

Bowel Obstruction Due to Colonic Tumor: Epidemiological, Diagnostic, and Therapeutic Aspects in the General Surgery Department of Ignace Deen National Hospital (CHU) Conakry

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Abstract

Introduction: The aim was to report on the management of bowel obstructions caused by colon tumors in the general surgery department of the Ignace Deen National Hospital-CHU in Conakry. **Methodology:** This was a four-year retrospective descriptive study (January 1, 2020, to December 31, 2024). All patients admitted and operated on for histologically confirmed colonic tumor obstruction during the study period were included. The variables considered were sociodemographic, diagnostic, and therapeutic. **Results:** We collected 489 cases of colonic obstruction, among which 30 were tumor-related colonic obstructions, representing 6.1% of the cases. The average age was 47.8 years. The sex ratio was 2.75 in favor of men. The clinical examination was dominated by cessation of bowel movements and gas (100%), abdominal pain (100%), and abdominal bloating (70%; n = 21). The tumor was located in the sigmoid colon. This location is justified by the diameter of the sigmoid colon being small, resulting in the rapid obstruction in case of the appearance of a tumor, compared to the other segments, having a much larger diameter. Lieberkühn adenocarcinoma was the most common histological type, accounting for 63.3% (n = 19). The predominant surgical procedure for right-sided tumor obstruction was right hemicolectomy with anastomosis in 33.3% (n = 10), and for left-sided tumor obstruction, the Hartmann procedure was used in 36.7% (n = 11). The outcome was favorable in 73.3% (n = 22) of the cases. Morbidity in the form of surgical site infection was noted in 16.7% (n = 5). The average hospital stay was 28 days. **Conclusion:** Colonic tumor obstructions are relatively common in our context. Early consultation and a multidisciplinary approach could improve the management of tumor-related colonic

obstructions.

Keywords

Colonic Obstruction, Tumor, Ignace Deen

1. Introduction

Colonic tumors are benign or malignant proliferative growths that develop at the expense of the colonic walls [1]. They can progress and lead to colonic obstruction, which is a complete and permanent halt of the passage of stool and gas. The abdominal-pelvic CT scan is the examination of choice, allowing the tumor to be located and complications to be assessed [2]. Colon tumors with obstruction account for 8 to 20% of colon cancers [3]. They are particularly common in Western countries, where 8 to 29% of patients are admitted for colonic obstruction, which represents an unfavorable prognostic factor [4]. The risk increases with age, and those most affected are people aged 50 and over. Several lifestyle-related factors contribute to the occurrence of this type of condition: a diet low in fruits and vegetables and high in fat, a sedentary lifestyle, obesity, smoking, and alcohol consumption. Tumor blockages are often diagnosed at an advanced stage in developing countries [5]. In France, post-operative morbidity and mortality in emergency situations are high: the morbidity rate is estimated at around 40% and the mortality rate at 10 to 15% [4]. Treatment is based on surgical resection and chemotherapy [5]. In Mali in 2022, Diémé E and colleagues [6] reported, over a 7-year period, 37 cases of blockage due to colon tumors, with overall morbidity and mortality estimated at 35% and 13.5%, respectively. In Guinea in 2024, Oularé I and colleagues [7] reported, over a 5-year period, 79 cases of colon tumors, 38% of which were obstructive. In our context, colon tumors are often diagnosed at a late stage, in acute intestinal blockage. The goal of this study was to report on the management of patients with bowel obstruction caused by colon tumors in the general surgery department at Ignace Deen National Hospital.

2. Methodology

This was a descriptive retrospective study lasting 4 years, from January 1, 2020, to December 31, 2024, conducted in the general surgery department of the Ignace Deen National Hospital-CHU in Conakry. The study population included all patients treated in the department for colonic tumor causing acute intestinal obstruction during the study period. All patient records admitted and treated in the department during the study period but without up-to-date medical files were excluded. The study variables were sociodemographic, clinical, paraclinical, therapeutic, and outcome-related.

The diagnosis of intestinal obstruction was established clinically and supported

by plain abdominal radiography without preparation (ASP), as emergency computed tomography (CT) scanning was not available in our setting. In cases of tumor-related obstruction, the diagnosis was confirmed intraoperatively based on the surgical findings. A biopsy of the affected segment was obtained during surgery and subsequently submitted for histopathological examination. Consequently, definitive histopathological confirmation was only available postoperatively, and the diagnosis could not be established before surgery.

The criteria for selecting hemicolectomy with primary anastomosis included the patient's overall clinical condition, the absence of distant metastatic lymph nodes, the surgeon's level of experience, and the patient's refusal of a stoma. Greater surgical experience was considered an important factor favoring primary anastomosis. The Hartmann procedure was selected in patients with a poor general clinical condition, the presence of distant metastatic lymph nodes, and acceptance of a stoma by the patient. In our context, with the lack of surgical equipment for the stoma, stomatherapeutic, but also considering the socioreligious aspect, the hemicolectomy is always privileged.

