FEASIBILITY OF AMBULATORY SURGERY: OUR EXPERIENCE

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Abstract

Summary:

Introduction: Ambulatory surgery is a form of surgical management. The patient stays in the hospital for the strict minimum of time. He will arrive in the morning, and must be back at home in the same day in evening. This practice is generalized now. It became possible by the progress of laparoscopy and anesthesia. Multimodal taking care of pain and nausea vomiting earlier manage the postoperative risks. The Patients are rehabilitated by advancement of knowledge. Ambulatory surgery has demonstrated its benefits for the patient in terms of quality, safety, less exposure of nosocomial infections, the thromboembolic risk and less cost. Goal of the study: Demonstrate the feasibility and reproducibility of laparoscopic cholecystectomy, proctologic surgery and inguinal hernia treatment on an outpatient basis under optimal safety conditions, also to guarantee results that approach those of the literature and to determine the causes of failure of the ambulatory procedure.

Materials and methods: Descriptive study, observational, prospective and mono-centric study conducted in the CHU Oran from 04/2016 to 05/2018. With the ambulatory method, patients were admitted for surgical treatment. In order to describe the organizational aspects and risk factors for failure of the ambulatory management to judge the feasibility of this method. All patient characteristics, description of the surgical procedure, type of anesthesia, ambulatory rate, hospitalization, admissions, readmissions and unscheduled consultations are described. The level of satisfaction and intensity of postoperative complain were collected. Results: Our series included 240 patients. The average age was 43 years with extremes ranging from (18-80). There is a slight female predominance 57.9%. The sexratio was 1.37. The majority of patients were ASAI. We performed spinal anesthesia for proctological surgery and hernia cure. The average operating time was 44.87 min. The rates of intraoperative and postoperative complications were 7.08%. The causes of failure were surgical and medical. The medical complications: drowsiness type, headache, pain alone or associated with vomiting, acute retention of urine and organizational causes such as late exit from the block and (stress). The procedure failure rate was (5.8%); readmission rate was (0.41%). The rate of unscheduled consultations was (3.3%). The patient satisfaction rate was 95%.

Conclusion: Our study supports the feasibility of ambulatory surgery under optimal safety conditions. It is part of an approach to improve care. It shows a low morbidity rate, good tolerance of postoperative follow-up. That was possible after a good selection of patients, by adopting anesthesia to the patient and to the intervention, by optimizing the taking in charge perioperative, which is specific by risk management within an organized structure. These conclusions encourage us to propose the establishment of an ambulatory surgery unit

Keyword: Ambulatory surgery-proctology-inguinal hernia-laparoscopic cholecystectomy

1.INTRODUCTION

Ambulatory surgery is a method of surgical management where the patient stays the strictly necessary time in the hospital and, arriving in the morning, must be at home the same evening of the operation without spending the night in the hospital (stay of less than 12 hours) .This practice is spreading and made possible by the progress of surgery by the

contribution of laparoscopy. and anesthesia, the management of postoperative risks through the early and multimodal management of pain and nausea vomiting. By applying the methods of improved rehabilitation of patients and the progression of know-how. Outpatient surgery has demonstrated its benefits for the patient in terms of the quality and safety of care, reduced exposure to the risk of nosocomial infections and the risk of thromboembolism and lower cost.

2. GOAL OF THE STUDY

Demonstrate the feasibility and reproducibility of laparoscopic cholecystectomy, proctologic surgery and inguinal hernia treatment on an outpatient basis under optimal safety conditions, also to guarantee results that approach those of the literature and to determine the causes of failure of the ambulatory procedure

3. MATERIALS AND METHODS

Single-center descriptive study with prospective collection carried out in the surgical clinic "A" of the CHU Oran Algeria over a period of 2 years extending from May 2016 to August 2018

3.1. Inclusion criteria

The inclusion criteria were: Age> 18 years ,ASA class I or II stable Surgical procedures: Cholecystectomy under laparoscopy for uncomplicated gallstones, Cure inguinal hernia., Proctologic surgery: pilonidal sinus, hemorrhoid treatment, anal fistula Patient informed consent. Availability of an accompanying person. Ability to observe medical prescriptions. Geographical distance <1 hour from an adapted care structure. Quick access to a phone.

3.2. Non-inclusion criteria

Were not admitted patients with a BMI> 30, class ASA III or IV, emergency surgery, heavy surgery, (operating time)> 1 hour 30 minutes, with a history of major abdominal surgery or supra mesocolic, presenting a hernia bilateral or recurrent; put on anti-vitamin K, refusal to participate or precarious socioeconomic conditions

3.2. Judging criteria

The failure of the mode of admission defined by hospitalization, of an outpatient operated on or rehospitalization in the 1st week after discharge, rate of unscheduled consultations, postoperative complications and patient satisfaction.

