

Research Article

Complications of Colon Surgery: Frequency and Management in the General Surgery Department of Chu Ignace Deen

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Abstract

Introduction: The aim was to evaluate the management of postoperative complications of colonic surgery at the Ignace DEEN University Hospital (CHU) in Conakry. **Materials and Methods:** A two-year retrospective descriptive study (January 2023 to December 2024) conducted in the general surgery department of Ignace Deen University Hospital. All records of patients admitted and operated on in our department who presented with complications from colon surgery and those referred for colon complications after surgery in other facilities meeting our criteria were included in the study. Incomplete records were excluded. The variables analysed were sociodemographic, therapeutic and evolutionary characteristics. **Results:** The study examined 56 cases of patients with complications from colon surgery, representing 18.48% of the department's total activity. The average age was 35 years, with extremes of 20 and 90 years. We noted a predominance of the male sex (66.07%) with a sex ratio (M/F) of 1.94. Pelvic colon volvulus was the most common initial pathology (64.28%), followed by dolichocolon (32.14%). The initial surgical procedure consisted of a left hemicolectomy with immediate restoration of colorectal digestive continuity in 47 cases (83.93%), followed by the Hartmann procedure in 7 cases (12.50%) and right hemicolectomy with immediate restoration of digestive continuity in 2 cases (3.93%). The average time to the occurrence of complications was 21 days, with extremes of 3 and 19 days. Surgical site infection was the most frequent (46.43%), followed by digestive fistula (19.64%), postoperative peritonitis (16.07%). Staphylococcus aureus was the most frequently encountered germ (41.66%). Non-surgical treatment was carried out in more than half of our patients (58.93%), and re-laparotomy was necessary in 23 patients (41.07%). Postoperative outcomes were uncomplicated in 83.93%. The average length of stay was 30 days, with a range of 6 to 102 days. **Conclusion:** Postoperative complications of colonic surgery are frequent and serious. Early diagnosis and appropriate management help reduce morbidity and mortality.

Keywords

Postoperative Complications, Colon Surgery, Ignace Deen, Conakry

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1. Introduction

Postoperative complications (POCs) are a major indicator of the quality of care in surgery [1]. Those associated with colon surgery represent a real public health problem due to their frequency and severity.

In Europe, colon surgery is dominated by cancers, chronic inflammatory diseases and diverticulosis [2]. In Africa, however, colon surgery is dominated by benign conditions (most commonly pelvic colon volvulus and pathological dolichocolon) [2]. Among these complications, anastomotic leaks, obstructions, haemorrhages and wound infections are the most common and most serious [3].

Treatment varies depending on the type of complication, which may require reoperation. Despite advances in surgery with the advent of increasingly less invasive and more effective techniques, complications from colon surgery remain a serious concern, as they often lead to a worsening of the initial condition [4].

The aim of this study was to evaluate the management of complications from colon surgery at Ignace Deen University Hospital.

2. Materials and Methods

This was a retrospective, descriptive study covering a two-year period (from 1 January 2003 to 31 December 2024). It was conducted in the general surgery department at Ignace Deen National Hospital, Conakry University Hospital. All files of patients admitted and operated on in our department who presented with complications from colon surgery and those referred for colon complications after surgery in other facilities meeting our criteria were included in the study. Incomplete files and those of patients who died at the time of admission were excluded from the study. The variables analysed were the socio-demographic characteristics of the patients, the indications, the surgical techniques and their outcomes.

3. Results

During the study, out of 2,490 admitted patient records, we identified 303 cases of colic pathology, of which 73 patients experienced postoperative complications, and 56 records were included in the study (18.48%). The average age was 35 years, with extremes of 20 and 90 years. The age group of 51 to 60 years was the most frequent (26.79%). A male predominance was noted (66.07%) with a sex ratio of 1.94. More than half of the patients lived in urban areas (76.79%). We admitted 37 patients as emergencies (66.7%) compared to 19 patients during regular consultations (33.93%). Pelvic colon volvulus was the most common initial pathology, occurring in 36 cases (64.28%), followed by dolichocolon in 18 cases (32.14%) and rectal tumors in 2 cases (3.57%). The initial surgical procedure

consisted of a left hemicolectomy with immediate restoration of colorectal digestive continuity in 47 cases (83.93%), followed by Hartmann's procedure in 7 cases (12.50%) and right hemicolectomy with immediate restoration of digestive continuity in 2 cases (3.93%). The average time to the onset of complications was 21 days, with extremes of 3 and 19 days. Most complications occurred between the eighth and fourteenth day (53.57%), twenty-one before the 7th day (37.50%), and five after the 8th day.