The data were analyzed using Excel and SPSS version 26. Descriptive analysis was performed for quantitative variables (mean, standard deviations, and extremes) and qualitative variables (count and percentage). Confidentiality was ensured, and the data were collected anonymously.

3. Results

During the study period, we collected 489 cases of lower acute intestinal obstruction (colic), among which 30 cases were lower mechanical acute intestinal obstructions due to tumors, representing 6.1% of the cases. The age group between 61 and 70 accounted for 30% ($n = 9$) of the cases. The average age was 47.8 ± 15.13 , with extremes ranging from 18 to 85 years. Men were the most affected, accounting for 73.3% ($n = 22$), with a male/female sex ratio of 2.75. Most patients came from the city of Conakry, making up 86.7% ($n = 26$) of the cases. Regarding profession, merchants were the most affected at 30% ($n = 9$), followed by civil servants (13.3%; $n = 4$), workers (13.3%; $n = 4$), and security officers (13.3%; $n = 4$). Clinically, it presented as lower acute intestinal obstruction. See **Tables 1-5**.

Table 1. Breakdown of patients by clinical characteristics.

Clinical features	Number of cases	Percentage
Functional signs		
Stopping stool and gas	30	100.0
Abdominal bloating	21	70.0
Abdominal pain	30	100.0
Diarrhea	6	20.0

Continued

Comorbidities		
Diabetes	1	3.3
High blood pressure	3	10.0
General signs		
Deterioration of general condition	27	90.0
Weight loss	21	70.0
Physical signs		
Abdominal bloating	29	96.7
Palpable mass	27	90.0
Defense	3	10.0
Swollen lymph nodes	8	26.7
Tympany	6	20.0
Presence of air-fluid sounds	20	66.7
Digital rectal exam		
Free anal margin	30	100.0
Sphincter normal tone	30	100.0
Fluid Saddle in Rectal Ampulla	17	56.7

Table 2. Distribution of patients according to the tumor location.

Location of the tumor	Number of cases	Percentage
Sigmoid colon	11	36.7
Cecum	7	23.3
Descending colon	5	16.7
Left (1/3) transverse colon	4	13.3
Ascending colon	2	6.7
Right colic flexure	1	3.3
Total	30	100

Table 3. Distribution of patients according to therapeutic characteristics.

Therapeutic Features	Number of cases	Percentage
Preoperative intensive care	30	100
Type of anesthesia		
GA+ Oesotracheal intubation	30	100

Continued

Admission time to the operating room		
<24 h	25	83.3
24 - 48 h	5	16.7
Surgical exploration		
Carcinomatosis	3	10.0
Liver metastases	2	6.7
Deep lymph nodes	16	53.3
Mesenteric invasion	8	26.7

Table 4. Breakdown of patients by surgical procedure.

Surgical gesture	Number of cases	Percentage
► Right colon		
Right hemicolectomy plus anastomosis	10	33.3
► Left colon		
Hartmann's colostomy	11	36.7
Sigmoidectomy	5	16.7
Left hemicolectomy plus anastomosis	4	13.3

Table 5. Distribution of patients by progress.

Evolution	Number of cases	Percentage
Postoperative period		
Simple	22	73.3
Complicated	8	26.7
Complication		
Infection at the surgery site	5	16.7
Fistula	2	6.7
Postoperative peritonitis	1	3.3

Additional examinations were mainly dominated by the Abdominal X-ray Without Preparation (AXR), abdominal CT scan, and ultrasound, accounting for 100%, 66.7%, and 16.7% of cases, respectively. The preferred location of the tumor is the sigmoid colon in 36.7% (n = 11) of cases. **Table 2** summarizes the tumor location. The histological type was Lieberkühn adenocarcinoma in 63.3% (n = 19) and lymphoma in 36.7% (n = 11) of cases.

Therapeutic characteristics are summarized in **Table 3**. Regarding surgical procedures, right hemicolectomy was performed in 33.3% ($n = 10$). See **Table 4**. The average hospital stay was 28.2 ± 8.15 days, with a range of 10 to 39 days.

4. Discussion

During our study, several limitations were highlighted. First of all, the retrospective nature of the study impacted the sample size. Moreover, the lack of data on TNM stages or tumor grade, which are essential in oncology, constitutes a notable weakness. The fact that the study was conducted in a single hospital limits the generalizability of its conclusions on a national scale. Finally, the absence of long-term follow-up prevents the evaluation of outcomes after treatment.

