East African Scholars Journal of Medicine and Surgery
Abbreviated Key Title: EAS J Med Surg
ISSN: 2663-1857 (Print) & ISSN: 2663-7332 (Online)
Published By East African Scholars Publisher, Kenya

OPEN ACCESS

Volume-8 | Issue-1 | Jan-2026 | DOI: https://doi.org/10.36349/easjms.2026.v08i01.004

Original Research Article

Right Colon Surgery in an Urban African Setting: Indications, Surgical Procedures and Outcomes in Four Hospitals of Douala, Cameroon

Jean Paul Engbang[1,2*], Ambroise Ntama[1,3], Fred Dikongue[1], Valery Onana Mvondo[1], Joséphine A'Ambahaye[1], Basile Essola[1], Marcelin Ngowe Ngowe[1,2]

[1]Faculty of Medicine and Pharmaceutical Sciences, University of Douala, Douala, Cameroon
[2]Laquintinie Hospital of Douala, Douala, Cameroon
[3]Regional Military Hospital No.2, Douala, Cameroon

Article History
Received: 10.11.2025
Accepted: 03.01.2026
Published: 12.01.2026

Journal homepage:
https://www.easpublisher.com

Quick Response Code

Abstract: ***Background*:** Right colon surgery is a substantial component of digestive surgery in sub-Saharan Africa, where late presentation and emergency conditions remain frequent, and multicenter data are scarce. ***Objective*:** To describe the indications, surgical procedures and postoperative outcomes of right colon surgery in four referral hospitals of Douala, Cameroon. ***Methods*:** We conducted a retrospective descriptive multicenter study over 10 years (January 2012–December 2021). All patients aged ≥15 years who underwent right colon surgery were eligible. Sociodemographic, operative and postoperative variables were extracted from medical records and analyzed descriptively. ***Results*:** A total of 145 patients were included. Mean age was 46.16 ± 18.06 years (16–87), with male predominance (64.1%; sex ratio 1.78). Emergency surgery accounted for 67.58% of cases. Obstructive right colon cancer was the leading indication (25.51%). Right hemicolectomy was the most frequent procedure (57.24%). Overall postoperative morbidity was 65.51%, dominated by surgical site infections (35.06%) and enterocutaneous fistulas (25.97%). In-hospital mortality was 6.89% (n=10). ***Conclusion*:** Right colon surgery in Douala is mainly performed in emergency settings for advanced colorectal cancer and is associated with high morbidity. Strengthening early diagnosis and perioperative quality improvement is essential to improve outcomes.

Keywords: Right Colon Surgery, Colorectal Cancer, Hemicolectomy, Postoperative Complications, Emergency Surgery; Cameroon.

INTRODUCTION

Right colon surgery remains a cornerstone of digestive surgery globally. In high-income countries, right colectomy is most often performed electively for colorectal cancer detected through screening, with increasing use of minimally invasive approaches and enhanced recovery pathways that improve short-term outcomes and reduce length of stay [1–4]. In contrast, in sub-Saharan Africa, the burden is characterized by delayed presentation, limited access to colonoscopy and cross-sectional imaging, and the absence of organized screening programs, resulting in high rates of emergency surgery for obstruction or sepsis [5–8].

Colorectal cancer incidence is rising in many African settings. Although population-level incidence remains lower than in Western countries, patients frequently present at advanced stages, and a substantial proportion require urgent surgery for bowel obstruction or perforation [7–10]. Emergency colorectal surgery is consistently associated with higher postoperative morbidity and mortality compared with elective surgery, driven by sepsis, poor physiological reserve, and reduced opportunity for preoperative optimization [11–13].

In Cameroon, the available literature on colorectal surgery is limited and predominantly single-center, with reports emphasizing male predominance, younger age distribution and infectious complications after surgery [14–16]. Douala, the largest urban center of Cameroon, hosts multiple referral hospitals and concentrates a large volume of digestive surgical activity. However, multicenter data describing indications, surgical practice patterns and postoperative outcomes of right colon surgery remain scarce.

The objective of this study was to describe the indications, surgical procedures and postoperative outcomes of right colon surgery in four referral hospitals of Douala, Cameroon, to support context-appropriate quality improvement and guide local policy discussions.

***Corresponding Author:** Jean Paul Engbang
Faculty of Medicine and Pharmaceutical Sciences, University of Douala, Douala, Cameroon

MATERIALS AND METHODS

Study Design and Setting

Retrospective descriptive multicenter study conducted in four referral hospitals in Douala, Cameroon.

