

Research Article

Surgical Management of Colorectal Tumours in the General Surgery Department of the Ignace Deen National Hospital, Conakry University Hospital

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Abstract

Introduction: The aim was to contribute to the improvement of surgical management of colorectal tumors at CHU Ignace Deen. **Material and Methods:** Retrospective, descriptive and analytical study over 5 years (January 2018 to December 2022), involving 39 records of patients admitted and operated on for colorectal tumors and confirmed on histology at university hospital centre (CHU) Ignace Deen. Records of patients operated on for a colorectal tumour without histological evidence were not included in the study. Sociodemographic, clinical, therapeutic and evolutionary variables were studied. We calculated the numbers and proportions for the qualitative variables, and the averages and standard deviations for the quantitative variables. We performed a bivariate analysis to look for prognostic factors, and for any p-value less than or equal to 0.05 the statistical test was significant. **Results:** The proportion of colorectal tumours was 0.82%. The sex ratio was 1.8 (M/F). The mean age was 49.4 ± 17.3 , with extremes of 24 and 76 years. Abdominal pain (97.4%) and cessation of bowel movements and gas (38.5%) were the main reasons for consultation. Diffuse tympany (38.5%) and abdominal mass (33.3%) were the most frequent findings on examination. The preferred sites were the cecum and rectum. Right hemicolectomy with immediate restoration of digestive continuity was performed in 35.9% of cases. Lieberkhunian adenocarcinoma was the most common histological type (71.8%). The morbi-mortality rate was 18%. Average hospital stay: 20 days. **Conclusion:** The implementation of a multicenter prospective follow-up policy could provide evidence of quality assurance in colorectal tumor surgery in resource-limited countries.

Keywords

Colorectal Tumors, Surgical Management, Ignace Deen

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1. Introduction

Colorectal cancer (CRC) is one of the world's leading causes of death from malignant tumours, and its frequency and severity make it a major public health problem. It usually occurs sporadically, and is hereditary in only around 5% of cases [1, 2].

Worldwide, colorectal cancer incidence and mortality rank third (10.7%) and second (9.5%), respectively, among all cancers [3].

Wide regional variations in rates have been observed, with incidence and mortality rates highest in Europe and lowest in South Asia and Africa [4].

The diagnosis of colorectal cancer is often made at the stage of complications, with major local and general repercussions in the African context [5].

Surgery plays an important role in treatment, which must be comprehensive and multidisciplinary. The surgical procedure depends on the site and stage of the tumour; the indication for adjuvant treatment (chemotherapy and radiotherapy) after curative surgery depends on the histopathological stage [6-8].

Despite advances in treatment, the 5-year relative survival rate remains low due to the lack of early detection, with most diagnoses made at an advanced stage [7].

In Guinea, incidence and mortality are estimated at 2.8% and 2.2% respectively [9].

The increase in the frequency of this condition, the delay in diagnosis and the inadequacy of our diagnostic and therapeutic resources motivated the choice of this study, the general aim of which was to contribute to improving the surgical management of colorectal tumours in the general surgery department of the CUH Ignace Deen.

2. Material and Methods

Retrospective, descriptive and analytical study over 5 years (January 2018 to December 2022), involving 39 records of patients admitted and operated on for colorectal tumors and confirmed on histology at CHU Ignace Deen. Records of patients operated on for a colorectal tumour without histological evidence were not included in the study. Sociodemographic, clinical, therapeutic and evolutionary variables were studied. We calculated the numbers and proportions for the qualitative variables, and the averages and standard deviations for the quantitative variables. We performed a bivariate analysis to look for prognostic factors, and for any p-value less than or equal to 0.05 the statistical test was significant.