During this study, we recorded a relatively frequent rate of acute mechanical intestinal obstructions of tumor origin. The same observation was made by Adamou H. *et al.* [8] in 2016 in Niger, who reported a frequency of 3.5% for colonic obstructions. Indeed, in Africa, colonic obstructions are most often secondary to volvulus and rarely due to tumors, which are more common in the West. In our context, colon tumors are diagnosed at the stage of obstruction, after consulting traditional medicine. Our patients were relatively young. In the series by Papa A *et al.* [9] in 2019 in Senegal, the average age was 49. This study confirms the high frequency of colon tumors in young patients in Africa, unlike in Western countries where the age at tumor obstruction is much higher due to their longer life expectancy. This observation reflects the early onset of colon tumors in African populations, suggesting the existence of genetic and/or environmental factors to which African populations might be exposed. The predominance of the male sex in our context was reported by Belhamidi MS and colleagues [10] in 2018 in Morocco, who found a high frequency of men (61%) with a sex ratio of 1.5. However, El Housse *et al.* [11] in 2014 in Morocco found a slight female predominance with a sex ratio of 0.97. Indeed, in the literature, sex is not a risk factor for colon tumors, and the incidence of obstructive colon tumors is similar in both sexes.

Merchants were the most represented group, followed by housewives. This result differs from that of Tapily M in 2019 in Mali [12], who found a predominance of housewives at 34% of cases. In our country, merchants are better off financially, so they can more easily undergo investigations to reach this diagnosis. The clinical picture was dominated by a stoppage of stool and gas, abdominal pain, as well as abdominal distension and vomiting. This aligns with the literature regarding obstructions; indeed, an obstruction often reveals colonic tumors. Abdominal X-ray (ASP) was the most performed imaging exam in our study. The same observation was made by Zongo WS in 2012 in Burkina Faso [13], who reported that ASP was the most carried out imaging exam, followed by computed tomography (CT). This explains why the plain abdominal X-ray (ASP) is the easiest exam to perform in an emergency and the least expensive in our context. Computed tomography (CT) is done for etiological purposes. Indeed, abdominopelvic CT provides the most precise information. It highlights

tumor metastases. The sigmoid colon was the most frequent tumor site; Baymakov S R and colleagues in 2019 in Japan [14] reported a similar result with a predominant localization of obstructive tumors in the left colon, mainly the sigmoid and rectosigmoid colon, which is consistent with the literature data. The preference for this location is justified by the diameter of the sigmoid colon being small, resulting in the rapid obstruction in case of the appearance of a tumor compared to the other segments, having a much larger diameter. Lieberkühn adenocarcinoma was the predominant histological type, followed by patients who had lymphoma. Adenocarcinoma is the most common histological type in the case of colonic tumor obstruction [15]. All patients received preoperative resuscitation and general anesthesia with orotracheal intubation. A similar result was found in Zongo WS's 2012 study in Burkina Faso [13], where all patients had received preoperative resuscitation. This could be explained by the late diagnosis of tumor obstructions. The immediate outcome was favorable in most cases. That is patient healed with perfect cicatrization, and exit the hospital facility without any complications. The same goes for the simple postoperation course for patients where-as there are no immediate postoperative complications. Baymakov S R *et al.* 2019 in Japan [14] reported a similar result with postoperative complications of (26.1%). These complications can be multifactorial: the surgical technique, the patient's condition, the duration of the surgery, and the quality of postoperative care. The average length of hospital stay was long. This result differs from that of Sotirianakou ME *et al.* [16] in 2023 in Greece, who found an average hospital stay of 12.4 ± 5.7 days. Indeed, the treatment duration would depend on the type of treatment used; in our study, the care was mainly surgical, and the occurrence of postoperative complications would be the reason for the extended hospital stay.

5. Conclusion

Colon tumors causing obstruction are relatively common. In our context, diagnosis and management tend to be late. The sigmoid colon was identified as the most frequent tumor site, with a histological predominance of Lieberkühn adenocarcinoma. Surgical management was mainly dominated by Hartmann's colostomy for left-sided colon tumor obstructions and by right hemicolectomy with anastomosis for right-sided colon tumor obstructions. Early and multidisciplinary management could improve the quality of care.

Ethical Consideration

Our data were collected anonymously, and confidentiality was maintained in accordance with medical ethics. The information obtained was used purely for scientific purposes. This study was conducted after authorization from the administrative authorities of the National Hospital Ignace Deen, CHU Conakry, formal committee review was not required.

Study Limitations

Being single-center, small sample size, exclusion of patients who died before care, and follow-up limited to the immediate postoperative period. The study variables were both quantitative and qualitative, divided into epidemiological, clinical, para-clinical, and therapeutic data.

Consent for Publication

Not applicable.

