(S10) ARE POSTERIOR CRURAL STITCHES NECESSARY DURING LAPAROSCOPIC FUNDOPLICATION?

Wendy Jo Svetanoff, MD, MPH[1]; Charlene Dekonenko, MD[1]; Obiyo Osuchukwu, MD, MPH[1]; Kartik Depala[2]; Shubhika Jain[2]; Tolulope A Oyetunji, MD, MPH[1]; Shawn D St. Peter, MD[1]; [1]Children's Mercy Hospital, Kansas City, MO, USA; [2]University of Missouri-Kansas City School of Medicine, Kansas City, MO, USA

INTRODUCTION: Previous research has shown that minimal esophageal mobilization during laparoscopic pediatric fundoplication decreases the rate of wrap transmigration, while the placement of esophageal-crural sutures does not offer any advantages in preventing wrap migration. Our aim was to determine the need for posterior crural sutures during laparoscopic fundoplication.

METHODS: This was a retrospective review of patients >1 month old who underwent a primary laparoscopic fundoplication from 2010-2019. Demographic, surgical, and outcome data were recorded. Primary outcome was transmigration of the fundoplication wrap. Analysis was performed using STATA® (StataCorp, College Station, TX); p-value < 0.05 was statistically significant.

RESULTS: There were 181 patients included. The median age was 7.2 months (IQR 3.7, 17.0) with 59% being male patients. 61 (34%) patients received posterior crural stitches and 120 (66%) did not receive stitches according to staff preference. The stitch group had a median of 1 (IQR 1, 1) posterior crural stitches placed. Pre-operative symptoms included poor oral intake resulting in failure to thrive (n=83, 46%), retching (n=48, 27%), and acute life-threatening events (n=37, 20%). The most common imaging study obtained was an upper gastrointestinal study (n=113, 62%). Comparisons between the stitch group and no-stitch group are shown in Table 1. There was no difference in the incidence of wrap migration, the number of patients requiring a workup for recurrent symptoms or reoperation between the two groups (Table 1). A significantly higher percentage of patients in the no-stitch group underwent concurrent procedures; when controlled for this, there was no difference in the median operative time between the two groups (p=0.18).

CONCLUSION: Similar to esophageal-crural sutures, placement of posterior crural sutures does not prevent wrap migration and may not be necessary for prevention of wrap herniation in pediatric laparoscopic fundoplication.

Table 1: Intra-operative and long-term comparisons between patients with vs those without posterior crural stitches.

Table 1: Intra-operative and long-term comparisons between patients with versus thoses without posterior crural stitches.

	Crural Stitches (n=61)	**No Crural Stitches (n=120)**	**P-value**
Median Age at Surgery (months)	7.1 (3.3, 16.0)	7.3 (4.3, 17.4)	0.47
Previous Abdominal Surgery	10%	18%	0.16
Gastrostomy Tube Placed During Operation	65%	71%	0.45
Median Follow-up (months)	45.1 (26.6, 56.4)	35.1 (20.7, 50.6)	**0.02**
Workup for Recurrent Symptoms	63%	58%	0.58
Wrap Transmigration	0%	1%	0.49
Re-operation within 1 Year	3%	8%	0.28

(S11) ESOPHAGEAL FOREIGN BODY MANAGEMENT IN CHILDREN: CAN IT WAIT?

Joseph R Esparaz, MD; Stewart R Carter, MD; Michelle S Mathis, MPH; Mike K Chen, MD, MBA; Robert T Russell, MD, MPH; Children's of Alabama, University of Alabama at Birmingham

Introduction: Pediatric foreign body ingestion remains a common reason for emergency room (ER) visits. Both pediatric surgeons and pediatric gastroenterologists share the load of these cases. With different specialties involved, a wide variety of urgency is seen. It is well accepted that button batteries are a surgical emergency, requiring immediate removal. However, timing of removal for other foreign bodies remains controversial. We hypothesize that there is no difference in complication rate or successful removal of esophageal foreign bodies that wait until the following day for removal.