3. Results

During the course of the study, we collected 68 colorectal tumor files, representing 1.43% of all activities, of which 39 had histological evidence (0.82%) and were included in the study. The mean age of patients was 49.4 ± 17.3 years, with

extremes of 24 and 76 years. The 24 to 33 age group was the most represented in 9 cases (23.1%), followed by the 34 to 43 and 44 to 53 age groups in 18% each, the 54 to 63 and 64 to 73 age groups in 15.4% each, and the over 74 age group in 10.2%. The sex ratio was 1.8 in favor of men. The patients were housewives in 11 cases (28.2%), professionals in 10 cases (25.6%), shopkeepers in 6 cases (15.4%), farmers and civil servants in 4 cases each (10.3%), pensioners in 2 cases (5.1%) and pupils/students and engineers in one case each (2.6%).

The patient's history included 4 cases of hypertension (10.3%), one case of polyposis coli and one case of hypertension associated with diabetes. Thirty-two patients had already received treatment in a health facility (82.1%), five had consulted traditional medicine (12.8%) and two had self-medicated (5.1%). 74.4% of patients lived in urban areas. We noted the consumption of red meat in two cases (5.1%), tobacco in 3 cases (7.7%) and the simultaneous consumption of alcohol and tobacco in 5 patients (12.8%).

The average consultation time was 5.1 months, with extremes of 4 days and 2 years. Eighteen patients consulted before one month (46.2%) and thirteen after six months (33.3%). Abdominal pain (97.4%), cessation of feces and gas (38.5%), vomiting (33.3%) and rectal bleeding (20.5%) were the main reasons for consultation. Physical asthenia (28.2%), weight loss (25.6%), anorexia (20.5%), conjunctival pallor (10.3%) and long-term fever (7.7%) were the main general signs. Physical signs are listed in Table 1. Abdominal radiography without preparation was performed in 10 patients (25.6%), abdomino-pelvic ultrasound and endoscopy in 7 patients each (18%), abdomino-pelvic CT scan and barium enema in 2 patients each (5.1%).

Medical treatment consisted of fluid and electrolyte intake, antibiotics and analgesics in all patients, and blood transfusion in 38.5%.

Twenty-one patients underwent planned surgery (53.85%) and 18 underwent emergency surgery (46.15%). Laparotomy was performed in all patients, with median laparotomy above and below the umbilicus in 36 (92.3%) and below the umbilicus in 3 (7.7%). The predominant tumour sites were caecal and rectal in 9 cases each, with other sites and macroscopic appearance listed in Table 2. Tumor extension was local in 30 patients (76.9%), locoregional in 7 (18%) and general in 2 (5.1%).

A right hemicolectomy with ileo-transverse anastomosis was performed in 14 patients (35.9%), a left hemicolectomy in 10 patients (25.6%), a segmental colectomy in 5 patients (12.8%), a Hartmann-type colostomy in 5 patients (12.8%), a definitive colostomy after abdominoperineal amputation in one case (2.6%) and a near upstream colostomy in 3 cases (7.7%). Surgical specimens were used in 33 patients, and biopsies in 6.

The tumors were malignant in 35 cases (89.74%). Adenocarcinoma was the most common histological type in 71.8% of patients, with the other types listed in Table 3. Stage III was

the most common in 21 patients (53.9%), stage II in 12 (30.8%) and stage IV in 2 (5.1%).

Postoperative follow-up was straightforward in 82% of cases. Surgical site infection and stercoral fistula were noted in 7.7% of cases. Patients were discharged with improvement in 37 cases (95%), and we recorded 2 deaths (5%).

The average length of stay was 20 days, with extremes of 9 and 64 days. After two years of evolution, seven patients were alive (18%), nine had died (23.1%) and we lost sight of 23 patients (59%),

In our cohort, older age (0.023), advanced TNM stage (0.031), the presence of tumour extension (0.038) and long consultation times (0.033) were factors with a poor prognosis.

