Surgery-Anesthesia2013

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Surgery and Anesthesia

September 16-18, 2013 Las Vegas, USA

The evolution and evaluation of laparo-endoscopic single site (LESS) cholecystectomy without general anesthesia

Sharona B. Ross
Florida Hospital Tampa, USA

Abstract

Introduction: Laparo-Endoscopic Single Site (LESS) surgery, laparoscopy undertaken through a single small incision at the umbilicus, reduces the need for general anesthesia and, thereby, the use of regional anesthesia has been explored as an alternative. This study illustrates the evolution and progression of our journey with LESS cholecystectomy without the administration of general anesthesia. **Methods**: Evolution of Approach Initially, spinal anesthesia was administrated, with a complete motor block, and a single 3-trocar port was placed through a 12 mm incision at the umbilicus. This approach required adjunctive sutures into the gallbladder to facilitate exposure even with a 5mm deflectable tip laparoscope. We began to rely on epidural anesthesia and progressively improved the regimen and noted increased peritoneal space and decreased diaphragmatic excursion. We evolved to use a single 4-trocar port and, with this, 2 graspers for retraction; adjunctive sutures became superfluous. The necessary "critical view" became clearer. We currently use epidural anesthesia utilizing 2% lidocaine and 1% bupivacaine. Sedation is achieved with propofol, midazolam, or dexmedetomidine, as requested. We use intraperitoneal irrigation with dilute bupivacaine solution to minimize shoulder pain. Evaluation of Current Approach We approached patients with chronic cholecystitis or symptomatic cholelithasisand BMI <35kg/m^2 forLESS cholecystectomy with epidural anesthesia. Blood loss, operative time, complications, and length of stay were evaluated. Preoperatively and 14 days postoperatively, outcome and symptom resolution were scored. Exclusion criteria included pregnancy, or documented contraindications for epidural catheter placement. Patients were followed postoperatively; using a Likert scale from 1 (worst)-10 (best), they scored their pain, satisfaction, cosmesis, and symptom resolution. Median (Mean ± Standard Deviation) data are reported. **Results:** 20 patients underwent LESS cholecystectomy with epidural anesthesia. In the recovery room and through discharge, all patients denied nausea or vomiting, hypotension, neurologic deficits, pruritis, palpitations, drowsiness, or "hangover" from anesthesia. Immediate postoperative pain and discomfort were minimal and well tolerated. The umbilical incisions healed without apparent scar. The patients scored "Satisfaction" as 10 (10± 0.6), "Cosmesis" as 10 (10 ± 0.8), and perioperative "Pain" as 5 (5 ± 3.1). When compared to patients undergoing LESS cholecystectomy with general anesthesia, patients experienced significantly less pain with an average pain score of 4.4 while patients in the general anesthesia group had an average pain score of 6.3 (p=0.018), on postoperative day one. On postoperative days six and seven and at the one and three month follow up visits, the reported pain scores for both groups were low and not significantly different. All patients returned to full activities by 2 weeks. Cholecystectomy was significantly less expensive when undertaken via LESS with epidural anesthesia ($22,508 vs. $33,483 for LESS cholecystectomy with general anesthesia, p=0.002). LESS cholecystectomy with epidural anesthesia was less expensive than cholecystectomy with general anesthesia in every category measured: supplies, anesthesia, case-level, and pharmacy.

Biography

Ross completed her General Surgery residency at the University of South Florida college of Medicine, Department of General Surgery and was later awarded the prestigious HPB/Advanced Gastrointestinal Surgery and Minimally Invasive Surgery Fellowship at USF/Tampa General Hospital. She then completed an Endoscopic Gastroenterology Fellowship at the Division of Digestive Disorders & Nutrition, Department of Medicine University of South Florida. Dr. Ross is currently the Director of Minimally Invasive Surgery, Director of Surgical Endoscopy, Founder & Director of the FHT Women in Surgery Initiative at Florida Hospital Tampa and the Program Director/Chair of the 2010, 2011, 2012 and the upcoming Annual International Women in Surgery Career Symposium. Dr. Ross was one of the first surgeons in the United States to undertake Laparo-Endoscopic Single Site (LESS) surgery, and continues to develop new techniques and instrumentation to improve its safety and application. As a thought leader in American medicine, Dr. Ross continues to push the envelope in the advancement of Minimally Invasive Surgery.