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Research Article

Panoramic Study of Laparoscopic Digestive Surgery at Brazzaville University Hospital

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Abstract

Objective: To report our experience with laparoscopy in digestive surgery at the Brazzaville University Hospital. *Patients and method:* This was a descriptive study with retrospective data collection from June 2020 to January 2023 in the digestive surgery at the Brazzaville University Hospital. All patients operated on by laparoscopy were included. *Results:* During the study period, 2758 patients were managed in the digestive surgery department, including 140 by laparoscopy, i.e. a frequency of 5.07%. The average age of our patients was 36.32 ± 14.94 years, with extremes of 16 and 74 years. There were 109 women and 31 men, giving a sex ratio of 0.28. The main indications were cholecystectomy (85.71%) followed by appendectomy (8.57%), exploratory laparoscopy (5%) and peritoneal drainage (0.72%). Post-operative management was straightforward in 137 patients (97.85%). Complications (2.15%) were dominated by parietal suppuration. *Conclusion:* The use of laparoscopy in digestive surgery is still limited to cholecystectomy, appendectomy and abdominal exploration.

Keywords

Panoramic Study, Laparoscopy, Digestive Surgery, Brazzaville

1. Introduction

Was first introduced in France in the 1940s by gynecological surgeon Raoul Palmer, when it was used for diagnostic purposes only [1]. Since then, and especially from the mid-1970s onwards, laparoscopy has developed into a therapeutic technique in gynecology. In visceral and digestive surgery, it was from the mid-1980s onwards that the technique blossomed and spread to other surgical specialties [2, 3]. It is now considered the gold standard for treating a wide range of pathologies. Its advantages include reduced blood loss, less post-operative pain, better scar aesthetics and a rapid return to daily activities [4, 5]. In Africa, this "revolution" has also taken place, although not on the same scale. The indication for laparoscopy in our countries is hampered by difficulties in acquiring the equipment, and in training medical and paramedical staff in its use and maintenance.

In the Congo, the practice of laparoscopy began with the

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performance of a cholecystectomy in the early 2000s. Scientific studies on the practice of laparoscopy in Brazzaville have been reported by ITOUA and al. in gynecology [6] and NOTE and al. in digestive surgery [7, 8]. The aim of this work is to report on our experience with laparoscopy in digestive surgery at the Brazzaville University Hospital.

2. Patients and Method

This is a descriptive cross-sectional study with retrospective data collection that took place in the digestive surgery department of the Brazzaville university hospital during the period from June 2020 to January 2023. We included all patients operated on by laparoscopy. Study parameters were epidemiological, clinical, paraclinical, therapeutic and evolutionary.

Data were collected and analyzed using Excel 2016 software.

3. Result

During the study period, 2,758 patients were managed in the digestive surgery department, including 140 by laparoscopy, i.e. frequency of 5.07%. The average age of our patients was 36.32 ± 14.94 years, with extremes of 16 and 74 years (figure 1). We counted 109 women (77.86%) and 31 men (22.14%), i.e. a sex ratio of 0.28.

The main indications (table 1) cholecystectomy (85.71%) for symptomatic vesicular lithiasis, followed by appendectomy (8.57%) for acute appendicitis, exploratory laparoscopy (5%) for atypical acute abdominal pain with non-contributory imaging, and peritoneal drainage (0.72%) for subphrenic abscess (figure 2).