Methods: A retrospective chart review for cases involving esophageal foreign bodies from November 2015 to November 2019 was performed. Outpatient procedures and patients ingesting a button battery were excluded. Patients were divided into two groups based on arrival to ER, daytime (05:00-16:59) and nighttime (17:00-04:59). All patients had imaging confirming a foreign body in the esophagus. Demographic data included age, gender, procedure, and performing physician. Additional data included time of presentation, time of procedure, presenting symptoms, location of the foreign body, and lastly complications within 30 days. Statistical analysis was performed.

Results: After excluding button batteries, a total of 273 children underwent a procedure for esophageal foreign body removal during this four-year time frame. Two-thirds of the children presented in the nighttime group. A significant difference was identified in the median time from ER to the operating room when comparing daytime (194.8 minutes; IQR: 108.5-347) versus nighttime groups (643 minutes; IQR: 471.5-745) ($p<0.001$). Nine children had a complication or readmission within 30 days of their procedure with no significant difference between the groups ($p=0.94$). In addition, 25 patients had migration of their foreign body into the stomach from presentation time to procedure time, also with no significant difference between the two groups ($p=0.98$). Of note, 100% of foreign bodies were removed successfully.

Conclusion: We have found that waiting until the following morning had minimal impact on complications or success rate when removing esophageal foreign bodies. Many institutions lack in-house operating room personnel and require mobilization of an anesthesia and operating room team for nighttime emergencies. By waiting until morning, resources and staff remain available for more pressing emergencies.

(S12) LAPAROSCOPIC-ASSISTED LONGITUDINAL INCISION AND TRANSVERSE ANASTOMOSIS FOR TREATMENT OF CONGENITAL LOWER ESOPHAGEAL STENOSIS CAUSED BY TRACHEOBRONCHIAL REMNANTS: EXPERIENCE FROM A SINGLE-CENTER

Yi Jiang, MD; Yangwen Lin, MD; Weihua Pan, MD; Wenjie Wu, MD; Shourong Huang; Weipeng Wang, MD; Suna Sun, MD; Jun Wang, MD; Xinhua Hospital Affiliated to Shanghai Jiao Tong University School of Medicine

Purpose: To review the treatment of lower congenital esophageal stenosis caused by tracheobronchial remnants (TBR) and introduce an effective method of cartilage resection under endoscopy.

Methods: From January 2016 to December 2019, 13 patients of TBR underwent the surgery in our department of pediatric surgery. Patients admitted before 2018 received resection of cartilage with esophageal stenotic segment and end-to-end anastomosis through open surgery. After 2018 we ameliorated the procedure to longitudinal incision with partial resection of cartilage in anterior wall of esophagus and transverse suture through laparoscopy or thoracoscopy, to protect the vagus nerve and to avoid pyloroplasty. We reviewed the treatment of these patients and analyzed the advantages of the new procedure.

Main Results: 13 patients received surgery at an average age of 19.8±10.1 months (range 6.5 to 45.5, M=15.5). 9 cases were congenital esophageal atresia accompanied with stenosis in the distal part of esophagus and 4 cases were congenital lower esophageal stenosis with tracheobronchial remnants simply.

5 patients received resection of stenotic segment and end-to-end anastomosis of esophagus and pyloroplasty from laparotomy. Anastomotic leakage occurred in two cases and cured by drainage and conservative treatments. Two cases presented anastomotic stricture postoperatively and had been improved obviously by one time balloon dilation. The administration of parenteral nutrition (PN) was 9.0±1.4 days (M=9) and the hospitalization was 36.6±5.2 days (M=35). The use of proton-pump inhibitor lasted for 2 to 8 weeks (M=2) postoperatively.

8 cases received longitudinal incision with partial resection of cartilage and transverse suture. Seven cases were under laparoscopy and one was under thoracoscopy since the stenosis with cartilage located in lower middle part of the esophagus. Compared to end-to-end anastomosis, no leakage occurred in these patients. Anastomotic stricture were found in 6 cases postoperatively and improved obviously after 1 to 5 times (M=2) of dilations. The administration of PN was decreased to 7.6±4.7 days (M=7, $p=0.456$) and the time of hospitalization dropped to 18.6±6.9 days (M=21, $p<0.001$). The use of proton-pump inhibitor last for 2 to 24 weeks (M=12) postoperatively.

