Laparoscopic Cholecystectomy: Rate and Predictors for Conversion

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Abstract

Laparoscopy for diagnostic and operative purposes offers specific advantages to the patient. Apart from the aesthetic appeal, the shorter hospitalization, a more rapid return to normal activity than after traditional open surgery and decreased postoperative morbidity are particularly strong arguments for laparoscopic surgery. Currently, the most frequently performed laparoscopic upper abdominal operation is laparoscopic cholecystectomy. Abdominal peritoneal adhesions, gangrenous gallbladders, and other problems that obscure vision are discovered during about laparoscopic surgeries, forcing surgeons to switch to the standard cholecystectomy for safe removal of the gallbladder. Adhesions and gangrene, of course, can be quite serious, but converting to open surgery does not equate to a complication. One common complication of cholecystectomy is inadvertent injury to an anomalous bile duct known as duct of Luschka. It is non-problematic until the gall bladder is removed, and the tiny duct may be incompletely cauterized or remains unobserved, leading to biliary leak post operatively. The aim of this study is to determine the rate of conversion from laparoscopic to open cholecystectomy and to determine some factors to predict the conversion to open cholecystectomy which might help in properly selecting patients for Day Care ambulatory laparoscopic cholecystectomy, in our clinic.

Methods: Laparoscopic cholecystectomy was attempted in 2419 patients, 79 (3.26%) had to be converted to open cholecystectomy.

Results: Acute cholecystitis was the commonest reason for conversion (71 patients, 89.87%). These data confirms the safety of laparoscopic cholecystectomy. Identify a factor which predicts conversion to open cholecystectomy may be helpful in selecting patients for laparoscopic cholecystectomy.

INTRODUCTION

Minimally invasive surgery currently is widely used for therapeutic purposes. It is well known that laparoscopy has many advantages for the patient such as reduced morbidity, shorter hospitalization, better cosmetic results, and earlier return to normal activity [1].

Laparoscopic cholecystectomy does not require the abdominal muscles to be cut, resulting in less pain, quicker healing, improved cosmetic results, and fewer complications such as infections and adhesions. Most patients can be discharged on the same or following day as the surgery, and most patients can return to any type of occupation laparoscopic cholecystectomy as a safe and effective surgical treatment for gallbladder removal, equal in efficacy to the traditional open surgery. The panel noted, however, that laparoscopic cholecystectomy should be performed only by experienced surgeons and only on patients who have symptoms of gallstones [2].

In addition, the panel noted that the outcome of laparoscopic cholecystectomy is greatly influenced by the training, experience, skill, and judgment of the surgeon performing the procedure. Therefore, the panel recommended that strict guidelines be developed for training and granting credentials in laparoscopic surgery, determining competence, and monitoring quality. According to the panel, efforts should continue toward developing a noninvasive approach to gallstone treatment that will not only eliminate existing stones, but also prevent their formation or recurrence [3].

These skills include a shift from a three-dimensional operating field to a two-dimensional monitor display, judgment of altered depth perception and spatial relationships, distorted eye-hand coordination, adaption to the fulcrum effect, manipulation of long surgical instruments while adjusting for amplified tremor, diminished tactile feedback, and fewer degrees of freedom. To guarantee safe performance of laparoscopy, surgeons must be properly trained, and the procedures must be assessed thoroughly [4].

Furthermore, laparoscopic cholecystectomy may lead to less deterioration in postoperative pulmonary function, and lower morbidity and mortality rates. Cardiovascular status improved during laparoscopy. This suggests that a surgery induced sympathetic stimulation was the main cause for improved cardiac function.

AIM

The aim of this study is to determine the rate of conversion from laparoscopic to open cholecystectomy and to determine some factors to predict the conversion to open cholecystectomy which might help in properly selecting patients for Day Care ambulatory laparoscopic cholecystectomy, in our clinic [5].

The objective was to identify predictive factors for conversion to classic method.

**MATERIALS AND METHODS**

Laparoscopic cholecystectomy was attempted in 2419 patients, 79 (3.26%) had to be converted to open cholecystectomy.

**RESULTS AND DISCUSSION**

Acute cholecystitis was the commonest reason for conversion (71 patients, 89.87%). Patients who had acute cholecystitis are five times at risk for conversion to open than other patients with non-acute cholecystitis. Age and sex were not statistically significant predictors for conversion [6,7].

Conversions were due to latest or unknown comborbidities. They may be varied. Preoperative explorations failure: obstructive jaundice, right colon stenosed malignancy, pancreatic or transverse colon tumors, congenital biliary malformations, pericystic fibrosis. There were no mortalities and no major bile duct injuries in our series. These data confirms the safety of laparoscopic cholecystectomy, identify factors which predict conversion to open cholecystectomy and may be helpful in selecting patients for day care ambulatory laparoscopic cholecystectomy.

This retrospective study shows a rapid increase of diseases resolved laparoscopic, decrease of conversion rate. Laparoscopic cholecystectomy has become the preferred surgical technique for symptomatic gallstone disease. In experienced hands it is a safe procedure with low morbidity and mortality. However, complications do occur. Well-known are leakage from the cystic duct, injury to the major bile duct with the occurrence of bilomas, retained stones in the common bile duct and perforation of the gallbladder. Probably one of the most common intra-operative complications is gallbladder perforation with stones spreading into the peritoneal cavity. The sequelae of lost gallstones after laparoscopic cholecystectomy and the occurring complications may go unnoticed for a long time and can be a diagnostic challenge. The conversion, any stage of the operation to the classical open approach should not be considered as an insuccess when the laparoscopic continuation becomes too difficult or unsafe.
Conversion from laparoscopic cholecystectomy to open cholecystectomy is still required in as low as 1.5% and up to 19.0% in different published series. Conversion is related to patient factors, surgeon factors and equipment failure factors but most are converted because of difficulty in delineating the anatomy clearly or complications arising during the procedure [8,9].

There is no doubt that laparoscopic cholecystectomy is the golden standard for the treatment of symptomatic cholecystitis, the advantages of this procedure includes reduced postoperative pain, shorter hospitalization, earlier return to normal activity and definitely better cosmetrical results. The spread of the procedure in almost all hospitals and the advancement in surgeon's experience and confidence has led to abandoning the open technique to be performed only in failures of the laparoscopically attempted ones. Several questions have been raised about the wisdom of expanding the indications to include all comers with symptomatic gallstones and the long term safety and efficacy of the procedure.

**CONCLUSION**

At the beginning we used the laparoscopic approach only for the uncomplicated cholecystectomies. In time we have diversified pathology and used laparoscopic method for most gallbladder diseases. Identify a factor which predicts conversion to open cholecystectomy may be helpful in selecting patients for laparoscopic cholecystectomy. We conclude that laparoscopic cholecystectomy has achieved nearly universal adoption in hospitals, and is now used in the majority of cholecystectomy cases. These changes are associated with an increasing total cholecystectomy rate. Also, many hospitals have adopted endoscopic methods to perform additional surgical procedures done previously using an open technique. These findings raise concerns over the quality of care and economic impact of „minimally invasive surgery”.

**REFERENCES**

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Cite this article