

Meeting abstract

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## Laparoscopic cholecystectomy in the elderly

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### Objective

The purpose of this study was to evaluate the outcome of laparoscopic cholecystectomy in patients age 70 and older with gallstone disease. We reviewed our experience with the laparoscopic procedure underlining the results of laparoscopic cholecystectomy in the geriatric population in term of mortality and complication rates.

### Methods

We conducted a retrospective study evaluating the medical records of 40 consecutive patients age 70 or older who underwent laparoscopic cholecystectomy at the Department of Surgical Sciences, Organ Transplantation and Advanced Technologies, Oncology Surgery Unit, University of Catania, Italy. Data included age and gender, American Society of Anaesthesiologists (ASA) score, comorbid illness, prior abdominal surgery, presentation, operative time, conversion rate and reasons for conversion, postoperative morbidity and mortality rates, pathologic diagnosis, and length of hospital stay. Patients were classified as having complicated (acute cholecystitis, biliary pancreatitis, obstructive jaundice, and cholangitis) or uncomplicated (biliary pain) gallstone disease. Ultrasonography evidence of a dilated common duct or presence of common duct stones, serum elevations in alkaline phosphatase, transaminase, or bilirubin were indications for preoperative magnetic resonance cholangiography. Preoperative endoscopic retrograde cholangiopancreatography (ERCP) with removal of possible common duct stones was performed in the patients suspected of having choledocholithiasis.

The timing for LC in patients with acute cholecystitis was 24–72 hours from admission. Patients with acute pancreatitis related to gallstone disease underwent surgery after resolution of clinical and biochemical symptoms. The supportive treatment during the acute phase consisted of intravenous infusion, antibiotics, and nasogastric suction when necessary. Early surgery was defined as laparoscopic cholecystectomy during the initial hospitalization usually within 5 days, whereas patients undergoing delayed surgery were treated conservatively, discharged, and readmitted for elective operation. Patients were included if surgery was performed primarily for symptomatic gallstone disease and excluded if cholecystectomy was performed incidentally or secondary to another procedure. Laparoscopic cholecystectomy was performed using a standard four-trocars technique. An "open technique" was used in all cases to introduce the subumbilical cannula as previously described by our group. Dissection of the gallbladder from the liver was accomplished using monopolar electrocautery. Intraoperative cholangiography was performed selectively to assist in defining the anatomy or intraoperative abnormalities. A closed suction drainage was used in all procedures.

### Results

Forty patients with a mean age of 74.2 years (range 70 to 91 years) were evaluated. 13 (32.5%) were males and 27 (67.5%) were females. All 40 patients in this series of geriatric patients were symptomatic from their gallbladder disease. A variety of the classical symptoms of gallbladder disease consisting of epigastric pain, Murphy's sign, fatty food intolerance, nausea and emesis, right upper quad-

rant pain radiating to the back, biliary colic, fever, dyspepsia, belching and bloating, were present in all patients in this series. The indications for surgery included biliary colic in 26 (65%) patients, acute cholecystitis in 9 (22.5%), acute cholecystitis with pancreatitis in 5 (12.5%). The patients were evaluated according to the American Society of Anaesthesiologists (ASA) classification. Twenty-two patients were classified as either class I or II, fifteen patients were classified as class III, and three were classified as class IV. Comorbid conditions included hypertension, cardiac disease, peripheral vascular disease, and diabetes mellitus. Ten patients had no comorbid disease (25%). ERCP was performed preoperatively in one patient who had common bile duct stones that required sphincterotomy and stone extraction. Operative time in this geriatric series of patients ranged from 46 minutes to 2 hours. Conversion to open cholecystectomy was required in three of 40 patients (7.5%) due to their distorted anatomy (intrahepatic gallbladder, severe acute inflammation) with inability to safely dissect the cystic duct and cystic artery or suspected cancer of the gallbladder. Postoperative complications occurred in four patients. Two of the four complications were related directly to the surgical procedure itself including one patient with a postoperative cystic duct leak, which was treated successfully with an ERCP and sphincterotomy. One patient had a postoperative bleeding from a trocar-site requiring reoperation. Medical complications that were not directly related to the procedure itself included one patient with postoperative myocardial infarction that was admitted to the cardiac intensive care unit and was discharged from the hospital after 11 days. The mean postoperative hospital stay was 3 days (range 2–11). A few patients required more than 48 hours postoperative hospitalization. The perioperative mortality rate was 0%.

## Conclusion

The population of persons older than 80 years has increased by during the last century. Fifty percent of women and sixteen % of men in their 70s have been shown to have gallstone disease, and 20% of the abdominal procedures performed in those older than 80 years are hepatobiliary. Although the prevalence of gallstone formation increases with age, and many studies have examined the results of laparoscopic cholecystectomy in elderly patients, the treatment of gallstone disease in this age group is a challenging. This group of patients has in fact an incidence up to 55% of complicated gallstone disease, such as acute cholecystitis, jaundice, choledocholithiasis, cholangitis, and biliary pancreatitis. Elderly patients frequently suffer from significant comorbid diseases and limited cardiopulmonary reserves that may contribute to a complicated perioperative course and increase postoperative complications rate. Acute biliary disease in the elderly was associated with a considerable increase in

operative morbidity and mortality, when compared with non-elderly patients.

Laparoscopic cholecystectomy is currently the procedure of choice for managing gallstone disease and were demonstrated the physiological benefits and positive socioeconomic effects over the open procedure. The many advantages of the laparoscopic procedure include less patient discomfort, early hospital discharge, early return to a normal lifestyle, and lower cost. Many studies have demonstrated the applicability and advantages of the laparoscopic cholecystectomy also in the geriatric population with low rates of morbidity and mortality. Despite the frequent presence of concomitant diseases involving the lung, heart, and frequent presence of diabetes, these medical diseases contributed minimally to the morbidity results for geriatric patients treated with laparoscopic cholecystectomy whereas open cholecystectomy have consistently demonstrated higher rates of morbidity and mortality and greater lengths of hospital stay than the general population.

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