relating to age, sex, symptoms, duration, type of presentation, clinical and operative findings, management outcome and follow-up were

evaluated. The diagnostic protocol included; clinical findings, abdominal ultrasound, proctosigmoidoscopy (where indicated) and specimen histology. Plain abdominal, chest and appropriate skeletal x-rays were done to confirm distant organ and bone metastasis (where indicated). A staging was given using Dukes' classification. Colonoscopy and barium enema studies are not routinely used in evaluating patients during this period of study. However, all patients whose tumours were clinically assessed to be more proximally placed than the rectum, as well as those whose abdominal ultrasound reports were indefinite, were further evaluated by referring them to other diagnostic centres for a computed tomography (CT) scan.

Results

A total of forty-three (43) patients' with Colorectal Cancer were seen during this period of study. The average annual incidence was 4.7 patients' per annum. Twenty-seven (62.0%) of the patients were males and 16 (37.2%) were females (m:f=1.7:1). Their age range was 22 – 87 years (mean 53.6 years). The youngest patient being 22 years old. Table 1, shows the age and sex distribution with the modal age being the 6th decade. Seventeen (39.53%) of the patients' were below 50 years of age, while 9 (20.93%) were below 40 years. Twenty-three (53.48%) of the patients' presented as emergency with acute intestinal obstruction and abdominal distension; the rest presented as elective cases. Notable clinical presentation included abdominal pains, marked weight loss, abdominal mass, altered bowel habits and haematochezia. The duration of symptoms ranged from 6 weeks to 24 months. Almost all the patients had alternative care one time or the other before presenting at the hospital.

Table 1: Age and sex distribution of colorectal carcinoma at FTH IdoEkiti

Age (Years)	Male	Female	Total %
10 – 19	0	0	0
20 - 29	3	-	3 (6.97%)
30 – 39	4	2	6 (13.95%)
40 – 49	5	3	8 (18.60%)
50 – 59	3	2	5 (11.62%)
60 – 69	8	6	14 (32.55%)
70 - 79	3	1	4 (9.30%)
> 80	1	2	3 (6.06%)
Total	27	16	43 (100%)

M: F = 1.7: 1

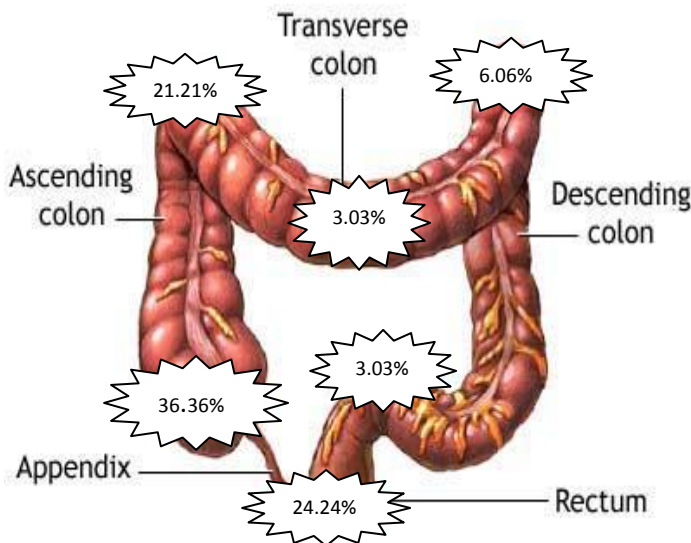
Mean age = 53.6 years

The distribution of the tumours (Figure 1) showed the predominant site was the Caecum, 36.4%, rectum, 24.4%, and the hepatic flexure 21.4%. The descending and sigmoid colons were conspicuously absent. Twenty (46.5%) patients had curative resection, Fifteen (34.88%) had palliative surgery (bypass/colostomy). Ten (23.25%) of the operated patient died within three weeks of surgery. The rest 18.60% refused surgery and opted for alternative care. They have however been biopsied and were subsequently

discharged. None of the operated patient was found to be in Dukes' stage A. All were B, C or D stage. Adenocarcinoma was the commonest variant and rhabdomyosarcoma was recorded in one of the patient with disseminated intra-peritoneal tumours with a right eye proptosis.

All the operated cases had bolus intravenous injection of 5-fluorouracil, administered over 5 days every 4 weeks with oral levamisole daily for 3 days; cyclically for 6 cycles, until lost to follow-up or death.

Figure 1: Colorectal carcinoma at FMC Ido-Ekiti, 2007-2012, site distribution



Others: 2 (6.06%) disseminated peritoneal tumours

Discussion

The medical literature is replete with accounts of colorectal cancer from both the developed and developing countries. It is the leading cause of death in the United States of America and Europe after lung cancer [4 – 6]. In the huge continents of Africa and Asia, the annual incidence is said to be low [3,7,8]. The reason for this low incidence has been alluded to above.

