

## Oral Presentation III

## III-1

## Injuries of the Duodenum Caused by Shell Splinters

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**Background:** Repair of severe duodenal injuries often constitutes a technical challenge, and a variety of special technics have been described. Two patients who were in the military service injured by shell splinters admitted to our hospital. They also had multiple trauma, especially penetrating duodenal injuries.

**Case 1:** A soldier, aged 20, was wounded by a shell explosion which caused an injury to his abdomen and right foot. It was found that there was entrance wound in the right subcostal area but no exit wound. The patient had hypotension, mild tachypnea and rigid abdomen. An abdominal computed tomograph showed foreign body impaction, located anterior aspect of the IVC with hemoperitoneum. Finding at immediate laparotomy, gastric antrum and pylorus, second and third portion of the duodenum were perforated. Anterior aspect of the IVC was also perforated and covered with blood clot. There was 1000ml of free intraperitoneal blood. Operation with pyloric exclusion and gastrojejunostomy was done and IVC was sutured with Prolene 6-0. While performing operation, foreign body was not found in peritoneal cavity. Post-operative abdominal radiographs showed foreign body was still in abdominal cavity and has moved from stomach to cecum. Then foreign body was removed through colonoscopy in the 35th post-operative days.

**Case 2:** A 21-year-old male who had entrance wound of the left flank was admitted. A chest radiograph showed 2 cm sized metallic foreign body was below twelfth rib with multiple tiny things. CT showed lacerated left kidney with hemoperitoneum and a metallic material posterior to stomach. A laparotomy showed transected left kidney, fourth portion of the duodenum, proximal jejunum and gastric antrum had multiple laceration with perforation. There

was a tear in the SMV and collection of blood was about 1000ml and no pancreatic injury. Operation was left nephrectomy, resection of the 4th portion of the the duodunum and proximal jejunum with end-to-end anastomosis, primary repair of the gactric antrum, primary repair of the SMV and the foreign body was removed

## III-2

## Clinical and Epidemiological Analysis of Gallstone Patients — Focused on 30-year Experience of Surgically Treated Patients

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**Research Purpose:** The aim of this study is to investigate the epidemiologic changing patterns of gallstone diseases in Korea during past 30 years.

**Materials and Methods:** A total of 7,949 gallstone patients who underwent surgery based on single center's consecutive data base during 1981-2010 were analyzed. The patients were divided into 5 periods: period I (1981-1985, n=831), period II (1986-1990, n=888), period III (1991-1995, n=1,040), period IV (1996-2000, n=1,261), period V (2001-2005, n=1,651) and period VI (2006-2010, n=2,278).

**Results:** Number of gallstone disease cases were gradually increased. Female predominance was not noted (male/female ratio, 1.02-1.37). The mean age of total group and all 7 subgroup has been increased during past 30 years. The relative proportion of GB stone cases was increased from 53.0% to 92.6%, while that of CBD stone cases was decreased from 68.0% to 5.0%. The patients with IHD stone remained stationary. In both rural and urban areas, tendency of increasing GB stone and decreasing CBD stone was observed. However, relative frequency of IHD stone remained unchanged in rural areas in spite of decreasing tendency in urban area. The body mass indexes of the GB stone group and IHD stone group has been increased (p=0.013, p=0.049), but CBD stone group did not show specific pattern of change

( $p=0.146$ ). 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-