IJSRM
INTERNATIONAL JOURNAL OF SCIENCE AND RESEARCH METHODOLOGY
An Official Publication of Human Journals

Human Journals
Research Article
March 2021 Vol.:18, Issue:1

Anatomo Pathological Aspects of Colorectal Cancers at Yaoundé University Teaching Hospital

IJSRM
INTERNATIONAL JOURNAL OF SCIENCE AND RESEARCH METHODOLOGY
An Official Publication of Human Journals

Kabeyene Okono Angele Clarisse*[1], MJ Mendimi Nkodo[1], Joseph Marie[1], Madjoumo Mukam Grace[1], Akwah Lilian[2], Aicha Ngoutane[2], Adamou Oumar Poullo[2], Fewou Amadou[1], JL Essame Oyono[2], Z Sando[1]

[1] Department of Morphological sciences and Pathological anatomy, Faculty of Medicine and Biomedical Sciences at the University of Yaoundé I, Cameroon [2] Institutes of Medical Research and Medicinal Plant Studies, Center of Medical Research, Human Biology Laboratory, Cameroon

Submitted: 01 February 2021
Revised: 20 February 2021
Accepted: 10 March 2021

Keywords: Colorectal cancer, histological aspects, retrospective, and descriptive study

ABSTRACT

Colorectal cancers represent one of the main deadly cancers in the world. In Africa, they are more often discovered at a late stage. Treatment is more often surgical and the lack of pre-surgical complementary tests makes the anatomopathological test the reference's test for the diagnostic and prognostic of this illness. The aim of this study was to determine the anatomopathological aspects of colorectal cancers at the Yaoundé University Teaching Hospital, Cameroon. We realized a retrospective and descriptive study on an eleven years period and selected the medical files of 53 patients having an anatomopathological analysis in their surgical document with variables such as age, gender, occupation, residence, macroscopic form, histological type, place of the tumor, TDM stage. Colorectal cancer represented 34.8% of digestive cancer. The gender ratio was 0.96%. The average age was 52.1 +/- 15.4 years. Patients living in cities represented 62.2%. The most represented histological type was the adenocarcinoma liberkhunian (78.8%). The colic localization was the most frequent (93%). The infiltrante and bougeonnante form were the mostfrequent macroscopic form. Stage III was the most found (50.3% of cases). Colorectal cancers were illnesses mostly found in people around their 50thand it diagnosis was more often done late. The low frequency of early stages should encourage us to screen them by non-invasive tests such as the detection of occult blood in the feces.

HUMAN JOURNALS
www.ijsrm.humanjournals.com

1.0 INTRODUCTION

Colorectal cancer is a major cause of morbidity and mortality worldwide, It is the 3th most diagnosed cancer, and the 4th leading cause of death worldwide, with approximately 1,4 billion new cases and 700000 deaths in 2012 [1].

The distribution of this pathology varies widely with more than 2/3th of cases and almost 60 % of deaths in developed countries. It is thus the development marker replacing cancer linked to infections in countries with rapid socio-economic development. Thus, there are high incidence countries (Australia, New Zealand, Canada, USA) and low incidence countries(China, India, South Africa and America). However, it may have a screening bias in developing countries, before 1980 in USA, the incidence appeared to be higher in the white race compared to the black race. Since then, the incidence is higher in men compared to women, and higher among blacks compared to whites [2].

Different risk factors are associated with colorectal cancer; some are uncontrollable, such as age and hereditary factors, and others are changeable, The majority of colorectal cancer occur without a family history. However, 20% of patients with colorectal cancer have had another family member affected by this condition[3].

The survival of colorectal cancer depends on the stage at diagnosis. Thus survival varies from 90% at 5 years when the diagnosis is early to 10% at the metastatic stage. In general, the early stages of diagnosis increase the chances of survival.

The incidence of colorectal cancers is increasing in Africa, certainly due to major changes in eating habits and better diagnosis. However, in many African countries, there is still the problem of diagnosis and adequate care.

The aim of our study was to raise the epidemiological profile of colorectal cancers in our context.

2.0 METHODOLOGY

We undertook a retrospective and descriptive study at the YaoundéUniversity Teaching Hospital from January 2005 to December 2015; We included in our study all the medical files of patients

operated for colorectal cancer within the institution; We, therefore, included in the study all the files of patients operated for colorectal cancer for whom a biopsy diagnosis was previously made. Different variables were analyzed such as socio-demographic data, anatomopathological aspects and stage of the tumor. After selecting the folders, we looked for the blocks that were cut and recolored.