Our study still showed a low annual hospital incidence of 4.7 cases per annum. This compared with studies from other centres in Nigeria [3, 10 - 12]. This is however in sharp contrast with over 55 cases per annum, seen in a single institution, University of South Carolina USA [13] and 76 per annum in United Kingdom [2]. This also agrees with earlier observations that large bowel cancer has a lower incidence in the continent of Africa [7,8]. In this study, the age range is 22 – 87 years (mean age 53.6 years) and the 6th decade was the peak modal age of incidence. This compares with other workers who reported both a rise in the incidence of CRC and a peak incidence of 6th decade [14 – 16]. This also suggests that there is an increasing occurrence in older patients with colorectal cancer amongst

rural dwellers. This may partly be explained by the steady increase in life expectancy in Nigerians, even amongst rural dwellers as seen in the past five decades.

Carcinoma of the colon and rectum has been described in all aged groups. Although this study has identified the 6th decade as the peak modal age of incidence; yet a significant percentage 39.53% of patients' were below 50 years, 20.73% of them were less than 40 years and the youngest was a 22 year old male patient. Patients' aged 10 – 18 years have been reported from other tertiary health institution in Nigeria [12,17,18]. Other series from Asia and Africa had observed rates of 20% and above, amongst colorectal who are below 40 years [10]. In contrast, Western Countries with high incidence of CRC, 90% are older than 50 years with only 5% of patients' younger than 40 years [10]. This study has therefore showed that even in the rural community, the bulk of the patients affected by CRC are below 50 years. Also, as the population ages, older people become equally affected – no age group is exempt. The implication of this is that the aetiopathogenesis of the tumour amongst Nigerians/Africans may not yet be fully understood.

We may suggest that our diet which is largely un-refined could contain significant traces of carcinogenic agents. Couple with this, is the poor food hygiene and poor food storage which, working synergistically leads to early exposure to these agents; irrespective of the age group that partakes of it, with disastrous consequences. Also, it is imperative that we have in depth knowledge of the biology of these tumours that affects both the young and old in the continent. This is in contrast with the western world and the United States of America, where CRC afflicts mostly the 6th and 7th decades. Kim Layerly H. had said it all; “an understanding of the biology of colorectal cancer and improvement in surgical techniques have led to significant improvement in the managements of early or pre-neoplastic lesions, as well as reduction in the morbidity associated with colorectal cancer [27].

All our patients’ sought alternative care before presenting in our centre. Ajao et al. [17], Anyanwu [11] and other workers have noted that all the patients in their series sought alternative care before hospital presentation. This provides the explanation for the long delay and poor prognosis of the disease in the developing world. The average delay in presentation seen in this study was 12 months (range 6 weeks to 28 months). Such long delay had been attributed to ignorance, poverty and poor access to proper health facilities [5,11].

The ideal treatment for colorectal cancer is curative resection [19,20]. Twenty, 46.5% of our patients had curative resection. This is low in contrast to those in the western world but compares favourably with reports from other African centres [21 – 23]. Between 1928 and 1932 at St. Mark’s Hospital United Kingdom, the overall respectability rate for CRC, was only 47% while 2% was palliative. Some 2 decades later, between 1952 and 1957, the resectability rate had increased to 93% and 16% was palliative [21 – 23].

The relative low resection rate in our series is due primarily to late presentation, resulting from seeking alternative care. Health education with easy acceptable and affordable health care could help to ameliorate this situation.

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The range of palliative surgical operation (bypass/colostomy) offered patients’ in our centre agrees with what obtains in other centres in Nigeria [3,8,12]. Fifteen (34.88%) patient had palliative surgery. Colostomy, either performed alone, or as part of other procedures was therefore imperative in these cases with fixed inoperable lesions. Most patients with recto sigmoid lesions (21.2%) declined surgery and sought for alternative treatment, when the need for a permanent colostomy was explained to them. This finding is in keeping with other workers in the field that colostomy is generally not accepted by many patients in Nigeria [3,11,9]; for socio-cultural reasons.

The 23.25% post-operative mortality from our study is at variance with published works of 0.5 – 4.2% from series on CRC from developed world where the overall 5 – year survival also exceed 50% [3,24,25]. In those reports over 40% of their patients presented with localised lesions (Dukes’ A & B). Studies have shown that when screen-detected premalignant and early lesions (Dukes A & B) are promptly resected, morbidity is minimal, survival is enhanced and in most cases, cure is achieved [3,19,20].

Remarkable successes had been reported with the use of intra-operative radiotherapy and external beam irradiation for the treatment of locally advanced inoperable CRC and anal cancer [26]. Most of our patients came with advanced diseases – (Dukes C & D) and the availability of this facility in our centre or other centres in Nigeria, where patients would easily have free access will be of great advantage.

Conclusion

Large bowel cancer is common amongst rural dwellers in Nigeria. Though the modal age incidence was the 6th decade, yet significant number of our patients (39.55%) was below 50 years. This high incidence of CRC in the young adult, calls for extra studies by experts in the field, to unearth the exact biology and aetiopathogenesis of the tumour; for it is only by this understanding, that appropriate preventive measures could be put in place and prognosis enhanced.

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