Table 1. Frequency of patients according to physical signs.

| Physical signs | Frequency | Percentage |
|--------------------------------------|-----------|------------|
| Asymmetrical abdomen | 4 | 10.3 |
| Abdominal puffiness | 2 | 5.1 |
| Abdominal distension | 12 | 30.8 |
| Abdominal defence | 8 | 20.5 |
| Elastic resistance | 8 | 20.5 |
| Abdominal meteorism | 7 | 17.9 |
| Abdominal mass | 13 | 33.3 |
| Umbilical cry | 2 | 5.1 |
| Disappearance of prehepatic dullness | 1 | 2.6 |
| Sloping flank fat | 3 | 7.7 |
| Adenopathy | 5 | 12.8 |
| Diffuse tympany | 15 | 38.5 |
| Inaudible peristalsis | 10 | 25.6 |
| Haemorrhoidal bulges | 2 | 5.1 |
| Anal fistula | 1 | 2.6 |
| Recto-vaginal fistula | 1 | 2.6 |
| Rectal mass | 9 | 23.1 |
| Bulging/painful Douglas | 4 | 10.3 |

Table 2. Distribution of patients according to tumour site.

| Treatment | Number (N=39) | Percentage |
|---------------------|---------------|------------|
| Right colonic angle | 2 | 5.1 |
| Caecum | 9 | 23.1 |
| Ascending colon | 4 | 10.3 |
| Sigmoid colon | 7 | 18.0 |

| Treatment | Number (N=39) | Percentage |
|-----------------------|---------------|------------|
| Transverse colon | 2 | 5.1 |
| Rectosigmoid junction | 6 | 15.4 |
| Rectum | 9 | 23.1 |

Table 3. Breakdown of modalities according to pathology report.

| Characteristics | Number (N=39) | Percentage |
|--------------------------|---------------|------------|
| Adenocarcinoma | 28 | 71.8 |
| Adenoma | 4 | 10.3 |
| Squamous cell carcinoma | 3 | 7.7 |
| Lymphoma | 2 | 5.1 |
| Neuroendocrine carcinoma | 1 | 2.6 |
| Sarcoma | 1 | 2.6 |

4. Discussion

The proportion of colorectal tumors reported in our series is lower than those found by Diallo AT et al [10] in Guinea in 2016 (3.21%) and Fortuné BLA et al [11] in Congo in 2022 (2.6%). This frequency is difficult to assess in our context for the moment, due to the absence of systematic mass screening by Hemocult on the one hand, and the non-accessibility of hospital care for the population as a whole on the other.

The mean age observed in our series is consistent with data from the African literature, where the mean age is less than 60 years [11, 12]. In Africa, although colon cancer is rare, it occurs at an earlier age with advanced aggressive disease and a poor prognosis than in Western countries, where it occurs between the ages of 65 and 70 [13].

The predominance of males converges with that of other authors, notably Sah PS et al [5] in Nepal, Belhamidi MS et al [2] in Morocco and Bolenga AL et al [8] in Congo.

On the other hand, Agyemang-Yeboah F et al noted a predominance of women in their sample [12].

The high incidence of colorectal cancer in urban patients could be attributable to the proximity and geographical accessibility of diagnostic and treatment services, on the one hand, and to the less healthy lifestyle habits of urban populations in our local context, on the other. Thus, diets low in fiber, high in sugar and saturated fats, have led to gradients in calorie intake between rural and urban populations [14].

The reasons for consultation in our study are in line with the literature, and are dominated by abdominal pain, intestinal transit disorders and rectal bleeding [8, 11, 15].

Duration of evolution is a key prognostic factor in the management of colorectal cancer. It becomes unfavorable as soon as this interval exceeds 3 months [11]. The delay in

diagnosis observed in African series can be explained by the tendency of our populations to rely primarily on self-medication and traditional medicine.

The late nature of consultation denotes the clinical picture in which patients are received in the African context, where there is a lack of screening in the population. [12, 16]

It is also responsible for the clinical picture in which patients present for consultation.

