Journal of Visceral Surgery (2016) 153, 327—331

Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com/en

ORIGINAL ARTICLE

Feasibility prospective study of laparoscopic cholecystectomy with suprapubic approach

B. Le Roy[a,*], N. Fetche[b], E. Buc[a], B. Pereira[c], F. Genty[a], O. Antomarchi[a], J. Gagnière[a], D. Pezet[a], K. Slim[a]

[a] *Digestive Department, Estaing Hospital, 1, place Lucie-Aubrac, 63003 Clermont-Ferrand, France*
[b] *Digestive Surgery Department, Jacques-Lacarin Hospital, 1, boulevard Deniere, 03200 Vichy, France*
[c] *Biostatistics Unit (DRCI), Clermont-Ferrand University Hospital, 63003 Clermont-Ferrand, France*

Available online 23 April 2016

KEYWORDS
Cholecystectomy;
Laparoscopy;
Suprapubic;
Occult scar;
Feasibility

Summary
Background: Since the publication of laparoscopic cholecystectomy (LC) using three ports instead of four, no significant evolution has impacted on our clinical practice in order to improve length of stay, postoperative pain, time of recovery and cosmetic results. Recently, a renewed interest has been observed with the suprapubic approach, called occult scar laparoscopic cholecystectomy (OSLC). The aim of this prospective multicentric study was to evaluate the feasibility of OSLC in 2 French centers.
Methods: From March to September 2014, 60 patients were prospectively included in this study. The operation incisions consisted of an umbilical incision for camera; an incision in the right groin for maneuvers of exposition and a suprapubic incision for instrumental dissection and clipping. Outcome was by operative time, operative complications, hospital length of stay, analgesia required after surgery, and cosmetic outcomes. The Patient Satisfaction Scale and Visual Analog Score (VAS) also were used to evaluate the level of cosmetic result and postoperative pain.
Results: No laparoscopy was converted to an open procedure, the mean operative time was 53 ± 20 min. No patient had intraoperative bile duct injury or significant bleeding. The mean length of stay was 1.70 ± 0.76 days. Two patients (3%) experienced postoperative complication (1 intra-abdominal abscess treated by antibiotics and 1 subcutaneous seroma of the 11-mm port wound treated successfully by needle aspiration).
Conclusion: The technique proved to be safe and feasible with no specific complication and without specific instrument. It offers satisfactory postoperative pain level and good cosmetic results.

* Corresponding author.
E-mail address: leroybertrand8@gmail.com (B. Le Roy).

http://dx.doi.org/10.1016/j.jviscsurg.2016.03.005
1878-7886/

Introduction

Laparoscopic cholecystectomy (LC) was initially described with four ports [1], but since then the technique has evolved with a number of refinements in order to improve length of stay, postoperative pain, time of recovery and cosmetic results. In this way, many procedures have been described; in the 1990s there were the 3-port cholecystectomy, the minilaparoscopic cholecystectomy, the Natural Orifices Translumenal Endoscopic Surgery (NOTES), the single port and the suprapubic approach [2—7]. Indeed, recently a renewed interest has been observed with the last one, called occult scar laparoscopic cholecystectomy (OSLC) [6—10]. The major advantage of this technique is that it uses three occult-scar incisions located on unexposed area, keeping the principles of laparoscopic dissection of the gallbladder and requiring no specific instruments. The reported benefit of OSLC was improvement of both postoperative pain and cosmetic results [8]. The low cost associated with these advantages makes this technical variant an interesting option that could and should be better explored. The aim of this study was to evaluate the feasibility of OSLC.

Patients and methods

From March to September 2014, all consecutive patients with inclusion criteria planned for elective cholecystectomy for gallstone disease were prospectively included in this study. The study was conducted in two French departments of general and digestive surgery (Clermont-Ferrand and Vichy). Inclusion criteria were adult patients planned for elective cholecystectomy for gallstone disease. Exclusion criteria were ASA score > III, BMI > 35 kg/m^2, previous abdominal surgery except for appendicectomy and cesarean section, acute cholecystitis, choledocholithiasis untreated preoperatively, or suspected malignancy. Surgery was performed by surgeon experts in LC. Written informed consent was obtained from all patients according to the policies of the committee.