4. METHODS

For this study, all the patients included were hospitalized around 7 a.m. on the morning of the intervention with a stay of less than twelve hours, the patients received a complete preoperative education with prescription prescriptions, the diet was authorized until 6h preoperatively for solids and 2h for liquids, a call to d-1 was established. On the day of the operation, after their preparations, the patients were taken to the operating room. Once operated, they were monitored (6 hours) in the post-intervention care room (Aldrète score) and then in hospitalization unit the patients are discharged according to the CHUNG score

Anesthesia protocol: No premedication Multimodal analgesia: the administration of dexamethasone 8 mg associated with paracetamol is continued intra- and post-operatively non-steroidal anti-inflammatory drugs, and tramadol post-operatively if very painful. Prophylaxis of postoperative nausea and vomiting (apfel score) in addition to dexamethasone, ondosetron is combined. Variable mode anesthesia: general or spinal anesthesia ,Restriction of intravenous (IV) fluids during surgery to less than 500 ml; urination before going to the block in case of spinal anesthesia

Surgical protocol: Operator: senior surgeon Surgical technique: Laparoscopic cholecystectomy: Number of trocar: 4 Pneumoperitoneum pressure: 9 -10 mm HG No intraoperative cholangiography Severe hemostasis / bilistasis (no drain) Optimal exsufflation of the pneumoperitoneum Systematic infiltration of the trocar openings by mercaine (5cc / incision site) / TAP block. Inguinal hernia cure: Free choice for the surgeon (Lichtenstein-type plasty or Bassini-type plasty) No drainage. Infiltration of skin incisions by mercaine / APT block Proctologic surgery: Haemoidectomy according to Milligan Morgan with ligasure Cure of the pilonidal cyst by open excision Fistulotomy for anal fistulas Infiltration of incisions by mercaine.

The statistical analysis was carried out by entering data into an Excel table and then analyzed by IBM SPSS Statistics 20 software. Validity check at the time of entry, looking for consistency between the variables. Transformation of variables: tables and analysis Univariate analysis: frequency, m, m, 95% CI. qualitative variables: N and% Bivariate analysis: x2 test Multivariate analysis: linear regression

5. RESULTS

Our series included 240 patients. The rate of outpatient surgery 37.38%. For laparoscopic cholecystectomy the rate is 44.9%, is 56.5% for proctologic surgery and is 21.15% for Inguinal hernia repair The average age was 43 years with extremes ranging from (18-80), there is a slight female predominance of 57.9% and a sex ratio of 1.37. The majority of patients were ASAI 85% against 15% of ASAII. The average level of education was 63.3%. We performed 86.6% spinal anesthesia for proctologic surgery and inguinal hernia repair. The mean operating time was 44.87min The intraoperative and postoperative complication rates were 7.08% the causes of failure were surgical: two conversions during laparoscopic cholecystectomy and three haemorrhages in proctology including one case of pilonidal cyst cure and two cases of hemorrhoidectomy, only one of which required revision in the operating room and medical complications: type of drowsiness, headache, pain alone or associated with vomiting, acute retention of urine and organizational causes such as late discharge from the block and two patients refused to discharge (stress) The rate of failure of the procedure was (5.8%), readmissions rate (0.8%), unscheduled consultation rate (3.3%) patient satisfaction rate was 95%.

6. DISCUSSION

The causes of discharge failure are medical: pain, malaise, postoperative nausea and vomiting, acute urine retention ,. or surgical: conversion, hemorrhage. and organizational problems: late discharge from the operating room, stress,. the unscheduled admission rate is 14% CORINE VONS[1]

The same causes of failure are found in our study: medical causes since pain was found in 0.41% of cases, 0.41% insufficient awakening, headache 0.41% 0.83% acute retention of urine , 0.83% of conversions, 1.25% haemorrhages, and organizational causes: late discharge from the operating room (operated in the afternoon) in 0.41%, refusal to discharge 0.83% therefore in total 13 patients or 5.45%.

In our series, the readmission rate is 0.4% in relation to postoperative pain following laparoscopic cholecystectomy remains comparable to that found in the literature, however this rate differs according to the authors as shown in the following table.

Readmissions are mostly due to poor control of postoperative pain, as Akoh concluded in his retrospective series [2]. Apart from postoperative pain, Kavanagh has been able to isolate other causes of readmission which are postoperative nausea and vomiting [3].

Most of the series report a readmission rate of 0 to 8% [4] [5]. In fact, three prospective comparative or controlled studies have shown that there were no more readmissions after cholecystectomies managed on an outpatient basis or in hospital [6][7].