13 patients have been followed up for 0.5-45 months (M=13) after the surgery. 12 patients were fed by normal diets now, showing good physical and mental development without gastroesophageal reflux. One case (2 weeks after the surgery) was fed by soft diet now.

Conclusions: Longitudinal incision and transverse anastomosis of the anterior wall of the esophagus with partial resection of cartilage is an effective method to treat the TBR patients and minimal invasive surgery is a good option.

(S13) TRANSANAL PROCTECTOMY: A SERIES OF 7 PEDIATRIC PATIENTS

Michael D Traynor, MD; D D Potter, MD; Mayo Clinic

Background: Minimally invasive (MIS) approaches have consistently shown advantages for surgical intervention in inflammatory bowel disease. Recently, transanal approaches to rectal surgery have gained acceptance in adult patients for total mesorectal excision and completion proctectomy. The use of transanal approaches may have particular advantages for pediatric surgery where a small pelvic working space and single-incision mechanics can make operations such as proctectomy difficult. We report short-term outcomes of transanal completion proctectomy (taCP) during single-incision surgery for inflammatory bowel disease.

Methods: All patients (age≤19) underwent taCP from January 1, 2018 to December 31, 2019. Prior total abdominal colectomy (TAC) was performed using a single-incision technique. At operation, patients underwent single-incision laparoscopy with taCP. The sigmoid colon and upper rectum were dissected laparoscopically using LigaSure through the ileostomy site. A transanal mucosectomy was then performed beginning 1 cm proximal to the dentate line and transitioned to full-thickness resection after 4-5 cm. A glove port was then placed transanally and the rectum was removed using LigaSure under endoscopic visualization. Patient demographics, pre- and peri-operative details, and post-operative complications were abstracted.

Results: Seven patients (n=6, 86% female) with a median age of 18 years [Range: 13-19] were included in this initial series. All patients had a prior TAC with end-ileostomy with taCP occurring a median of 6 [Range: 3-89] months after TAC. Six of 7 (86%) had a diagnosis of ulcerative colitis (UC) while 1 patient (14%) had Crohn's colitis. For patients with UC, taCP was part of an ileal pouch-anal anastomosis with the majority (n=4, 67%) proceeding as a modified-two stage (TAC followed by IPAA without diversion) and the remaining (n=2, 33%) a three-stage approach. A single-incision laparoscopy through the prior ileostomy site was used in all IPAA patients. Median operative time was 226 [Range: 150-264] minutes with no conversions to more invasive technique. Median hospital length of stay (LOS) was 5 [Range: 2-8] days.

In-hospital complications occurred in two patients (29%) who had watery diarrhea that prolonged LOS but did not result in problems post-discharge. One patient (14%) was readmitted for bowel obstruction that resolved with placement of red rubber catheter at the ileostomy site.

Of the 4 patients with a functioning ileal pouch, 1 patient reported 6-10 bowel movements per day, while 3 others reported ≤5 bowel movements per day. Half (n=2) of patients reported 1-2 nocturnal bowel movements. No patients reported soiling or leakage, though one patient had a single episode of incontinence.

Conclusion: Minimally invasive transabdominal completion proctectomy can be challenging in pediatric patients. In this pilot series, transanal proctectomy was effective and safe. Future work should compare traditional MIS completion proctectomy to taCP for applications in pediatric inflammatory bowel disease.

(S14) FROZEN SECTION DOUGHNUTS OBTAINED WITH A 5MM STAPLING DEVICE IMPROVES OUTCOMES IN LAPAROSOPCI ENDORECTAL PULL THROUGHS FOR HIRSCHPRUNG'S DISEASE

John M Hallett[1]; Timothy Bradnock[2]; Gregor Walker[2]; [1]The University of Edinburgh; [2]The Royal Hospital for Children, Glasgow

A primary pull-through for Hirschsprung's disease (HD) requires confirmation of normal ganglionic bowel by intra-operative biopsies. Despite this, abnormally ganglionated bowel is not fully resected (so called "transition zone pull-throughs") in 15-19% of patients reported in the literature. We hypothesise that this may result from insufficient biopsies sent for intra-operative diagnosis.

