

Short-Term Results of One Day Surgery at the Digestive Surgery Department of Yaounde Central Hospital

Georges BWELLE MOTTO

Department of Surgery and Specialties,
Faculty of Medicine and Biomedical Sciences, University of Yaoundé I, Cameroon
Department of Visceral and Digestive Surgery, Yaoundé Central Hospital (Cameroon)

Joseph Cyrille CHOPKENG NGOUMFE

Department of Visceral and Digestive Surgery, Yaoundé Central Hospital (Cameroon)

Yannick Mahamat EKANI BOUKAR

Department of Visceral and Digestive Surgery, Yaoundé Central Hospital (Cameroon)

Guy Aristide BANG

Department of Surgery and Specialties, Faculty of Medicine and Biomedical Sciences,
University of Yaoundé I, Cameroon

Fabrice TIENTCHEU TIM

Department of Visceral and Digestive Surgery, Yaoundé Central Hospital (Cameroon)

Arthur ESSOMBA

Department of Surgery and Specialties, Faculty of Medicine and Biomedical Sciences,
University of Yaoundé I, Cameroon

Abstract

Introduction: Ambulatory surgery, though widespread in the world remains in an embryogenic phase in Africa. The aim of this study was to evaluate the prognosis of ambulatory patients (out patients) in our context. **Method:** We conducted a descriptive cross-sectional study over an 11-month period at the Yaoundé Central Hospital. The parameters studied were clinical and social according to the criteria of the Ouagadougou Quality Life index (OQLI). **Results:** We included 33 patients (21 men and 12 women) with a sex ratio of 1.75 M/F and a mean age of 38.45 years with extremes ranging from 21 to 74 years. Proctologic disorders accounted for 63.7% followed by wall disorders in 21.3% of cases. Patients were classified ASAI (81.80%), ASAII (15.20%) and ASAIII (3%). Spinal anesthesia was used in 78.8% of cases. The mean duration of intervention was 21.89 minutes with a pain intensity at 24h postoperative between 4 and 6 according to the Visual Analog Scale. 78.8% of patients had a hospital stay equal to 24 hours and 21.2% less than 24 hours. Complications were headache and postoperative nausea and vomiting with a morbidity of 0.18%. There were no cases of infection and no mortality. The criteria of the Ouagadougou Quality Life Index were improved and appreciable in short term. **Conclusion:** Ambulatory surgery would improve the level of care for a significant category of patients in various specialties.

Keywords: Ambulatory surgery, complications, quality of life index, Cameroon

INTRODUCTION

Ambulatory surgery is a procedure covering all surgical or investigative procedures, programmed and carried out under the technical safety conditions of an operating theatre, under anesthesia of various forms and in accordance to modalities enabling without increased risk, discharge of the patient on the same day of admission [1]. The advantages of this procedure are: shortening of postoperative disability, which speeds up family, school and occupational reintegration; reduction of the length of hospital stay and thus the reduction of the total cost of management and occurrence of hospital-acquired infections. [1] In the past, surgery had many constraints most especially pre, per and post-surgical hospitalizations, requiring the use of anesthesia techniques predisposing to high risks and the occurrence of hospital-acquired infections. Many practitioners concerned about the comfort and early return of their patients have greatly reduced the length of hospitalization of patients to less than 24 hours. [1, 2, 3]. In Cameroon, the implementation of this procedure is still in its infancy stage and a little evaluated. We thus decided to evaluate the results of this practice in the Digestive and Visceral Surgery Services of Yaoundé Central Hospital.

MATERIALS AND METHOD

This was a cross-sectional descriptive study including patients in a prospective mode. It was carried out at Yaoundé Central Hospital in the Digestive and Visceral Surgery services over a period of 11 months. All patients included were over 15 years of age and excluded were patients with more than two associated surgical pathologies, patients with pathologies whose management had to be done immediately and patients with benign tumor pathologies of less than 10cm of large axis (lipoma). Patients were conveniently included. Each patient had a data collection sheet including identification data, clinical and paraclinical data, surgical indications, preoperative, intraoperative and postoperative monitoring elements. Monitoring was done: 24 hours after surgery, every 2 days during the first week, then weekly the first month, every fortnight in the second month and finally monthly from the third to the sixth month. The evaluation of post-operative quality of life of patients after the procedure was carried out using the Ouagadougou Quality Life index (OQLI) criteria. All the operations had been performed by a visceral surgeon. The data was entered on Microsoft Word 2007 software and analyzed on Epi-info 3.5.4. The student and chi2 tests were used. The results were considered significant for a p-value <0.05. The informed consent of each patient was obtained. The study was carried out in compliance with the rules of ethics and professional conduct.