3.0 RESULTS

3.1. Socio-demographic Data of the Participants

From 2005 to 2015, 261 cases of digestive cancers were histologically confirmed in the pathological anatomy department of the YaoundéUniversity Teaching Hospital and 91 (34, 8%) cases of colorectal cancers were confirmed by biopsy. Among these cases, 60 cases were operated at the Yaoundé University Teaching Hospital and among them, the files of 7 patients were not found. We, therefore, retained 53 patients' files.

The average age was 52,1+/-15,4 years with extremes from 15 to 80 years, The modal class was that of 40 to 49 years with an effective of 22,6%. The population under 50 years represented 43,4%. There were 26 men and 27 women with a sex ratio of 0, 96. Figure 1

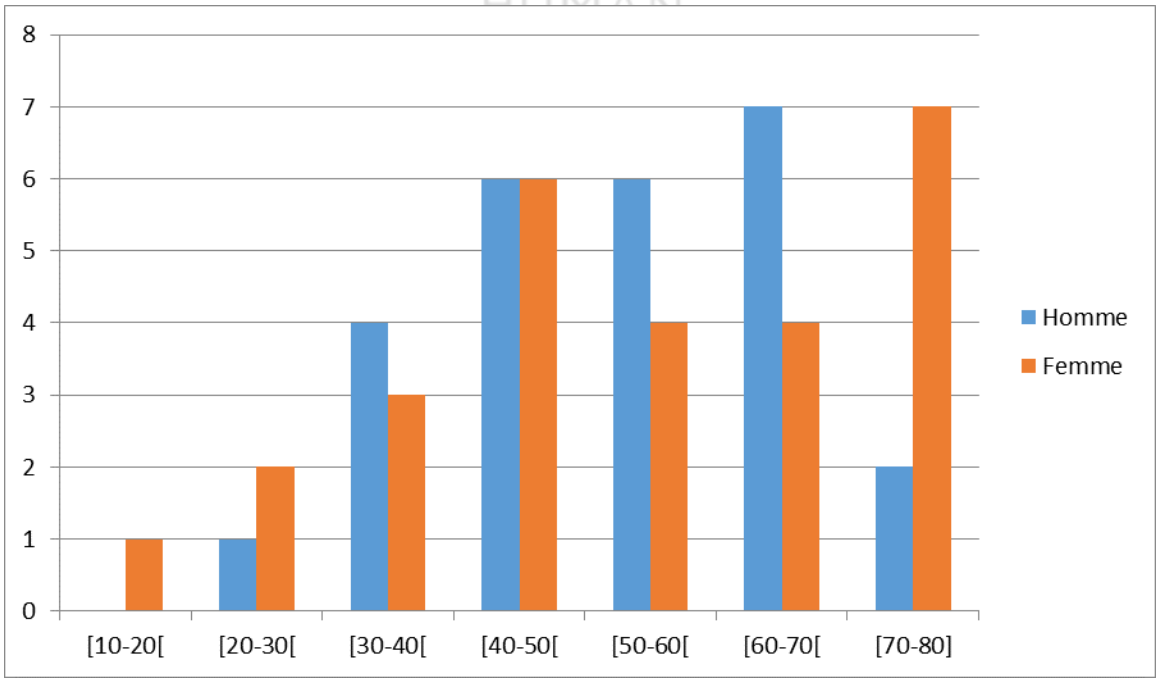

Figure No. 1: Age distribution of colorectal cancer

Only 45 patients stated their actual professions and retired patients were the most represented (28,9%).

Table No. 1: Distribution of patients by profession

Profession	**Frequency (45)**	**Percentage**
Public sector	10	22,2%
Private sector	12	26,7%
Informal sector	6	13,3%
Students	1	2,2%
Unemployed	3	6,7%
Retirees	13	28,9%
total	45	100

About the patient's place of residence, the majority of the operated patients live in urban areas (62,2%)

Table No. 2: Distribution of patients according to the place of residence

Place of residence	**Frequency (45)**	**percentage**
Rural Environment	17	37,8%
Urban Environmemt	28	62,2%
Total	45	100%

3.2. Anatomo pathological characteristics

The right and the transverse colon were the most represented among the colonic tumors (70%) (Table 5) while the sigmoid colon was affected in 23% of cases and rectal in 7 % of the cases. Regarding the macroscopic forms of the colorectal cancers, the most predominant was the infiltrating form (17%) while budding and stenotic were the least represented (2%) (Table3). Meanwhile, concerning their histological type, liberkhunian adenocarcinoma was the most represented with 78, 35% of case (Table 4) and stage III was the most represented with 50,9% of cases (Table 6).