A new biopsy protocol has been developed in our institution for patients undergoing a laparoscopic-assisted endorectal pull-through for HD. Laparoscopic seromuscular biopsies are taken as per standard practice and are reported intra-operatively to identify the most distal site of ganglionated bowel. A 5mm laparoscopic stapling device is used to divide the bowel at the proposed proximal resection margin and 2cm distally. This "doughnut" of bowel was then sent for frozen section and four quadrant sampling was undertaken to clarify ganglion cells and neural hypertrophy. If there was any doubt in the normality of these biopsies a second, more proximal doughnut was taken. The divided end is sutured to the distal bowel with 2 different coloured sutures to ensure the bowel is not twisted during delivery through the anus.

Between 2015 and 2020, 21 patients underwent a primary laparoscopic endorectal pull-through for HD using the doughnut biopsy protocol. 16 patients were male. Mean patient age at the time of surgery was 3 months (range 1 – 6 months) and the mean weight at the time of surgery was 6.5kg (range 4.1 - 8.54kg)

There was one case of stapler malfunction (5%), where a 10mm endo-GIA stapling device was introduced after the stapler jammed. No patient suffered from spillage of enteric content, intra-operative bleeding or injury to visceral or vascular structures. In all 21 cases, initial laparoscopic biopsies were reported showing normal ganglionated bowel, In two cases (10%) the laparoscopic doughnut influenced the resection margin. In both cases the segments of the doughnuts were aganglionic and a second doughnut (more proximal) was sent.. No patients had transition zone resections on final histology (mean clear margin 45.55 mm, range 11-72 mm).

Median follow up is 24 months (range 2-53 months). No patients had ongoing symptoms of HD caused by a transition zone pull through. One patient (with Down Syndrome) had issues with colonic distension and has had a colostomy despite a ganglionic pullthrough (confirmed by subsequent normal biopsies).

In conclusion intra-operative frozen sections taken from doughnuts of bowel retrieved using 5mm laparoscopic stapling devices is safe, has resulted in a 0% rate of transition zone pull throughs whilst reducing the potential of spillage of enteric contents. We would recommend this protocol for all patients undergoing primary endorectal pull throughs.

(S15) RE-SUTURING WITHOUT ENTEROSTOMY FOR THE TREATMENT OF ANASTOMOTIC DEHISCENCE OR LEAKAGE AFTER LAPAROSCOPIC SOAVE PROCEDURE IN HIRSCHSPRUNG DISEASE

Shuiqing Chi; Shao-tao Tang; Jialing Guo; Wuhan Union Hospital

Background: In the era of minimally invasive surgery, people have higher requirements for beauty. With the maturity of technology, postoperative complications gradually decrease, but it is still inevitable. Complications managed by surgery will affect the patient's cosmetic appearance. Anastomotic dehiscence or leakage is one of the complications of Hirschsprung's diseases (HD) postoperatively, which may lead to abdominal cavity infection, pelvic antrum formation. At present, the most common management is enterostomy. This study aimed to explore the safety and feasibility of re-suturing without enterostomy treating anastomotic dehiscence or leakage after laparoscopic Soave procedure in Hirschsprung's disease.

Methods: From March 2014 to July 2019, 503 patients underwent laparoscopic Soave procedure in our center, 12 of them had anastomotic dehiscence or leakage. Moreover, there were another four referral anastomotic leakage patients from other hospitals. All medical records of 16 patients who had anastomotic dehiscence or leakage were reviewed, including abdominal symptoms, the occurrence time, and the causes of anastomotic dehiscence or leakage. Twelve patients underwent re-suturing without enterostomy. we cleared the posterior rectal abscesses, irrigated the abdominal cavity by laparoscopic visualization, and released the abdominal adhesions, then sutured the anastomosis with 4-0 Vicryl. We preserved a presacral drainage tube for 5-7days. Two patients who had severed peritonitis received re-suturing with an ileostomy. Another two patients who had severe peritonitis and anastomotic ischemia only received colostomy.

