

( $p=0.146$ ). In the analysis of chronological changes of relative frequency according to the type of stone, the proportion of calcium bilirubinate stone has been decreased continuously ( $p=0.030$ ).

**Conclusions:** In gallstone disease, total number of cases and mean age are continuously increased. The increasing tendency of GB stone and decreasing tendency of CBD stone was observed, and IHD stone remained unchanged in rural areas. The body mass indexes of the GB stone group and IHD stone group has been increased and the proportion of calcium bilirubinate stone has been decreased during past 30 years.

### III-3

#### Multivariable Analysis of Cholecystectomy after Gastrectomy: Laparoscopy is a Feasible Initial Approach Even in the Presence of Common Bile Duct Stones or Acute Cholecystitis

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**Research Purpose:** When performing cholecystectomy after gastrectomy, we often encounter problems such as adhesions, nutritional insufficiency, and bowel reconstruction. The aim of this study is to identify the factors related to surgical outcome of these associated procedures, with emphasis on the use of a laparoscopic approach.

**Materials and Methods:** We retrospectively analyzed data from 58 patients who had a history of cholecystectomy after gastrectomy. Differences between subgroups with respect to operation time, length of postoperative hospital stay, and complications were analyzed. To identify the factors related with outcomes of cholecystectomy after gastrectomy, we performed multivariable analysis with the following variables: common bile duct (CBD) exploration, laparoscopic surgery, gender, acute cholecystitis, history of stomach cancer, age, body mass index, period of surgery, and interval between cholecystectomy and gastrectomy.

**Results:** We found one case (2.9%) of open

conversion. The CBD exploration was the most significant independent factor (adjusted OR, 45.15; 95% CI 4.53-450.55) related to longer operation time. Acute cholecystitis was also a significant independent factor (adjusted OR, 14.66; 95% CI 1.46-147.4). The laparoscopic approach was not related to operation time but was related to a shorter hospital stay (adjusted OR, 0.057; 95% CI 0.004-0.74). Acute cholecystitis was independently related to the occurrence of complications (adjusted OR, 27.68, 95% CI 1.15-666.24); however, CBD exploration and laparoscopic surgery were not. A lower BMI was also an independent predictor of the occurrence of complications (adjusted OR, 0.41; 95% CI 0.20-0.87).

**Conclusions:** The laparoscopic approach is feasible for cholecystectomy after gastrectomy, even in cases with CBD stones or acute cholecystitis. This approach does not appear to increase operation time nor complication rate and was shown to decrease the length of post-operative hospital stay.

### III-4

#### Percutaneous Transhepatic Gallbladder Drainage (PTGBD) Changes Emergency Laparoscopic Cholecystectomy to an Elective Operation in Patients with Acute Cholecystitis

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**Background:** Many surgeons have found it difficult to decide whether to apply percutaneous transhepatic gallbladder drainage (PTGBD) in patients with acute cholecystitis that is not responsive to initial medical management (IMMx) because the indications of PTGBD are ambiguous. The aim of this study was to evaluate the appropriate treatment for acute cholecystitis that is not responsive to IMMx. Specifically, we focused on differences in surgical outcomes between elective and emergency laparoscopic surgeries.

**Methods:** Between March 2006 and February 2009, 738 patients with acute cholecystitis who had undergone laparoscopic cholecystectomy (LC) at our in-