

Oral Presentation VI

VI-1

One Incision Laparoscopic Cholecystectomy: Comparison between Glove Technique and SILS

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Reserch Purpose: As a bridge between traditional laparoscopic surgery and NOTES, the recent focus has been on the development of Umbilical Single-Incision Laparoscopic Cholecystectomy (USILC) to further minimize the invasiveness of laparoscopic surgery by reducing the number of incisions. Single incision laparoscopic surgery was described as early as 1992 by Pelosi et al who performed a single-puncture laparoscopic appendectomy. In 1997, by Navarra et al who performed a laparoscopic cholecystectomy via two transumbilical trocars and three transabdominal gallbladder stay sutures. In June 2010, we described the initial experience of the 22 cases of USILC with comparison to the 34 cases of the three ports laparoscopic cholecystectomy (TPLC). This article showed twofold operation time of the surgery between the TPLC and USILC namely 136 min to 68 min. In NOV 2010, we described another article of 50 cases which teaches us some lessons in USILC such as needing careful dissection to avoid gallbladder rupture during surgery, case selection for chronic calculous cholecystitis and gallbladder polyps ,and learning curve. Since Nov 2010. National health Insurance co. covers the costs for SILS in single incision laparoscopic surgery. So we planned comparative study for USILC using the glove and SILS.

Materials and Methods: Between Nov 2010 and Feb 2011, we enrolled 42 cases of the chronic calculous cholecystitis and polyps for USILC using glove technique (group 1) which used a 6 and half size glove, Alexis and three 5mm trocars and SILS (group 2) alternatively. We observed age and sex, body mass index (BMI), operation time, rupture rate during surgery, complication, conversion rate and postop hospital stay etc.

Results: Average age is 51.5 in group 1 and 45 in group 2. Male and female ratio is 8:13 in both group

respectively. BMI is 25.4 in group 1 and 25.7 in group 2. Mean op time is 88.8 min in group 1 and 92.1 min in group 2. Gallbladder rupture rate during surgery is 3/21 in group 1 and 4/21 in group 2. Conversion to 3 port in group 1 was noted due to bleeding. Complication was noted in group 2 such as one wound infection and two skin burns. Hospital stay is 4.4 days in group 1 and 4.9 days group 2.

Conclusions: There is no difference between two groups.

VI-2

Single-incision Laparoscopic Surgery (SILS) for Liver: Preliminary Report

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Background: Since the first reported use of laparoscopic liver surgery, it has been increasingly used. Recently, in an attempt to decrease abdominal wall trauma and visible scar, single-incision laparoscopic surgery (SILS) for liver was developed with the aim of reducing the invasiveness of traditional laparoscopy.

Patients and Methods: In this study, 5 patients underwent SILS liver resection in 2010. Three of these patients had single HCC (S5, S6) and two of these patients had multiple colorectal cancer liver metastases (S2, S3, S4, S6). We used a small wound retractor, a surgical glove, a 12 mm trocar and two 5 mm trocar as the "Homemade single-port". Standard laparoscopic instrument were used except "Homemade single-port".

Result: Mean operation time is 176 min (range 135-325 min) and portal clamping was not used for all patients. Liver resection was accomplished with Harmonic scalpel and an endoscopic stapling device. One patient who had multiple liver metastases (S2, S4) required blood transfusion. The postoperative courses were uneventful and mean hospital stay was 4.2 days (range 3-6 days).

Conclusion: We think that single-incision laparoscopic liver resection is technically feasible and safe procedure and it can be performed with conventional

laparoscopic instruments. The best indications for this type of procedure are in patients with lesions of their intended liver parenchyma division is in the same in-line axis of the single-incision site. Nevertheless, we think the surgeon should be generous to convert into conventional laparoscopic surgery since additional experiences are mandatory to confirm the safety.

VI-3

Useful Method for Initial Trocar Insertion in Patients with Previous Upper Abdominal Surgery for Laparoscopic Cholecystectomy

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Purpose: Laparoscopic cholecystectomy had been regarded as a relative contraindication in patients with previous upper abdominal surgery because peritoneal adhesion was mostly found at previous abdominal incision scar such as umbilicus. In this study, we investigated useful method for initial trocar insertion in patients with previous upper abdominal surgery using abdominal computed tomography (CT) images.

Method: All patients with gallbladder diseases were taken abdominal CT. Because the presence of adhesion between parietal peritoneum and intestine in right side abdominal cavity could be judged by serial section on each phase of CT, it is possible to attempt a 2-cm transverse right abdominal incision (about 8 cm away from umbilicus; line of linea semilunaris) using open technique to avoid complication such as bowel injury. That site is considered as lower possibility of adhesion. Then, standard cholecystectomy was performed using 3 or 4 port. The data were collected and analyzed for open conversion rates, operative times, perioperative and postoperative complications and hospital stay, which compare with the patients who were not underwent previous abdominal surgery.

Results: From March 2009 to August 2010, a total 448 laparoscopic cholecystectomies were attempted. Of these, 25 patients had undergone previous upper abdominal surgery excluding laparoscopic gastrectomy.

No complication during trocar insertion was also occurred such as bleeding and intestinal injury. There was no conversion to laparotomy by difficulty of trocar insertion. Twelve patients (50%) with previous upper abdominal surgery required open surgery because of severe peritoneal adhesion around gallbladder.

Conclusion: Right abdominal open technique using CT images is another useful method for initial trocar insertion of laparoscopy in patients with previous upper abdominal surgery.

VI-4

Postoperative Pancreatic Fistula and Functional Assessment following Transgastric Pancreaticogastrostomy in Managing Remnant Soft Pancreas

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Purpose: Pancreaticocenterostomy is an Achilles heel in managing remnant pancreas following pancreatic head resection or central pancreatectomy. As soft pancreas is known to be closely related to postoperative pancreatic fistula, this issue must be a great challenge especially to novice young pancreatic surgeons. Clinical feasibility and safety of transgastric pancreaticogastrostomy in managing remnant soft pancreas were evaluated.

Methods: From January 2008 to December 2010, 77 patients underwent transgastric pancreaticogastrostomy in managing soft remnant pancreas. The medical records were retrospectively reviewed and perioperative outcomes including postoperative pancreatic fistula were evaluated. Among them, 49 patients with 1-year follow up data were analyzed for nutritional and functional status based on clinically detectable parameters.

Results: Thirty-two patients were female (41.6%) and 45 (58.4%) were male patients with age, 61.4 \pm 11.2 years. Preoperative overt diabetes was noted in 8 patients (10.4%). Nineteen patients (24.7%) were ampulla of Vater cancers, 19 (24.7%) bile duct cancers, 11 intraductal papillary mucin-producing neoplasms, 10 pancreatic head cancers, 7 neuroendocrine tumors, 6