Results: The average age of anastomotic dehiscence or leakage patients was 31.5 months, significantly older than patients without leakage (13.8 months). Among the 16 patients, 14 of them were recto-sigmoid type, and the other 2 were long segment type. All of them had laparoscopic-assisted Soave procedure as their first operation. Five leakages were at the 3-6 o'clock position and the other seven at 6-9 o'clock position. The average re-suturing time was 6.4 ± 2.8 days (2-13d), and all 12 patients received good prognoses. The mean follow-up time was 35.6 ± 20.6 months (5-69m). All 12 patients have a mean defecation frequency 2-3 times/day, without soiling. In group re-suturing with an ileostomy, postoperative fever lasting time and hospital stay time were shorter.

Conclusion: Early re-suturing of anastomotic dehiscence or leakage after laparoscopic Soave procedure of Hirschsprung's disease without enterostomy could be a safe, effective and pleasing treatment.

(S16) SEQUENTIAL TRACK & INTESTINAL GATHERING "STRING TECHNIQUE"

C Millan, MD; S Prodan; S Valverde; J Martinez; F Rabinovich; L Toselli; S Calello; P Cieri; R Kaller; I Diaz, SAUBIDET; G Bellia; H Bignon; M Martinez Ferro; R Dominguez; E Buela; Fundacion Hospitalaria

Introduction: Consecutive laparoscopic biopsies require some technical skills. In order to simplify the complexity and operative time of this procedure we present a new technique to perform multiple intestinal biopsy: The STRING Technique. Its development and refinement was carried out in an inanimate model and then applied in patients with Hirschsprung and Visceral Myopathy diagnosis.

Methods: Inanimate model: a video surgery trainer (MTBox1®) connected to a Video Endoscopy Camera System Tower. Instruments: 1) 4 mm 30 degrees scope; 2) 3 mm instrument 3) 3 different types of 2-0 suture with SH1 needle and 4) bovine intestinal viscera.

Technique: one port is placed for the 4 mm scope and a stab incision in the flank is used for the 3 mm instrument.

Step 1: After selecting a segment, take the intestinal loop with a transparietal stitch with the assistance of endo-surgical instruments. By doing so, one would achieve "hanging" the intestine from the simulator's cover. This maneuver is performed in each selected area to be biopsied using different suture colors in order to then identify each intestinal section.

Step 2: All the strands of the sutures are taken with an endo-surgical instrument and they are externalized outside the cavity through the scope port.

Step 3: By pulling the externalized strands, the intestinal area taken with the color stitch given in step 1, is selectively eviscerated through the scope port. Biopsy is performed outside the cavity with conventional instruments and then the intestine is reintroduced by the same site.

After validation and improvement in the endo trainer, this technique was reproduced in 5 patients. 4 of them, to determine the extent of Hirschsprung's disease and one to confirm visceral myopathy diagnosis.

Quantitative variables expressed in median and range were: age, operative time, oral tolerance time, hospital discharge time. The qualitative ones were: gender, complications and anatomopathological result.

Results: Five patients were operated with this technique. One female and 4 male. Age (range 4 - 24 months). The total operative time was 30 minutes (range 25-40 minutes) for taking 4 biopsies. Oral tolerance was restored within 12 hours after surgery (range 6 - 24 hours). The hospital discharge was 24 hours PO (range 12 - 72 hours). There were no complications. The biopsy confirmed visceral myopathy in one case and determined the extent of the disease in the rest.