Study Period: January 1, 2012 to December 31, 2021.

Population

All patients aged ≥15 years who underwent right colon surgery (cecum to proximal two-thirds of transverse colon) during the study period were eligible. Records with insufficient operative or outcome information were excluded.

Variables and Definitions

Variables included age, sex, clinical context (emergency vs elective), operative indication, procedure performed, and postoperative outcomes. Postoperative morbidity was defined as any complication documented during hospitalization; mortality was defined as in-hospital death.

Statistical analysis

Data were summarized using means and standard deviations for continuous variables and frequencies and percentages for categorical variables.

Ethical Considerations: The study used anonymized retrospective data from medical records in accordance with institutional standards.

RESULTS

Sociodemographic Characteristics

A total of 145 patients were included. Mean age was 46.16 ± 18.06 years (range 16–87). Men accounted for 64.1% (sex ratio 1.78) (Table 1). This relatively young age distribution is consistent with several African series and contrasts with Western populations where colorectal cancer surgery is predominantly performed in older adults [7–10].

Table 1: Sociodemographic characteristics of the study population (n=145)

Characteristic	n	% / value
Male sex	93	64.1%
Female sex	52	35.9%
Age (years), mean ± SD	—	46.16 ± 18.06
Age range (years)	—	16–87

Indications for Surgery

Emergency surgery accounted for 67.58% of cases, reflecting late presentation and high prevalence of complicated disease in this context (Table 2). Obstructive right colon cancer was the leading indication (25.51%), underscoring the central role of advanced colorectal cancer in emergency surgical workload. Figure 1 illustrates the distribution of indications.

Table 2: Surgical context and leading indication

Variable	n	%
Emergency surgery	—	67.58%
Elective surgery	—	32.42%
Obstructive right colon cancer (leading indication)	37	25.51%

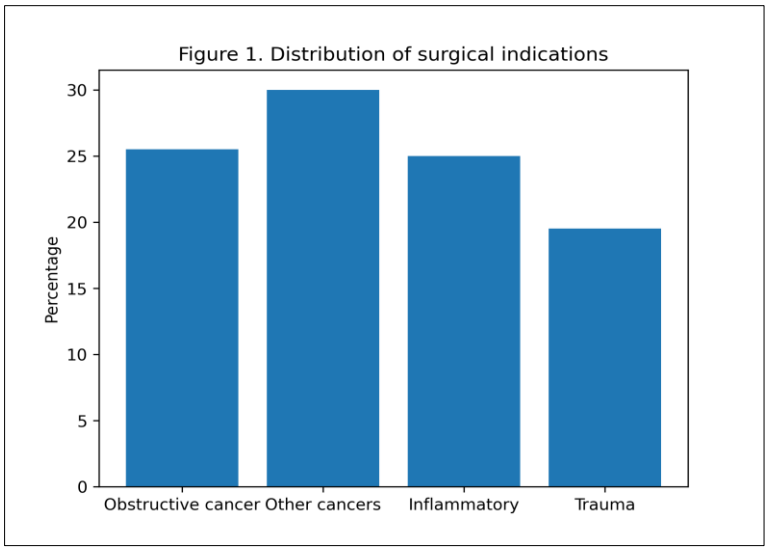

Figure 1: Distribution of surgical indications (leading indication: obstructive right colon cancer)

Surgical Procedures

Right hemicolectomy was the most frequently performed procedure (57.24%), followed by right colectomy (13.10%) (Table 3). All operations were performed via open laparotomy, which is consistent with the predominance of emergency surgery and limited access to minimally invasive platforms. In comparable settings, expansion of laparoscopy is usually incremental and initially targeted to elective cases [3-18].

Table 3: Main surgical procedures performed

Procedure	n	%
Right hemicolectomy	83	57.24%
Right colectomy	19	13.10%
Other procedures	—	—

Postoperative Outcomes

Overall postoperative morbidity was 65.51% (Table 4). Infectious complications predominated, with surgical site infections (35.06%) and enterocutaneous fistulas (25.97%) being the most frequent. Figure 2 shows the distribution of postoperative complications. In-hospital mortality was 6.89% (n=10), mainly attributed to sepsis, hemorrhage and respiratory distress.