RESULTS

Our study involved 33 patients including 21 men and 12 women with a sex ratio of 1.75 M/F. The mean age was 38.45 ± 13.52 years with extremes ranging from 21 to 74 years. The most represented age group was between 25 and 34 years. Table 1 shows the distribution of patients by age group

Table 1: distribution of patients by age group

Age range	N	Percent (%)
15 - 24	6	18,18
25 - 34	10	30,30
35 - 44	6	18,18
45 - 54	7	21,21
≥55	4	12,12
Total	33	100

Most of the patients had no defects. The majority of patients were normal sized (77.8%) and only 12.2% were obese. Proctologic pathologies (anal fistula, fissure, hemorrhoidal disease, masses) were predominant in 63.7% of cases followed by wall defects (inguinal hernias) in 21.30% of cases. Table 2 shows different pathology operated.

Table 2: pathology operated.

Pathology	N	Percent (%)
Hernia	7	21,30
Low anal fistula	8	34,30
supernumerary breast	1	3,00
Gynecomasty	1	3,00
Cutaneous cyst	1	3,00
Anal fissure	4	12,10
haemorrhoidal disease	9	27,30
Keloidal scar	1	3,00
Lymph node biopsy	1	3,00
Total	33	100

The majority of patients were ASA I in 81.80% of cases. Dirty pathologies (Altemeier IV) were the most common in 63.7% of cases. Locoregional anesthesia was the most commonly practiced, in 78.80% of cases. Table 3 shows the distribution of patients according to the operative data.

Table 3: Preoperative status of the patients

Item	N	%
ASA	ASA I	27
	ASA II	5
	ASA III	0
	ASA IV	1
	ASA V	0
Altemeier class	Class 1	11
	Class 2	1
	Class 3	0
	Class 4	21
Type of anesthesia	Local	6
	Locoregional	26
	General	1

Hyperbaric 0.5% bupivacaine was used in all our patients for spinal anesthesia. The main local anesthetic was 2% adrenaline-free lidocaine. The patients under general anesthesia were on propofol and halothane and were all awake in less than 60 minutes. The average duration of analgesia under locoregional anesthesia was 360 minutes with extremes ranging from 200 to 400 minutes. Patients moved on average 32.5 minutes under local anesthesia. The average response time was 21.89 minutes with extremes ranging from 6 to 60 minutes. Between 6 and 12 hours postoperatively, pain intensity was mostly rated between 5 and 7 in our patients. At 24 hours postoperative pain intensity was reduced and ranged from 4 to 6. Twenty-one-point two percent of patients had a hospital stay of less than 24 hours while 78.8% had hospital stay of 24 hours. For the first seven days, six patients had persistent (moderate) pain and fecal leakage, however, we had no cases of incontinence, recurrence, or death. Weekly dilation sessions for proctological surgery were spread over a 4-week period, fistulas healed on average in 6 weeks and hernias between 15 and 20 days.

DISCUSSION

Ambulatory surgery, although beneficial to the patient due to its early discharge from the hospital as well as the rapid resumption of its activities, is practiced very little in our hospital and we included 33 patients for this purpose over 11 months. The average age in our study was 38.45 years representing a class of patient with little metabolic and/or cardiovascular defects with an ASA low enough to undergo outpatient surgery. The sex ratio 1.75 in favor of men who are more prone to wall defects, representing one of the most common diagnoses in outpatient surgery. Like most of the authors, [4, 5] the indications we found remain proctological pathologies in 63.7% of cases (24.3% of fistulas, 12.10% of fissures and 27.3% of stage IV hemorrhoidal diseases) and wall defects in 21.3% of cases (hernias and benign tumors). Indeed, the hospital where the study was held is a centre that receives a large majority of patients suffering from proctological pathology not only from the city of Yaoundé but from the country. Hence their predominance in this study. Spinal anesthesia was the most practiced anesthesia technique for our procedures in 78.8% of cases and hyperbaric 0.5%, bupivacaine the main anesthetic because of its effectiveness of as reported in literature. [6]. The main intravenous and volatile anesthetics used for general anesthesia were propofol and halothane, respectively, which demonstrated effective action in the prevention of post-operative nausea and vomiting (PONV). [7, 8]. All procedures were performed in not more than 60 minutes with a mean duration of 21.89 minutes. One of the factors increasing the risk of infection is the duration of the procedure, which according to the literature should be less than 90 minutes for outpatient surgery [1, 10, 11, 12]. Post-operative progression after 12 hours was marked by moderate to severe pain (5-7) according to the visual analogue scale. It was between 4 and 6 at 24h post-operative. Although E.M. Pérez et al. in 2000 [9] found in the same postoperative time frame an average pain intensity of 2.41 and 1.74, according to literature, the intensity of postoperative pain is not a predictive value in pre-operative especially because it depends on the surgical technique, anesthesia and comorbidities. Because of the almost exclusive practice of spine anesthesia during our study, 78.80% of patients had a 24-hour hospital duration while 21.20% had done less than 24 hours of intra-hospital postoperative surveillance. As with most authors [5], the complications that occurred during our study were related to the technique of anesthesia performed (post-operative nausea and vomiting) related to general anesthesia and post-spinal headaches. No other complications were recorded as most patients were ASA I and II. Indeed, several authors have shown that the risk of complication increases with the ASA score [10]. The morbidity of our study was 0.18%, almost zero result thanks to the rigorous

selection of patients to operate based on comorbidities and indications, then by reduction of hospital stay which has the advantage of reducing the occurrence of hospital-acquired infections and finally by the mastery of all the procedure and surgical techniques by the practicing teams. Despite the loss to follow up of some patients, we found that the overall mood of our patients was very good as well as all the other OQLI criteria that kept improving after the procedure. For example, 94.4% of patients had mild residual pain, normal skin sensitivity, good appetite and normally carried out their social activities one month after the procedure.

