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ORIGINAL ARTICLE

Improvement of peri-operative patient management to enable outpatient colectomy

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KEYWORDS
Left colectomy;
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Safety

Summary
Aim of the study: Outpatient left colectomy has been described in several small series or case reports. We conducted a prospective study to determine whether an optimized management approach could allow performance of this procedure in a broader patient population.
Patients and methods: Between December 2014 and December 2015, all eligible patients were prospectively and consecutively included in this study. They all underwent surgery following the same outpatient management protocol. After discharge, patients were followed by home health nurses with surgeon follow-up visits on days 10 and 21 (D10, D21) or earlier, if necessary.
Results: During this period, 56 patients underwent a left colectomy, 47 of whom met the inclusion criteria. Seven patients refused the outpatient care approach, leaving a total of 40 patients included (8 ASA 3 [American Society of Anesthesiologists], 24 ASA 2, 8 ASA 1). All but one of the patients were able to return home the same evening. Bowel motility was restored on D1 for most patients. Two patients had abdominal pain that required a follow-up visit before D10 but their subsequent course was uneventful. No patient was re-hospitalized. An uncomplicated post-operative course was confirmed at follow-up visits on D10 and D21.
Conclusion: Our study confirms that outpatient left colectomy is feasible for most patients, including fragile patients and/or those undergoing more complex procedures. Communication and close coordination by all stakeholders as well AS optimal organization of downstream patient care are essential to guarantee quality and safety.

Abbreviations: SFAR, French Society of Anesthesia and Reanimation; HAS, *Haute Autorité de santé*-French High Health Authority.

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Introduction

The development of enhanced recovery after elective surgery (ERAS) [1] has helped to progressively reduce the duration of hospital stay after colectomy. The benefit to patients has been documented in both the French literature (SFAR [2] and HAS [3]) and English-language studies [4]. This expertise has enabled progress toward the realization of left colectomy in an outpatient setting [5]. Since the initial observation included only strictly selected patients, we conducted a prospective study to determine whether optimized management could allow us to offer outpatient colectomy to more fragile patients and/or to perform associated procedures.

Materials and methods

Between December 2014 and December 2015, all eligible patients were included prospectively and consecutively in this study. The criteria for inclusion and exclusion are presented in Table 1.

Patients were fully informed about ambulatory surgery care during initial surgical consultation and this information was repeated during the anesthesia consultation. Prescriptions for post-operative analgesics and thrombo-embolic prophylaxis medications were provided during the consultations.

The patient instructions and pre-, intra-, and post-operative management protocols are summarized in Table 2.

Statistical analysis was done using XLSTAT® software by Addinsoft. Time durations were expressed as median + ranges. Other variables were expressed as mean + ranges.

Table 1 Inclusion and exclusion criteria.

Eligibility criteria
Colonic lesion situated in the sigmoid or upper rectum above the pelvic peritoneal reflection
Absence of a second colonic or rectal lesion
Pathology: colon cancer, polyp with or without malignant degeneration, sigmoid diverticulitis
Moderate and/or controlled co-morbidities
No prior history of multiple laparotomies
Perfect patient comprehension and acceptance of the anticipated course of ambulatory management
Patient who does not live alone or in poor psycho-social conditions
Exclusion criteria
Presence of more than one colonic or rectal lesion
Presence of anemia pre-operatively
Therapeutic anticoagulation
Anti-platelet medications that cannot be discontinued for at least 72 hours
Severe co-morbidities
Multiple previous laparotomies
Patient refusal
Patient inability to understand the proposed care plan
Psycho-social isolation

Results

Between December 2014 and December 2015, 56 consecutive patients underwent left colectomy: 9 were deemed ineligible for the study, and 6 patients refused outpatient management. A total of 41 patients accepted an outpatient management approach after explanation of the protocol. One of the included patients refused outpatient management on the morning of surgery but was discharged on D1. In total, 40 patients were included in this study, 16 women and 24 men. The average age was 56 years (30—76) and the average body mass index (BMI) was 26 (20—32). Eight were classified according to the American Society of Anesthesiologists (ASA) classification as ASA 3, 24 patients ASA 2, and 8 patients ASA 1. The indication for surgery was cancer in six patients and diverticulitis in 34 patients. The single port laparoscopic approach was performed in 20 patients. An associated surgery was performed in seven patients: left oophorectomy, left salpingectomy, bladder dome resection for oncologic invasion requiring a urinary catheter for 8 days at home, umbilical hernia repair, removal of an umbilical mesh, and appendectomy associated with evacuation of a peri-sigmoid abscess. The median operating time was 78 min (54—147).

The duration of stay in the post-anesthesia care unit (PACU), and the time until ambulation, intake of liquid and solid feeding are shown in Table 3.

All patients were able to return home the same evening (D0) except for one patient who turned out to be alone at home, contrary to what had been planned. A complete blood count (CBC) was performed in all patients six hours after the end of surgery and showed stable hemoglobin level compared to pre-operative value (a decrease of < 1 g Hb compared with the pre-operative value). The mean numeric pain score (NPS) (1 = no pain, 10 = intolerable pain) at discharge was 1.4 (0—3). Discharge time for all patients ranged from 5:30 pm to 7:45 pm.

Information on the resumption of transit after return home was available for 38 patients. Flatus was passed on D0 in two patients, on D1 in 32 patients, and on D2 in four patients. One patient passed stool on DO, 25 patients passed stool on D1, eight patients on D2, one patient on D3, and three patients on D4. Pain was controlled by oral administration of analgesics with a mean NPS of 3.3 (1.5—5) on D1, 2.8 (0—5) on D2, and 2.7 (0—4.5) on D3. Three patients had nausea at home after discharge. Four isolated fever spikes were noted: three in association with resolution of ileus and one related to a surgical site abscess in the patient who underwent intra-operative drainage of a peri-sigmoid abscess. Two patients were brought back for consultation with the surgeon prior to D10 because of abdominal pain, one of whom was the patient who presented the highest NPS. Both patients underwent laboratory testing and CT scan. All these tests proved normal and the subsequent course was unremarkable. No patient was re-hospitalized.

All patients had a follow-up visit with the surgeon on D10; post-operative course was generally normal apart from one patient with a surgical site infection (SSI) that required drainage. All patients were asked to complete an evaluation questionnaire on their outpatient management at the D10 visit. All patients had a second post-operative surgical visit on day 21, where the uncomplicated post-operative course of these patients was confirmed.

Discussion

Outpatient colectomy has already been shown to be feasible in a report of five patients by Gignoux et al. [5].