

## **Predictive factors for conversion of laparoscopic cholecystectomy.**

**Background:** Laparoscopic cholecystectomy has replaced open cholecystectomy for the treatment of gallbladder disease. However, certain cases still require conversion to open procedures. Identifying these patients at risk for conversion remains difficult. This study identifies risk factors that may predict conversion from a laparoscopic to an open procedure.

**Methods:** From January 1996 to January 2000, a total of 1,347 laparoscopic cholecystectomies were performed at the Cleveland Clinic Foundation (CCF). A retrospective analysis of 34 parameters including patient demographics, clinical history, laboratory data, ultrasound results, and intraoperative details was performed. Stepwise, multivariate logistic regression was used to determine those variables predicting conversion of laparoscopic cholecystectomy. **RESULTS:** Seventy-one (5.3%) laparoscopic cholecystectomies required conversion. Multivariate analysis revealed that for all cases, a white blood cell count  $>9$  (2.9 greater odds ratio [OR] of conversion  $P = 0.006$ ) and a gallbladder wall thickness  $>0.4$  cm (7.2 OR,  $P < 0.001$ ) predicted conversion to open cholecystectomy. However, when patients with acute cholecystitis were evaluated only a body mass index  $>30$  kg/m<sup>2</sup> (5.6 OR,  $P = 0.02$ ) predicted conversion. For patients undergoing elective cholecystectomy, a body mass index  $>40$  kg/m<sup>2</sup> (33.1 OR,  $P = 0.01$ ) and a wall thickness  $>0.4$  cm (24.7 OR,  $P < 0.004$ ) predicted conversion. Finally, an ASA  $>2$  (5.3 OR,  $P = 0.01$ ) predicted conversion in patients undergoing nonelective cholecystectomies. **CONCLUSIONS:** Obese patients with acute cholecystitis undergoing laparoscopic cholecystectomy have an increased chance of conversion. Likewise, patients with multiple comorbid diseases undergoing nonelective laparoscopic cholecystectomy are more likely to require conversion. Finally, in an elective laparoscopic cholecystectomy, morbidly obese patients with chronic cholecystitis and a thickened gallbladder wall are more likely to require conversion. These factors can help counsel patients undergoing laparoscopic cholecystectomy with regards to the probability of conversion to an open procedure.

Rosen M, **Brody F**, Ponsky J. [Predictive factors for conversion of laparoscopic cholecystectomy.](#) Am J Surg. 2002 Sep;184(3):254-8.