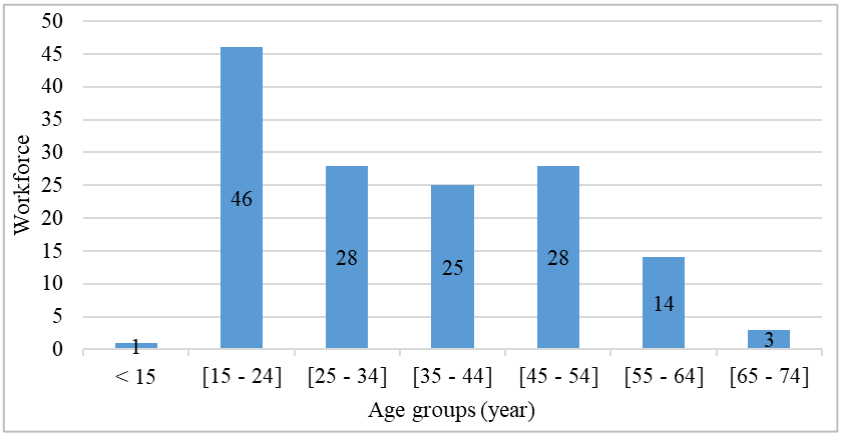

Figure 1. *Age distribution of patients.*

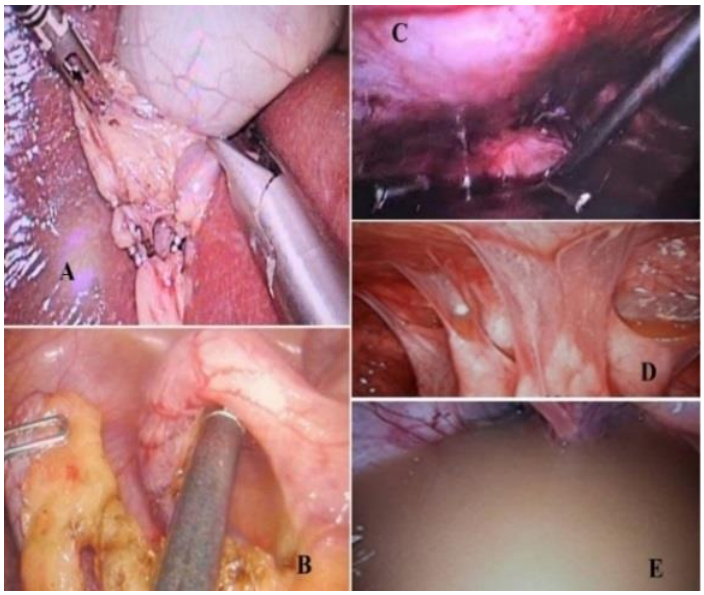

Figure 2. *Images showing A: dissection during cholecystectomy, B: dissection during appendectomy, C: right subphrenic collection, D and E: visceroparietal adhesions and a squinting effusion during exploratory laparoscopy.*

Table 1. Breakdown of patients by surgical indication.

Indication	Workforce	Percentage
Cholecystectomy	120	85,71
Appendectomy	12	8,57
laparoscopy	7	5
drainage	1	0,72
Total	140	100

There were 2 cases of surgical conversion due to acute cholecystitis with extensive pediculitis making dissection of the cystic tripod impossible.

Postoperative management was straightforward in 137 patients (97.85%). Three patients (2.15%) developed parietal suppuration at the umbilical trocar port. The average cost of treatment was 330,000 FCFA.

4. Discussion

During the study period, 5.07% of digestive surgery procedures at Brazzaville University Hospital were performed laparoscopically. Although this rate remains low, it is higher than that reported by ARUNG and al [9] in 2015 in the Democratic Republic of Congo, which was 1.5%, and by James Didier in Niamey, Niger [10], which was 2.16. It is lower than that of Bang GA in Yaoundé, Cameroon [11]. Although the use of laparoscopy in digestive surgery remains limited in the Congo, it nevertheless appears to be more common than in some other African countries.

The indications for digestive laparoscopic surgery in our study were varied. They included symptomatic vesicular lithiasis, acute uncomplicated appendicitis and right subphrenic abscess. The Congolese literature on laparoscopy also reflects this diversity of applications [12-18]. Among the indications, diagnostic laparoscopy is of great importance in the African context. Indeed, according to NAR and al. only 20% of the African population has access to medical imaging services [19], which frequently leads to "white" exploratory laparotomies. A Cameroonian study of 70 cases of diagnostic laparoscopy for digestive tumors showed that, in 60% of cases, the staging after laparoscopy did not match the radiological staging, and that a contraindication to excision surgery was detected in 20% of cases, thus avoiding unnecessary laparotomies for patients [11]. NAR and al. have also highlighted the importance of diagnostic laparoscopy in chronic abdominal pain syndromes with uncertain diagnoses [19]. We believe that, in this field, laparoscopy would be a major asset for the Congo.

With a conversion rate of 1.428%, our results are lower than those reported in other African studies [20, 21]. Indeed, 3 cases of postoperative complications were infections at the trocar orifices. In the absence of an endoloop, the unprotected operative specimen is extracted through the umbilical trocar port. On occasion, the operative specimen is accidentally opened and the contents of the trocar come into contact with the wall. This maneuver, leading to unavoidable contact between the operating part and sometimes its contents with the abdominal wall, can lead to infection of the wall. Improving the technical platform could therefore help to reduce morbidity after laparoscopic digestive surgery.

5. Conclusion

Laparoscopic surgery plays a significant role in digestive surgery. Its use in digestive surgery is still limited to cholecystectomy, appendectomy and abdominal exploration. Improving the technical platform could therefore contribute to increase the number of indications in our department.

Abbreviations

FCFA African Financial Community Franc

Author Contributions

Elion Ossibi Pierlesky: Conceptualization, Formal Analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Visualization, Writing – original draft, Writing – review & editing

Massamba Miabaou Didace: Supervision

Note Madzele Murielle Etiennette Julie: Supervision

Bhodeho Monwongui Medi: Data curation, Methodology, Software, Visualization

Tsouassa Wa Ngono Giresse Bienvenu: Data curation, Methodology, Software, Visualization

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Motoula Latou Noé Henschel: Supervision

Avala Prude Pertinie: Supervision

Conflicts of Interest

The authors declare no conflicts of interest.

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