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Research Article

Surgical Management of Colon Cancer With Occlusion in the General Surgery Department of the Ignace Deen National Hospital, Conakry University Hospital (Guinea)

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Abstract

Objective: To report on the experience of the general surgery department at Ignace Deen National Hospital, Conakry University Hospital (Guinea), in the surgical management of colon cancer complicated by acute intestinal obstruction. Patients and methods: This was a retrospective descriptive study conducted over a seven-year period (January 2017-December 2023). All patients who underwent emergency surgery for histologically confirmed occluded colon cancer were included. The data analyzed included sociodemographic characteristics, ASA status, intraoperative data, surgical procedures performed, and postoperative outcomes. Statistical analysis was performed using EPI Info 7.2.3.1 software. Results: Seventy-eight patients were included, with a mean age of 59.2 ± 28.7 years and a predominance of males (sex ratio = 1.52). The majority of patients were classified as ASA III (44.9%). The left colon, particularly the sigmoid colon, was the most common tumor location (51.3%). The main surgical procedures performed were right hemicolectomy with immediate restoration of continuity (48.7%) and left colectomy with stoma (44.9%). Postoperative morbidity was 19.2% and mortality was 26.9%. The average length of hospital stay was 16.4 days. Conclusion: Surgical treatment of colon cancer with obstruction remains associated with high mortality. An individualized treatment strategy, taking into account the patient's condition, tumor location, and available resources, remains essential to improve prognosis.

Keywords

Colon Cancer, Acute Intestinal Obstruction, Emergency Surgery, Stoma

1. Introduction

Colon cancer is a malignant proliferative neoplasm that develops at the expense of the histological structures of the colon [1], and acute intestinal obstruction is an unfavorable prognostic factor in the progression of colon cancer, as patients are on average older, tumors are less often resectable, postoperative complications are more frequent [2], with a morbidity rate of 40 to 50% [3] and a mortality rate of 15 to 20% [4].

The incidence of obstructions caused by colon cancer varies depending on the criteria used to assess obstruction. It ranges from 4% to 24% according to published series.

The management of patients with colon cancer obstruction poses three types of problems. Firstly, there is the obstruction

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itself, with its deleterious effect on the upstream intestine; secondly, there is the cancer, which is often locally advanced and finally, there is the often unfavorable condition of these patients, who are regularly elderly and have associated conditions [5, 6].

Surgery for colon cancer with obstruction remains a controversial topic [7, 8]. The aim was to report on our experience in the surgical management of colon cancer with obstruction.

2. Patients and Methods

This was a retrospective descriptive study conducted over a period of seven (7) years, from January 2017 to December 2023, in the general surgery department of the Ignace Deen National Hospital, Conakry University Hospital Center (Guinea).

All patients who underwent emergency surgery for colon cancer complicated by acute intestinal obstruction, with histological confirmation of the diagnosis, were included in this study. Colonic obstruction was defined as a complete cessation of stool and gas for more than 24 hours, associated with clinical signs and confirmed by medical imaging. Incomplete records or those without histological evidence were excluded.

The variables studied included sociodemographic data (age, sex), associated comorbidities, anesthetic status according to the American Society of Anesthesiologists (ASA) classification, intraoperative data (tumor location, local extension), surgical treatment modalities, and postoperative outcomes (morbidity, mortality, length of hospital stay, and follow-up).

All patients received standardized preoperative care, including appropriate resuscitation (fluid and electrolyte balance, probabilistic antibiotic therapy.

3. Results

Over the seven (7) years, seventy-eight (78) cases of colon cancer with obstruction were collected. The average age of patients was 59.2 ± 28.7 years, with extremes ranging from 16 to 84 years. A male predominance was observed (60.26%, n=47) with a sex ratio of 1.52.

ASA class 3 was the most common (44.87%, n=35), followed by ASA class 2 (29.49%, n=23).

All patients received appropriate resuscitation and underwent median laparotomy under general anesthesia.

During surgical exploration, the most common site of tumor lesion was the left colon (51.28%, n=40) (see Table 1).

The surgical procedures performed are shown in Table 2.

Fifteen (15) patients had a postoperative complication, representing a morbidity rate of 19.2%: two (12) cases of surgical site infection and three (3) cases of stercoral fistula.

Twenty-one (21) patients died (mortality = 26.9%), including five cases of multiple organ failure.

The average length of hospital stay was 16.4 days (5-36 days). For patients treated with colostomy resection, the average recovery time was 48 days (21-116 days).

During postoperative follow-up, 13 patients were lost to follow-up. Five patients had received adjuvant chemotherapy.

