

## Analysis of the relationship between ultrasonography and laparoscopic cholecystectomy

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### Abstract

**AIM:** To assess the clinical value of ultrasonography in diagnosis of gallstone(s) before laparoscopic cholecystectomy.

**METHODS:** 61 patients with gallstone(s), 42 women and 19 men with age from 23 to 80 years, average 49.68. After fasting 12 h, patients were taking supine position or left lateral decubitus position, occasionally erect, scanned with 3.5 MHz sector transducer. According to previous literature gall stone(s) and gallbladder were evaluated. Before operation all the 61 cases were diagnosed by ultrasonography, among them 36 cases also evaluated by oral cholecystography. The intervals between ultrasonography and laparoscopic cholecystectomy were as follows: The shortest was 1 d (16 cases), the longest 44 d (1 case), 55 cases less than 10 d in 55 cases, 6 cases more than 11 d, the average 6.13 d.

**RESULTS:** In 61 patients with gallstone(s) the accurate rate diagnosed by ultrasonography and oral cholecystography was 100% and 38.88% respectively. The positive rate of ultrasonography was significantly

higher than oral cholecystography. Among 61 cases laparoscopic cholecystectomy was performed in 37 cases (60.11%), laparoscopic cholecystectomy with removal calculi in 14 cases (22.95%) and conversion to conventional cholecystectomy in 10 cases (16.39%). All three types of treatment completed successfully, no complications encountered, and follow-up to date the quality of life was good in general. There was no difference ( $P > 0.05$ ). During the operation time and staying in hospital between laparoscopic cholecystectomy and laparoscopic cholecystectomy with removal calculi. But the operation time and staying in hospital were significantly longer in conventional cholecystectomy than that of the two groups ( $P < 0.05$ ). The number or size of gallstone(s), normal or large gallbladder demonstrated that no influence for laparoscopic cholecystectomy or laparoscopic cholecystectomy with removal calculi. Whereas in cases with multiple or large gallstone(s) the possibility from laparoscopic cholecystectomy conversion to conventional cholecystectomy increased significantly. Among 14 cases with dilatation of common bile duct 8 cases (57.14%), converted to conventional cholecystectomy it showed that dilatation of common bile duct, especially present stone the majority of them would convert to conventional cholecystectomy.

**CONCLUSION:** Preoperative laparoscopic cholecystectomy ultrasonography provides a detailed information. This can help the surgeons to select patients and make surgical plan. Therefore, before operation ultrasonography plays an important role and is quite requisite for laparoscopic cholecystectomy.

**Key words:** Gallstones/ultrasonography; Gallstones/diagnosis; Gallstones/surgery; Laparoscopic cholecystectomy

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