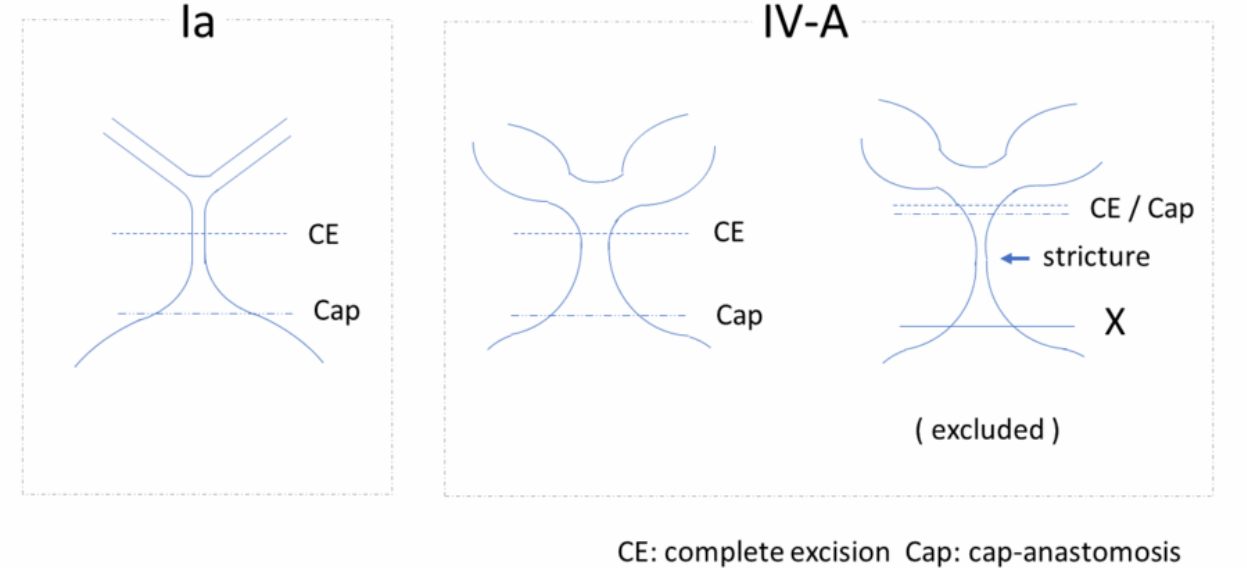
Conclusion: The STRING Technique was born in the operative limitations of video surgery. Its development and improvement in inanimate models have been reproduced in vivo guaranteeing its feasibility and safety. We believe that the use of simple maneuvers reduces surgical time and extends the use to most operators.

(S17) CAP-ANASTOMOSIS VERSUS COMPLETE EXCISION FOR CYSTIC TYPE CHOLEDOCHAL CYST:?40 YEAR ULTRA LONG-TERM FOLLOW-UP OF 204 CASES.

Junya Ishii[1]; Go Miyano[1]; Toshiaki Takahashi[2]; Takanori Ochi[1]; Soichi Shibuya[1]; Yuta Yazaki[1]; Hiroyuki Koga[1]; Shogo Seo[1]; Hiroki Nakamura[1]; Tadaharu Okazaki[1]; Toshihiro Yanai[1]; Masahiko Urao[1]; Geoffrey J Lane[1]; Atsuyuki Yamataka[1]; [1]Department of Pediatric General & Urogenital Surgery, Juntendo University School of Medicine; [2]Department of Pediatric Surgery, Shizuoka Children's Hospital

Aim: Laparoscopic choledochal cyst repair is common, but somewhat controversial, because some surgeons believe that the entire dilated choledochal cyst (CC) should be excised completely (CE), necessitating complex Roux-en-Y hepaticojejunostomy (HJ) reconstruction (Figure-1), which is technically demanding to perform laparoscopically, while others prefer to decrease the complexity of reconstruction, leaving some 10-20mm of proximal cyst wall as a cap (Cap) to facilitate the HJ anastomosis. We compared Cap with CE for treating CC, focusing only on ultra long-term patients, followed-up for at least 20 years (maximum duration: 40 years).

Methods: 204 pediatric CC patients diagnosed between 1978 and 1998 and followed-up for at least 20 years were reviewed retrospectively. Fusiform/non-dilated type CC and CC requiring intrahepatic bile duct (IHBD) plasty were excluded (n=118), leaving 86 cystic type CC (Cap=44; CE=42). Types of CC were: Ia: (n=50; Cap=24; CE=26) and IV-A: (n=36; Cap=20; CE=16). Magnetic resonance cholangiopancreatography (MRCP) was performed routinely every 2 years postoperatively in Cap cases, and when indicated in CE cases. Histopathology results for Cap cases were also reviewed.