The rate of tobacco consumption in our series is close to those of Diakit éS et al [7] and Agyemang-Yeboah et al [12].

The low rate of imaging examinations in our sample can be explained by the late nature of the consultation. In contrast, Bolenga AL et al [8] in Congo reported a 61.2% rate of lower GI endoscopy, and Diallo O et al [17] in Gabon reported ultrasound in 65%, total colonoscopy in 49% and CT scan in 20%.

The predominance of planned procedures in our series was also noted by Shaikh MS et al [14]. In contrast, Fortuné BAL et al [8] noted that surgery was performed as an emergency in 30.9% of cases.

Median supra- and subumbilical laparotomy was the most commonly used surgical approach, as reported by Diallo AT et al [11] in 2016.

The cecum and rectum were the preferred sites of colonic tumours reported in our series as well as that of Agyemang-Yeboah F et al [12]. For Amin AAA et al [16], the rectum and sigmoid were the most frequent sites. Our data are opposed to those of Imad FE et al [18] in Morocco in 2019, who noted a predominantly sigmoid location in 33%.

Around 40% of colorectal cancers involve the rectum, and 60% the colon, with the sigmoid being the main site [21].

The macroscopic appearance of the ulcerating-budding form was more pronounced in our study and in that of Imad FE et al [18]. On the other hand, Hamdouche S et al [19] in Algeria in 2016 found a predominance of the budding form.

In our study, right hemicolectomy followed by left hemicolectomy were the most common surgical procedures.

In contrast, Diakit éS et al [7] found a predominance of left hemicolectomy in 50% followed by right in 13.2%. In Guinea in 2016, Diallo AT et al [11] noted segmental colectomy in 34%, followed by right hemicolectomy and Hartmann colostomy in the same proportion (20.75%).

This result may be attributable to the frequent location of tumours in the right colon, given that the surgical procedure depends on tumour location and evolution.

In our study, the most common TNM stage was stage III. Our result differs from that of a study in Mali, which reported that stage IV accounted for 85% [20].

This result could be explained by the fact that colorectal cancer remains unrecognized in Africa, due to the precariousness of diagnostic means, responsible for a diagnosis often at an advanced stage.

In our series, the diagnosis was confirmed by histological examination of the surgical specimen, with a clear predominance of adenocarcinoma lieberkh ünien, which is in line with that of Imad FE et al [7] and Diakit éS et al [18] who reported

a predominance of adenocarcinoma.

Our data are in line with the literature, which reports that histological analysis reveals adenocarcinoma in over 73% of cases [21].

The favorable outcome in our sample was also noted by Diallo AT et al [5], who reported simple follow-up in 54%, complications such as suppuration in 6% and digestive fistula in 4%. Touré A et al [11] reported suppuration in 37.4%, evisceration in 9.9% and digestive fistula in 6.9%.

The occurrence of these complications could be linked to the behavior of hospital staff, who sometimes underestimate the risk or misunderstand the rules of asepsis.

In our series, chemotherapy was administered to two patients. This rate is lower than that of Diallo AT et al [7] and Diakit éS et al [11], who recorded chemotherapy in 9.43% and 39.33% respectively. In our series, we recorded a mortality rate of 5%. A comparable rate was found by Shaikh MS et al [1] in 2018 in Pakistan who had observed a mortality of 12.9%.

In our cohort, age, TNM stage, extension and time to consultation were statistically related to prognosis, with pi-values of 0.023, 0.031, 0.038 and 0.033 respectively.

Five-year survival was 18.0% in our series.

The high number of patients lost to follow-up would explain this low rate.

Soro K. G et al found an overall mortality of 57.14% in their study [22].

5. Conclusion

The implementation of a multicenter prospective follow-up policy could provide evidence of quality assurance in colorectal tumor surgery in resource-limited countries.

Abbreviations

CHU University Hospital Centre

Conflicts of Interest

The authors declare no conflicts of interest.

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