CONCLUSION

Ambulatory surgery or "One Day Surgery" represents one of the many advances in the surgical management of patients at the end of the twentieth century. It has multiple benefits for the management of young patients without particular defects who present uncomplicated surgical pathologies of the abdominal wall, proctological and certain benign tumors. It is now used in almost all specialties with as main indications: wall surgery and proctological pathology (anal fistula, cleft, hemorrhoidal disease...) and it is thought that it can be extended to other types of surgeries such as gynecological surgery, urological, orthopedic, ophthalmological... Locoregional anesthesia was the most commonly used anesthesia technique closely followed by local anesthesia. The popularization of one day surgery techniques will reduce postoperative complications. It is adapted to our environment because it reduces the total cost of care by reducing the length of patient hospitalization. The short-term post-operative quality of life of patients is improved and appreciable. It is therefore clear that this practice would increase the level of efficient management of a significant category of patients in visceral surgery and other specialties.

Authors' Contributions

- GBM and JCCN: Study design.
- JCCN and YMEB: Data collection.
- FTT and GAB: Data analysis.
- JCCN and YMEB: Manuscript writing.
- GBM, GAB: Proofreading and correction of the manuscript.
- AE: Final revision of the manuscript, intellectual guarantee of the submission.

acknowledgment

To all the authors for their availability during this work.

Conflicts of Interets

The authors declare no conflict of interest and have read and approve this text.

References

- [1] A. Mahieu, N. Raffy-Pihan. Outpatient surgery in France, balance sheet and outlook. CREDES. 1997 Nov; Report 466.
- [2] Battle N., Fleurette F., Maurel F. And Charvet-protat S. Outpatient surgery. A.N.D.E.M. April 1997.
- [3] I. Kalande, G. Nassali, O. Kituuka. Day Surgery: The Norm for Elective Surgery. East and Central African Journal of Surgery. 2005; 2 :1-4.

- [4] E. Wallin, P. Lundgren, K. Ulander, C. Von Holstein. Does age, gender or educational background effect patient satisfaction with short stay surgery? *Ambulatory Surgery*.2000; 8: 79-88.
- [5] J.M. Villar del Moral, J.B. Martos, J.T. Alcala, P.M. Lorenzo, M.R. Péred, S.M. Garcia et coll. The limits of ambulatory surgery. *Ambulatory Surgery*.1998 ; 6 : 231-234.
- [6] E. Jacquet, P. Puche, J. Alahyane, S. Taber, J.P. Carabalona, D. Bessaou et coll. Evaluation of inguinal hernia in ambulatory surgery: A prospective monocentric study on 1009 inguinal hernia. *Journal of Ambulatory Surgery*. 2006 ; 12: 167-171.
- [7] Z. Messieha . An overview anesthetic procedures, tools and techniques in ambulatory care. *Ambulatory anesthesia*. 2015 Jan 27; 2: 21-28.
- [8] M. Pfisterer, E.M. Ernst, G. Hirlekar, P. Maser, A.K. Shaalan, C. Haigh, B. Upadhyaya. Post-operative nausea and vomiting in patients undergoing day-care surgery : an international, observational study. *Ambulatory Surgery*. 2001; 9: 13-18.
- [9] E. Martin Pérez, R. Barriga, M.A. Rodriguez, E. Larranaga, J.M. Figueroa, P.A. Serrano. Ambulatory surgery for groin hernia: The Gilbert repair. *Ambulatory Surgery*. 2000; 8: 135-138.
- [10] Chopkeng. Post-operative complications of acute abdomens at Yaounde Central Hospital. [Ph.D. thesis in Medicine]. Yaounde: ISTM;2014.
- [11] Singarelli S, Berni A, Coppo G, Fracchia P. Day-surgery, one-day surgery: the experience of an ENT unit in a 250 bed hospital. *Acta Otorhinolaryngol Ital*. 2005 Dec;25(6):365-9. PMID: 16749605; PMCID: PMC2639893.
- [12] Gaucher S, Cappiello F, Bouam S, Damardji I, Aissat A, Boutron I, Béthoux JP. Day surgery: Results after restructuration of a university public general surgery unit. *J Visc Surg*. 2013 Jun;150(3):213-7. doi: 10.1016/j.jvisc Surg.2013.03.002. Epub 2013 Apr 12. PMID: 23587806