Table 4: Postoperative outcomes

Outcome	n	%
Any complication (morbidity)	—	65.51%
Surgical site infection	—	35.06%
Enterocutaneous fistula	—	25.97%
In-hospital mortality	10	6.89%

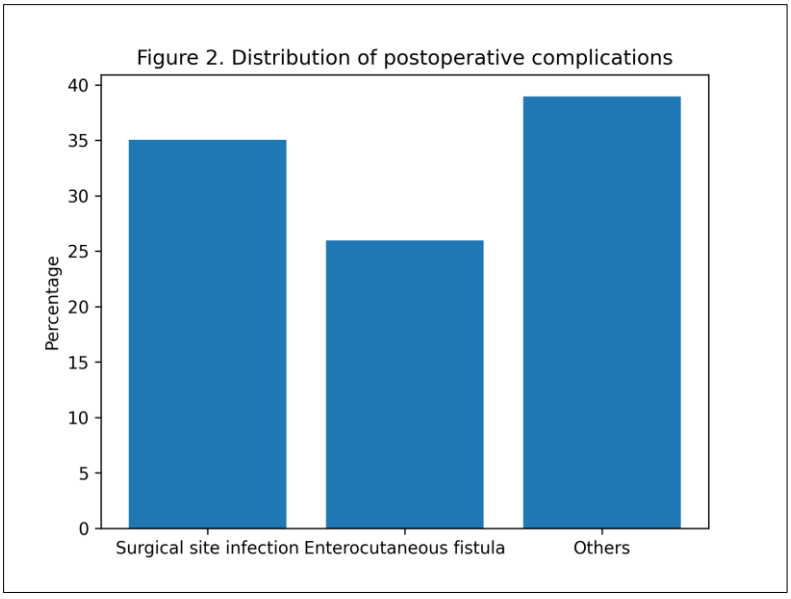

Figure 2: Distribution of postoperative complications

DISCUSSION

This multicenter study provides a pragmatic description of right colon surgery in an urban Cameroonian setting over a 10-year period. The mean age (46 years) was lower than that typically reported in high-income countries, where colorectal cancer surgery commonly occurs after 60 years [7–10]. A younger age profile has been described in multiple African series and may reflect demographic structure, potential differences in risk exposure, and delayed access to diagnostic pathways leading to advanced disease at presentation [14–16].

More than two-thirds of patients were operated on in an emergency context. Emergency colorectal surgery is associated with higher complication rates than elective surgery, largely due to physiological derangement, infection/sepsis, and lack of time for preoperative optimization [11–13]. The predominance of obstructive right colon cancer in our study further supports the interpretation that late-stage malignancy is a major driver of emergency operative workload in Douala.

Right hemicolectomy was the most frequent procedure, consistent with oncologic principles and international practice [17]. However, all procedures were

performed via open surgery. Large randomized trials and meta-analyses in high-income settings support the safety and short-term advantages of laparoscopic colectomy—reduced pain, fewer wound complications and shorter length of stay—while maintaining oncologic adequacy in appropriately selected patients [1–4]. In low-resource settings, the barriers include equipment costs, maintenance, training and anesthesia capacity. A stepwise implementation strategy focusing on elective cases, coupled with standardized perioperative protocols, may be the most feasible pathway [18–20].

Postoperative morbidity was high (65.5%), dominated by infectious complications. This pattern is frequently reported in African colorectal surgery and is plausibly amplified by emergency surgery, bacterial contamination, delayed antibiotic administration, limited critical care capacity, and challenges with perioperative glycemic control and nutrition [12–22]. Despite the high morbidity, the observed in-hospital mortality (6.9%) is within the range reported in several African series, though estimates vary widely depending on case-mix and the proportion of perforation/sepsis [21–23].

Implications for practice include: (i) reinforcing early diagnostic pathways for colorectal cancer (access to colonoscopy and imaging), (ii) standardizing perioperative infection prevention bundles (timely prophylactic antibiotics, sterile technique, glucose control, normothermia), and (iii) adopting context-appropriate enhanced recovery components as feasible (early mobilization, early feeding, multimodal analgesia) [3,18–20]. At health-system level, advocacy for organized awareness and targeted screening among higher-risk groups may reduce the burden of obstructive presentations [7–10].

Strengths of this study include its multicenter design and extended study period. Limitations include retrospective data quality constraints, missing variables for some subgroups, and limited granularity on tumor staging and comorbidity severity, which may restrict causal inferences.