Table 1. *Location of the tumor lesion.*

Tumor location	Number (N=78)	Percentage
Right transverse	18	23,1
Ascending	06	07,7
Cecum	14	17,9
Sigmoid	29	37,2
Descending	11	14,1

Table 2. *Surgical procedures performed.*

Surgical procedures	Number (N=78)	Percentage
Right hemicolectomy with reattachment	38	48,7
Discharge stoma	5	6,4
Left colectomy + stoma	35	44,9

4. Discussion

Acute intestinal obstruction remains one of the most serious complications of colon cancer, with a reported incidence ranging from 4% to 24% depending on the series and diagnostic criteria used [5, 6, 9]. This variability can be explained by the heterogeneity of the populations studied, the stage of disease progression, and differences in access to care. In our series, the relatively high frequency of colon cancer revealed by obstruction probably reflects a significant delay in diagnosis, which has already been widely described in countries with limited resources [6, 10].

The average age of 59.2 years observed in our study is comparable to that reported by Rault et al. [5] and Trompetas [6]. However, the presence of young patients, sometimes under the age of 40, is consistent with recent observations of an increase in the incidence of early colorectal cancers, particularly in developing countries [11, 12]. This trend raises questions about genetic, environmental, and dietary factors that have not yet been sufficiently explored in our context.

The male predominance found in our study is consistent with data from the international literature [3, 6, 13]. Several authors cite hormonal, behavioral, and nutritional factors, but also greater exposure of men to risk factors such as smoking, alcohol, and low-fiber diets [13, 14].

Clinically, the majority of patients were classified as ASA III, reflecting an altered general condition at the time of surgery. Numerous studies have shown that poor ASA status is an independent predictor of postoperative morbidity and mortality in tumor-related colonic obstructions [3, 8, 15]. Obstruction causes colonic distension, fluid and electrolyte imbalances, and an increased risk of sepsis, worsening the prognosis [16].

Occlusion causes colonic distension, fluid and electrolyte imbalances, and an increased risk of sepsis, worsening the prognosis [16].

With regard to tumor location, the predominance of the left colon, particularly the sigmoid colon, is widely reported in the literature [5, 6, 9]. This location is more frequently responsible for obstruction due to the reduced caliber of the distal colon and the more solid consistency of feces [2, 17]. These data explain why the management of left-sided colonic cancers with obstruction remains one of the most controversial topics in digestive surgery.

Therapeutically, colectomy with stoma was the most frequently performed option in our series, particularly for left-sided locations. This cautious approach is widely supported by several authors who consider ostomy to be a safer option in emergency situations, especially in frail or septic patients [5, 6, 18]. It reduces the risk of anastomotic fistula, a serious complication associated with high mortality [15, 19].

However, more recent studies report satisfactory results from resection with primary anastomosis in rigorously selected patients, after adequate preoperative optimization [7, 8, 20]. Awotar et al. [7] and Jiang et al. [8] have shown that this strategy can offer comparable oncological results while avoiding the disadvantages associated with stoma. Nevertheless, this approach remains difficult to apply systematically in resource-limited settings.

The postoperative morbidity of 19.2% observed in our series is lower than that reported by Breitenstein et al. [3] and other Western series (40–50%). On the other hand, mortality remains high (26.9%), in line with the rates reported in African studies and some older series [10, 15]. The main causes of death are dominated by multiple organ failure, as also reported by Sebastian et al. [4].

The lack of use of colonic stents in our study illustrates the technical and economic limitations of our environment. Although colonic stents are described as an effective alternative allowing delayed surgery under better conditions ("bridge to surgery"), their use remains controversial and inaccessible in many countries [4, 9, 21].

Finally, the low rate of adjuvant chemotherapy and the significant number of patients lost to follow-up highlight the difficulties in accessing specialized oncology care and the weakness of long-term follow-up, which are recurring problems in health systems with limited resources [10, 22]. Better organization of the care pathway and multidisciplinary management could improve the overall prognosis for these patients.

5. Conclusion

The surgical management of colon cancer complicated by acute intestinal obstruction remains a major challenge in countries with limited resources. It often involves patients who are admitted late, in a fragile state, with locally advanced tumors, which explains the still high morbidity and mortality rates.

Emergency surgery remains the mainstay of treatment. The choice of surgical strategy must be individualized, taking into account the patient's general condition, the location of the tumor, and the resources available. Colectomy with stoma remains a safe option in severe cases, while resection with primary anastomosis may be considered in selected patients.

Improving prognosis requires earlier diagnosis, enhanced perioperative resuscitation, access to adjuvant oncological care, and the development of multidisciplinary management tailored to local realities.

Abbreviations

ASA American Society of Anesthesiologists

Conflicts of Interest

The authors declare no conflicts of interest.

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