Availability of Data and Materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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Author Contributions

Barry Mamadou Sakoba and Camara Mariama contributed to the conception of the article's idea and conducted the surveys. Bah Fatoumata Lamarana and Touré Aboubacar supervised and reviewed the manuscript and contributed to the documentary search.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Medical Dictionary of the Academy of Medicine (2022). <https://www.academie-medecine.fr/>
- [2] Mathonnet, M. (2009) Sheet 84—Obstructions. In: Vidal-Cathala, É. And Terlaud, C., Eds., 120 *Diagnoses Not to Miss Two*, Elsevier Masson, 280-283.
- [3] Chen, T.-M., Huang, Y.-T. and Wang, G.-C. (2017) Outcome of Colon Cancer Initially Presenting as Colon Perforation and Obstruction. *World Journal of Surgical Oncology*, **15**, Article No. 164. <https://doi.org/10.1186/s12957-017-1228-y>
- [4] Manceau, G. and Clot, H. (2017) Prognosis of Colonic Cancers in Obstruction. Vol. 45, FMC-HGE, 75-78.
- [5] Villano, A. (2023) Colorectal Cancer—Gastrointestinal Disorders. Prof Man MSD Edition, 1-14.
- [6] Diémé, E.G.P.A., Tine, M.M.C., Sall, I., Ndiaye, R., Diouf, M., Fall, O., Sow, A. and Ogougbémy, M. (2019) Prise en charge des cancers colorectaux en occlusion à l'Hôpital Principal de Dakar: À propos de 37 cas. *Mali Médical*, **34**, 40-47.
- [7] Oulare, I., Traore, B., Cisse, A., Youla, A.M., Kourouma, M., Soumaoro, L.T., Fofana, X.L. and Toure, A. (2024) Colorectal Cancer: Epidemiological Profile and Manage-

- ment at Conakry University Hospital (Guinea). *Journal of Surgery*, **12**, 75-78. <https://doi.org/10.11648/j.js.20241203.12>
- [8] Adamou, H., Magagi, I.A., Habou, O., Magagi, A., Maazou, H., Adamou, M., *et al.* (2016) Etiologies et pronostic des occlusions intestinales aiguës mécaniques à l'Hôpital National de Zinder: Étude transversale sur 171 patients. *Pan African Medical Journal*, **24**, Article No. 248. <https://doi.org/10.11604/pamj.2016.24.248.8372>
- [9] Ba, P.A., *et al.* (2018) Emergency Surgical Treatment of Obstructive Colon Cancers at the Thiès Regional Hospital. https://www.researchgate.net/publication/322538882_Traitement_chirurgical_en_urgence_des_cancers_du_colon_en_occlusion_a_l'hopital_re-gional_de_Thies
- [10] Belhamidi, M.S., Sinaa, M., Kaoukabi, A., Krimou, H., Menfaa, M., Sakit, F., *et al.* (2018) Profil épidémiologique et anatomopathologique du cancer colorectal: À propos de 36 cas. *Pan African Medical Journal*, **30**, Article No. 159. <https://doi.org/10.11604/pamj.2018.30.159.15061>
- [11] El Housse, H., Ajbara, W., Amsaguine, S., El Amrani, N., Drissi, H., Ahallat, M. and Radallah, D. (2015) Epidemiological and Clinicopathological Profiles in Moroccan Population with Colorectal Cancer. *African Journal of Cancer*, **7**, 95-99. <https://doi.org/10.1007/s12558-014-0352-3>
- [12] Tapily, M.M. (2019) Obstructive Colon Cancers: Diagnostic and Therapeutic Aspects in the "A" Surgery Department of the Point G University Hospital. Retrospective and Descriptive Study. Ph.D. Thesis, Université des Sciences, des Techniques et des Technologies de Bamako (USTTB).
- [13] Zongo, W.S. and Konde, S. (2012) Epidemiological, Clinical, Paraclinical, and Therapeutic Aspects of Colonic Cancer in Obstruction at CHUYO and CHUSS: About 36 Cases. Case Study. University of Ouagadougou.
- [14] Risbayevich, B.S., Aoyama, T., Ergashevich, M.S., Sakamoto, J., Shavkatovich, B.S. and Shevket-Oglu, Y.S. (2019) Selection of Treatment for Patients with Acute Colonic Obstruction of Tumor Etiology. *Annals of Cancer Research and Therapy*, **27**, 15-18. <https://doi.org/10.4993/acrt.27.15>
- [15] Arcagy-Gineco, D.B.P. (2025) Histological Types of Colon & Rectal Cancer. Infocancer. <https://www.arcagy.org/infocancer/localisations/appareil-digestif/cancer-colon-et-rectum/formes-de-la-maladie/les-differents-types-histologiques.html>
- [16] Sotirianakou, M., Frountzas, M., Sotirianakou, A., Markogiannakis, H., Theodoropoulos, G.E., Sotirianakos, S., *et al.* (2024) Malignant Bowel Obstruction: A Retrospective Multicenter Cohort Study. *Journal of Clinical Medicine*, **13**, Article No. 263. <https://doi.org/10.3390/jcm13010263>