Table No. 3: Macroscopic form

Form	**N=53**	
Budding	3	3,8%
Stenostic	8	15,1%
Ulcerated	8	15,1%
Infiltrating	9	17%
Budding ulcer	9	17%
Not specified	5	9,4%
Budding and stenotic	2	3,7%
Total	**53**	**100**

Table No. 4: Distribution of colorectal cancer according to histological type

Histological Types	Frequency	Percentage
Liberkhunian adenocarcinoma	41	77,35%
Mucosal colloid adenocarcinoma	12	22,64%
Squamous cell carcinoma	1	1,8%
Liposarcoma	1	1,8%
Total	**53**	100%

Table No. 5: Distribution of colo rectal cancer according to the site

Type/Siège	**Right Colon D**	**Rectum**	**sigmoide**	**Total**
Adénocarcinome liberkhunien	26	5	11	42
Adénocarcinome colloide muqueux	8	00	1	9
Carcinome épidermoide	1	0	0	1
Liposarcome	1	0	0	1
Total	**36**	**5**	**12**	**53**

Table No. 6: Distribution of colorectal cancer according to the stage

Stage	Frequency	Percentage
I	3	5,7%
II	18	34%
III	27	50,9%
IV	5	9,4%
Total	53	100%

4.0. DISCUSSION

The objective of this study was to reveal the anatomo clinical aspects of colorectal cancers at Yaoundé University Teaching Hospital. During our study, we observed that colorectal cancer represented 34,8% of digestive cancers. These results are similar to those of NDJITOYAP *et al* [4] in Cameroun in 1990, and those of Mamoudou in Niger [5] who found a frequency of 32% and 28,8% respectively. Conversely in France, in a study published in 2009, colorectal represented respectively in men and women 53,8% and 68,5% on digestive cancers. Indeed, according to a study by Fatima A Haggar on the epidemiology of colorectal cancers, this pathology is especially predominant in developed countries with Nordic culture and therefore, developed countries represented 63% of the pathology, Indeed, if genetic factors contribute to several colorectal cancers, diet is considered to be a determining factor in colorectal cancer; A diet rich in red meat and fat would promote the development of this cancer according to several cohort studies. Several hypotheses have been proposed on the cellular and molecular mechanism explaining these promoter effects of certain meats. These Hypotheses involve saturated fats, proteins, hermic iron, heterocyclic amines produced during cooking, and nitrosamines. Fats are said to act because of their high energy density, or via bile acids, secretion of which they promote.

Also, studies of the immigration population from a low incidence area to a high incidence area reveal that with time; the incidence among migrants becomes comparable to that of host countries [6].

During our study, we found an average age of 52.1+/- 15, with extreme ranging from 15 to 80 years. These results are similar to those found by El Housse*et al* in Morocco [7] who found an average age of 54.48+/- 14.75. In Cameroon, Takongmo*et al* [8] found an average age of 43 years. In General colorectal cancer occurs later in northern countries where the average age of colorectal cancers is 65 to 70 years of age [9]. This could be explained by the early detection and management of precancerous lesions in developed countries, which could delay the age of onset of cancers in these countries.

In our study, the sex ratio was 0, 69. This trend was also reported by Diallo *et al* [10] who found 57% women in their series. This could be explained by the numerical superiority of women, but also by the excessive use of irritant purgatives whereas, in France, men were more represented with a sex ratio of 1.5. The predominance of men in the literature is partly explained by the habits and risk behaviors of men, like smoking and alcoholism. Indeed alcohol is a factor favoring colorectal cancer because its main metabolite; acetaldehyde, was recently classified by the WHO as carcinogenic of group 1. As for Tobacco, its consumption promotes the appearance of cancers by causing mutation in DNA of the digestive mucosa [11]. On the other hand, Estrogens play a protective role by decreasing the occurrence of microcrystalline instabilities or by decreasing the synthesis of bile acids which irritate the colonic mucosa ([12].

Our study found that 62,2% of patients with colorectal cancer lived in urban areas. Gaudre *et al* [13] in their study found similar results (67%). Our results are also similar to those of Fatima in Morocco with 80 % of patients in urban areas. Indeed, these results cannot only be explained by the diagnostic facilities in urban areas. This difference could also be explained by a western diet style, rich in red meat and fats, and poor vegetables and fibers. Murphy *et al*have shown that a diet rich in fiber is inversely associated with the risk of colorectal cancer and could play a protective role against this pathology [14].