These complications are rare since in five series of more than 1000 patients at the start of laparoscopy, they represented 1.1% to 4.5% of patients [8]. In all the series of outpatient cholecystectomies that specify this, no patient returned before day 4 and there were no deaths. A large study conducted in Denmark reported a readmission rate within 60 days of outpatient treatment for HI of 1.8% [9]. Ngo et al. reported only two readmissions (0.7%), motivated by two postoperative hematomas [10].

In our study, the failure of the outpatient procedure combines unscheduled admissions and re-hospitalization, the outpatient failure rate reported in our series 5.8% (14 patients) is lower than those reported in the literature. probably linked to a strict selection of patients included in the study.

This rate fluctuates between 3.3% and 26% depending on the series and the pathologies, but the causes of failure are practically similar.

In the review of the literature the various studies which analyzed the predictive factors of outpatient failure concerning CLA, it was for example 18% in a French retrospective series of 211 patients in 2007 [11] and 19, 8% in the meta-analysis of randomized clinical trials in the Cochrane hepatobiliary group in 2008, comparing laparoscopic cholecystectomy on an outpatient basis or with an overnight stay in hospital [12].

These studies transcribe old series, since the French study ran from 1999 to 2005 and the Cochrane meta-analysis included a 1998 study and a 1999 study on the 5 studies finally analyzed.

A more recent Japanese series (Sato et Al, 2012) also recorded 18% failure [13]. The causes of failure are known. They are dominated, according to Corinne Vons in 2010, by insufficient awakening (50%), pain (20%), post-operative nausea and vomiting (20%) [14].

Vandenbroucke and Al already in 2007, who analyzed in a variety of ways the predictors of failure after CLA. He concluded that age over 65, longer operative time and late onset of surgery after 11 am are the only factors responsible for failure. [15].

Indeed, in the Spanish cohort of 1600 CLA [245] a multivariate analysis was carried out, thus studying the age of the patients, the duration of the intervention, the sex, the duration between the patient awakening and his discharge, the surgery schedule. It has been found that only the age of the patients and the time of surgery are predictors of failure.

In Akoh's 2011 study [2] the duration of the intervention, ASA class and gender were studied, and no predictors were individualized.

In Robinson's study of 289 CLA [16] objected that the age group between 50

In Tang's recent meta-analysis, data on extended hospitalizations and readmissions were available for all cases from nine studies [17][18][19]. In day surgery, a total of 54 patients (13.1%) required hospitalization, with admission rates ranging from 0% to 35% in these studies. The most common reasons were conversion to surgery open, nausea, suction drain, vomiting, pain.

Likewise, 12.1% in the night group required an extended length of stay for similar reasons. However, the meta-analysis showed that there is no significant difference between the two groups with regard to prolonged hospitalization (RR = 1.63, 95% CI: 0.68–3.92, P = 0.27)

In a French study on outpatient inguinal hernia treatment on 9330 patients from the hernia club database [20], 3.6% of failure caused mainly by pain 15, 7%, acute urine retention was noted. 9.9%, or fainting or headache 20.6%.

In our study, which emerged in a univariate analysis, six factors were significantly associated with the failure of outpatient care, namely age> 55 years with a p = 0.00023, pain was also retained. with a p = 0.009 as well as the wake-up delay with a p = 0.00005 in relation to the late exit time of the block.

-As for the surgical causes, these are mainly complications, in particular the intraoperative discovery of cholecystitis causing conversion and failure of outpatient treatment with a significant p = 00000. Also the hemorrhage was statistically associated with the failure with a p = 00000.

In addition, during the multivariate analysis, the factors for failure of outpatient management identified were always pain with a p = 0.0002, acute retention of urine with a p = 0.03 and hemorrhage. and converting with p = 0.00000.

Pain is a predictor of failure in the first place, surgical complications such as conversion and hemorrhage are also predictors of failure. On the other hand, age> 55 years was found in mixed analysis but not was not identified in multivariate analysis.

Conclusion :

The results of our study support the feasibility of day surgery due to the small failurerate of 5.8% a high satisfaction rate 95%. And a low rate of postoperative complications. With good tolerance of postoperative consequences. We have found some benefits as ; family and social reintegration and rapid resumption of professional activity ; low risk of surgical site infections 1.25% ; no thromboembolic risk and Decrease in costs that are not palpable but some.

The cause of failure were late discharge from the block, Pain, acute retention of urine, bleeding and conversion.The areas for improvement recommended are first organizational through better by managing the operating program, second medical by appropriate management of pain (TAP block analgesia protocol), avoid spinal anesthesia for the prevention of acute retention of urine, surgical: good indication and rigorous hemostasis.

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