CONCLUSION

Right colon surgery in Douala is predominantly performed in emergency settings, chiefly for obstructive colorectal cancer, and is associated with substantial postoperative morbidity. Improving early diagnosis, strengthening perioperative quality and infection prevention, and progressively building capacity for elective minimally invasive surgery may improve outcomes in this setting.

DECLARATIONS

Ethics approval and consent to participate: Retrospective anonymized study (institutional standards applied).

Consent for Publication: Not applicable.

Availability of Data and Materials: Available upon reasonable request.

Competing Interests: The authors declare no competing interests.

Funding: None

Authors' Contributions: All authors contributed to study conception/design, data interpretation and manuscript drafting; all approved the final version.

REFERENCES

1. Nelson H, Sargent DJ, Wieand HS, *et al.,* A comparison of laparoscopically assisted and open colectomy for colon cancer. N Engl J Med. 2004; 350:2050–2059.
2. Veldkamp R, Kuhry E, Hop WCJ, *et al.,* Laparoscopic surgery versus open surgery for colon cancer: short-term outcomes of a randomised trial. Lancet Oncol. 2005; 6:477–484.
3. Gustafsson UO, Scott MJ, Schwenk W, *et al.,* Guidelines for perioperative care in elective colonic surgery: Enhanced Recovery After Surgery (ERAS) Society recommendations. Clin Nutr. 2012; 31:783–800.
4. Lacy AM, García-Valdecasas JC, Delgado S, *et al.,* Laparoscopy-assisted colectomy versus open colectomy for treatment of non-metastatic colon cancer: a randomised trial. Lancet. 2002; 359:2224–2229.
5. Bagnall NM, Nassiuma A, Burkill C, *et al.,* Management of sigmoid volvulus in sub-Saharan Africa: a systematic review. Int J Surg. 2016; 33:184–191.
6. Atamanalp SS. Colonic volvulus: a comprehensive review. World J Gastroenterol. 2013; 19:741–747.
7. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates. CA Cancer J Clin. 2018; 68:394–424.
8. Sung H, Ferlay J, Siegel RL, *et al.,* Global cancer statistics 2020: GLOBOCAN estimates. CA Cancer J Clin. 2021; 71:209–249.
9. Arnold M, Sierra MS, Laversanne M, Soerjomataram I, Jemal A, Bray F. Global patterns and trends in colorectal cancer incidence and mortality. Gut. 2017; 66:683–691.
10. Dekker E, Tanis PJ, Vleugels JLA, Kasi PM, Wallace MB. Colorectal cancer. Lancet. 2019; 394:1467–1480.
11. Cirocchi R, Farinella E, Trastulli S, *et al.,* Safety and efficacy of emergency surgery for obstructing colon cancer: systematic review. Int J Surg. 2013;11: (details may vary).
12. Toumi Z, Chan CLH, *et al.,* Emergency colorectal surgery outcomes and risk factors: a review. World J Emerg Surg. 2017; 12:15.
13. Scott NA, Jeacock J, Kingston RD. Risk factors in emergency colorectal surgery. (General reference).

14. Savom EP, *et al.,* Colorectal surgery in Cameroon: patterns and outcomes. Health Sci Dis. 2021.
15. Takongmo S, *et al.,* Indications and outcomes of colostomies in Cameroon. (Local reference).
16. Ngowe Ngowe M, *et al.,* Colostomy techniques and outcomes in a low-resource African setting. (Local reference).
17. NCCN Clinical Practice Guidelines in Oncology: Colon Cancer. (Guideline reference).
18. Nana Oumarou H, *et al.,* Laparoscopic right hemicolectomy in sub-Saharan Africa: feasibility report. (Regional reference).
19. Diouf M, *et al.,* Postoperative morbidity and mortality in colorectal surgery in West Africa. Dakar Med. 2013; 58:89–94.
20. Kamat AM, *et al.,* Surgical site infection prevention bundles in colorectal surgery: (general reference).

Cite This Article: Jean Paul Engbang, Ambroise Ntama, Fred Dikongue, Valery Onana Mvondo, Joséphine A'Ambahaye, Basile Essola, Marcelin Ngowe Ngowe (2026). Right Colon Surgery in an Urban African Setting: Indications, Surgical Procedures and Outcomes in Four Hospitals of Douala, Cameroon. *East African Scholars J Med Surg, 8*(1), 14-18.