Our study found that 70% of our patients had right and transverse colon cancer and only 7% of our patients had rectal cancer. Our results are similar to those of Murphy in the United States who revealed a more common proximal localization in the black population; Unfortunately, an American study has revealed that cancer of the right colon is associated with poorer survival; Proximal cancers tend to be symptomatic later, and therefore diagnosed at the later stage than distal cancers[15].

Stage III represented 50.9% and stage IV 9,4%. These results are similar to those of Diallo who found 46% in Stage III and Gaudre in Mali who found 85% of cases in stage III. In France 26% of cases are found in stage III and IV. This result reveals the delay in the diagnostic of this pathology. In Africa, due not only to the lack of information and financial means, this delay in treatment, therefore, explains the gloomy prognosis for this pathology. In fact, the chances of survival depend on the stage with 97% survival in Stage I and this survival drops below 80% from stage III.

5.0. CONCLUSION

At the end of our study which focused on the histological aspects of colorectal cancers, we can conclude that colorectal accounted for 34.8% of digestive cancers and that the average age was 52.1% +/- years with a sex ratio of 0.69 and the majority of cancers occurred in urban areas. In our study, the right and transverse localizations were the most predominant(70%) and stage III was the most represented (50.9%).

We recommend that our country make accessible screening tests so that these cancers can be detected in the early stage.

6.0 ACKNOWLEDGMENT

The authors sincerely acknowledged the Head of the Department of Morphological Sciences and pathological anatomy and the Director of the Faculty of Medicine and Biomedical Sciences for their kind approval and cooperation.

CONTRIBUTIONS: All authors' contributed to the conception, realization, and writing of the manuscript procedures.

CONFLICT OF INTEREST: Authors declared no conflict of interest.

REFERENCES

1- Ferlay J SajomataramGlobocan 2012 V 1-0 ; Cancer incidence and mortality wordwide :IAC cancer base N011 Lyon France. International agency for research on cancer 2013.
2-F A Haggar, RpBoushey: Incidence, Mortality, Survival and Risk Factors: Clinics in colon and rectal Surgery 22(04)),191-197.
3- SKIBBER J Colon clinical practice on oncology; Journal of the national comprehensive cancer network 2009 :7 ; 8

4- NjitoyapN ,Njoya O :Apport de l'endoscopie dans la pathologie digestive basse en milieu camerounais :Etude analytique de 720 examens :Médecine Afrique noire 1991,38(12)
5-Mamoudou G Hami Hinde : Les cancers digestifs au Niger : Fréquence relative sur une étude rétrospective de 1992-2009 ; Europeanscientific Journal 2014 vol 10 n 9
6-G Parnaud; G Peiffer:Effect of meat on rat colon carcinogenesis Nutrition and cancer1998 vol 32issue3
7- El Housse ,WAjbara,SAmsaguine : epidemiological and clinicopathological profiles in Maroccan population with colorectal cancer ;African Journal of cancer : 2005.7,95-99
8- TakongmoS ,Essameoyono J :Cancer recto-coliques du sujet de moins de 40 ans ;Particularités anatomo – cliniques :Médecine Afrique Noire 2000 ;47/101-4
9-Gautier Defaussez,Sandra L et al :Etude des régistres de cancer du réseau Francim.1-Tumeurs solides
10) Diallo Owono FK, NguemaMve : Aspects épidémiologiques et diagnostiques des cancers colo rectaux à Libreville (Gabon) R. Médecine trop 2011 ;71 : 605-607
11- Tsong WH Koh WP, et all cigarettes and alcohol in relation to colorectal cancer: The Singapore Chinese health study.Br j cancer 2007;96(5) :821-27)
12-M Polus,PPiront :Prévention primaire et secondaire du cancer colo rectal ; Rev Med Liege2003 ;58 :4.247-253
13- GaudreN ,Ly M et All :Particularités épidémiologiques et cliniques du cancer colo rectal dans le service d'hématologie oncologique médicale du point G de Bamako au Mali de 2005 à 2011 ;113 cas Mali Med.2013 ;28 :32-6
14-G Murphy Sex disparities' in colorectal cancer incidence by anatomic subside race and age :IJC : 2011 April: 1668-1675
15-A M Bouve,SMarfidi :Histoire naturelle du cancer colo rectal révisée ;Gastro entero clin biol 2002 ;26 :56-61