Surgical procedure

The surgeon is placed between the legs (Fig. 1). The pneumoperitoneum was established with the Veress needle on the left upper quadrant and abdomen was insufflated at 12 mmHg pressure. An 11-mm port was introduced through an infra-umbilical incision. Two 5-mm ports were placed under direct visualization of both sides of midline, 2 cm above the pubis. In contrast to the classic OSLC procedure, the 11-mm port was used for laparoscope, the right port for dissection and clipping and the left port for maneuvers of exposition. In case of difficult exposure, an additional 5-mm port was inserted below the xyphoid. During the placement of the ports, patients are in supine position then we change to a 10—15° of reverse Tredelenburg for the operation. The legs, placed in boots, are in straight position so as not to hamper the instruments. The dissection was then similar to conventional LC (Fig. 2). Intraoperative cholangiography was performed in case of suspected bile duct stones (dilated common bile duct, high alkaline phosphatases) or difficult dissection. It is performed using a kit for cholangiography by puncture of the right upper quadrant. At the end of the procedure the umbilical fascia was closed with absorbable suture.

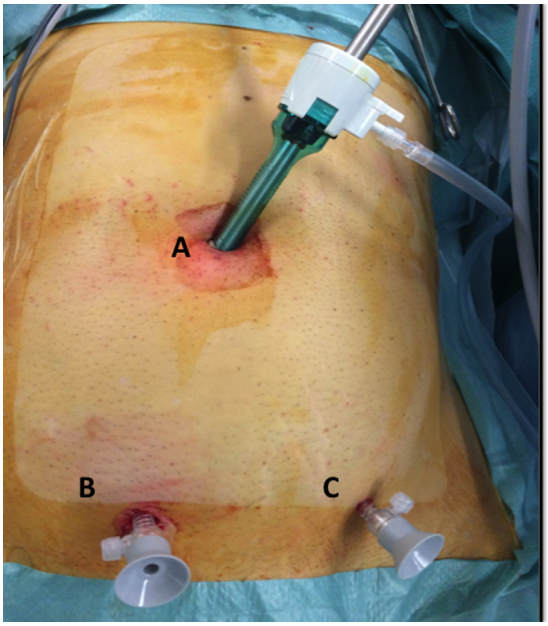

Figure 1. The position of trocar in occult-scar incision for laparoscopic cholecystectomy. A. 11-mm port for laparoscope. B. 5-mm port for exposition. C. 5-mm port for dissection and clipping.

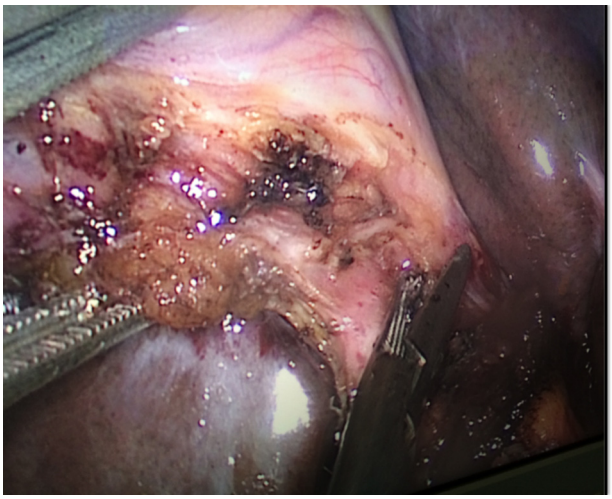

Figure 2. Intraoperative aspect of the cholecystectomy with suprapubic approach.

Management of postoperative pain

Pain control was achieved by giving regular paracetamol 1 g to each patient 4 times daily, when it was not sufficient tramadol 50 mg (up to 4 times daily) and morphine were prescribed and collected on demand.

Endpoints

Intraoperative data regarding duration of surgery, intraoperative blood loss and transfusion, number of ports, gallbladder perforation, successful cholangiography, abdominal drainage and conversion in laparotomy were prospectively collected. Postoperative data including length of stay, abdominal pain using visual analogue pain scale (VAS) ranging from no pain (score 0) to worst possible pain (score 100), nausea and/or vomiting were assessed. Any incidental intraoperative and postoperative event was also recorded.