Surgical site infection was the most frequent (46.43%), followed by digestive fistula (19.64%), postoperative peritonitis (16.07%), postoperative bowel obstruction (8.92%), evisceration (5.36%), and hemorrhage at the surgical wound (3.57%).

Staphylococcus Aureus was the most commonly encountered germ (41.66%), followed by *Escherichia Coli* (25%), *Enterobacter* sp. (33.33%), *Pseudomonas aeruginosa*, *Staphylococcus + Escherichia coli*, and *Staphylococcus + pneumoniae* in 1 case each (8.33%). According to the ASA classification, the most represented stage was ASA2 in 35 cases (62.50%), followed by ASA1 in 18 cases (32.14%) and ASA3 in 3 cases (5.36%). Non-surgical treatment was carried out in more than half of our patients (58.93%), while relaparotomy was necessary in 23 patients (41.07%).

Intraoperatively, an anastomotic leak was the most commonly found lesion in 15 cases (65.22%), adhesions/bands in 5 cases (21.74%), and eviscerations in 3 cases (13.04%). Among the surgical procedures performed, there was closure of the breach (47.83%), adhesiolysis/resection of bands (21.74%), colostomy (17.39%), and parietal reconstruction (13.04%). Patients were discharged cured in 47 cases (83.93%), and we recorded 9 deaths (16.07%). Five patients died from septic shock and four patients from multiorgan failure. More than half of the patients stayed longer than 21 days (66.07%), ten stayed between 15 and 21 days (17.85%), eight stayed between 8 and 14 days (14.28%), and one patient stayed less than 7 days (1.78%). The average length of hospital stay was 30 days, with extremes of 6 and 102 days.

4. Discussion

The frequency of postoperative complications in our series is significant. Several authors in the African literature have reported high rates with varying proportions [3, 8]. The frequency of complications from colon surgery is related to the urgent nature of the surgical procedures performed in our context and the clinical condition of patients at the time of surgery.

The predominance of young adults noted in the series is related to data from the African literature, and this age varies around 50 years, whereas that observed for colic pathologies in industrialized countries is higher, particularly for colorectal cancer. [4-7].

Male predominance is common in studies on digestive dis-

orders. Limited access to healthcare in rural areas and late diagnosis of colonic diseases in resource-limited settings can worsen their prognosis and increase the risk of postoperative complications. [2, 8] According to the literature, this predominance of pelvic colon volvulus is linked to the narrowness of the male pelvis, which offers no chance of detorsion in the event of torsion. [9].

It was a frequent cause of surgical intervention performed on the colon, followed by dolichocolon in Africa. This result differs from Western series, where cancer and diverticular diseases are more predominant [10]. The predominance of left hemicolectomies and Hartmann's procedure is consistent with the nature of the pathologies treated, as these procedures are commonly used for left colon and sigmoid pathologies, often in emergency situations [11].

The predominance of infectious complications is comparable to other studies conducted in resource-limited countries [12]. The average time of onset of complications is 21 days, with a peak between the 8th and 14th day, which is typical for infectious complications [13]. Although the intestinal flora is the main cause of post-surgical digestive infections, the predominance of *S. Aureus* suggests exogenous contamination, potentially nosocomial [14].

The rate of leaks is significantly high and may be related to several factors: the patient's condition, the inflammatory or infectious state during surgery, and the surgical technique used [12, 15].

Delayed consultation, the absence of early initial care, low socioeconomic status, and inadequate technical facilities are responsible for a high mortality rate, unlike those reported by Polliand C and colleagues [16]. The long average hospital stay highlights the burden of complications on the healthcare system and patients [16, 17].

5. Conclusion

Postoperative complications of colic surgery are frequent and serious. Early diagnosis and appropriate management help reduce morbidity and mortality.

Abbreviations

CHU Ignace Deen University Hospital Center
ASA American Society of Anesthesiologists

Author Contributions

Kondano Saa Yawo: Conceptualization, Project administration, Resources, Software, Writing – original draft, Writing – review & editing

Konate Adama: Formal Analysis, Investigation, Resources, Software

Diallo Mamadou Malipha: Funding acquisition, Investigation, Methodology

Soumaoro Labile Togba: Data curation, Methodology,

Writing – review & editing

Fofana Houssein: Supervision, Validation, Visualization

Toure Aboubcar: Supervision, Validation, Visualization

Conflicts of Interest

The authors declare no conflicts of interest.

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