Results: Mean age at surgery (Cap 4.8, CE 3.3 years old), gender ratio (Cap 9m/33f, CE 6m/38f), mean follow-up period (Cap 28.1, CE 30.8 years), diameter of cyst (Cap 43.7, CE 48.2 mm) were similar. There was no perioperative complication. Mean diameter of the hepatic orifice at the HJ anastomosis was 15.8mm (range: 10-20 mm) in all Cap cases and 14.8 mm (range: 10-20 mm) in type Ia Cap cases. Differences in perioperative complications were not significant according to type of repair, specifically, HJ anastomotic stricture: Cap=1 (2.3%, 14 years post operatively) versus CE=1 (2.4%, 13 yrs post-Op); calculi: Cap=1 (2.3%, 14 yrs post-Op) versus CE=3 (7.1%, 9, 15, 25 yrs post-Op); pancreatitis: Cap=0 (0%) versus CE=1 (2.4%, 9 yrs post-Op), and ileus: Cap=2 (4.8%, 5, 12 yrs post-Op) versus CE=2 (4.5%, 4, 6 yrs post-Op). Type Ia CC were involved in 24 Cap cases and 26 CE cases; of these there was one case of calculi for each type of repair: Cap (n=1; 4.2%) and CE (n=1; 3.8%). Cap histopathology showed two hyperplasia. No malignant transformation has been identified on routine MRCP performed for a mean of 29.5 years (range: 20-40 years).

Conclusions: Cap does not appear to be associated with extra morbidity or malignancy in Ia and IV-A cystic type CC on ultra long-term follow-up and is easier to perform than CE.

(S18) COMPARISON WITH OPEN SURGERY TO LAPAROSCOPIC SURGERY FOR CONGENITAL BILIARY DILATATION SURGERY IN INFANTS; SEMI-EMERGENCY SURGERY FOR BILIARY SYMPTOMS IN PRENATAL DIAGNOSIS PATIENTS WILL UNDERGO SAFELY AND EFFECTIVELY IN LAPAROSCOPY.

Takahisa Tainaka[1]; Chiyoe Shirota[1]; Wataru Sumida[1]; Kazuki Yokota[1]; Satoshi Makita[1]; Kazuo Oshima[1]; Jahidul Islam[1]; Hizuru Amano[2]; Yasuyuki Ono[1]; Yujiro Tanaka[1]; Akinari Hinoki[1]; Hiroo Uchida[1]; [1]Department of Pediatric Surgery, Nagoya University Graduate School of Medicine; [2]Department of Pediatric Surgery, The University of Tokyo

Purpose: Radical surgery for congenital biliary dilatation (CBD) in infants under one year of age requires advanced skills due to their small size. In addition, the timing of surgery for prenatal diagnosis of CBD is not clearly defined. We have been introducing laparoscopic surgery for CBD since 2013. In this study, we examined whether laparoscopic surgery for CBD in infants can be performed safely and effectively, comparing to open surgery. Next, the appropriate timing for laparoscopic radical operation in prenatal diagnosis cases was considered.

Methods: Twenty-one infant patients with CBD underwent surgery from January 2006 to December 2019. In cases of prenatal diagnosis, elective surgery in patients with no biliary symptoms (at about 6 month-old) was basically adopted. If patients had any biliary symptoms, they underwent semi-emergency surgery. Patients were divided into two groups, laparoscopic surgery (Lap group) and open surgery (Op). The operation time, the amount of blood loss, length of hospital stay (LOS), and postoperative complications were retrospectively compared between the two groups. In the Lap group, the outcomes of cases who required semi-emergency surgery (EM group) were also compared with those of the patients who underwent elective surgery (EL group).

Results: Fourteen patients and 7 patients were included in the Lap group and in the Op group. The age at surgery was 3 and 6 months ($p=0.08$), the body weight was 5.6 and 7.1 kg ($p=0.26$), respectively. Operative time was longer in Lap group (358 vs. 243 min, $p<0.05$), the amount of blood loss was less in the Lap group (19 vs. 82ml, $p<0.05$). Intrahepatic bile ductoplasy was required in 12 (86%) and 7 (100%) cases ($p=0.53$). Postoperative complications were similar (4 vs. 1, $p=0.62$). The length of hospital stays (LOS) was 10 and 13 days ($p=0.26$). Eight cases in the Lap group and 3 cases in the Op group had the prenatal diagnose, 7 (50%) and 5 (71%) cases had the preoperative symptoms, respectively. Semi-emergency surgery was performed in 6 of the Lap group. In comparison with EM group (N=6) to EL group (N=8), body weight at surgery was smaller in EM group (4.6 vs. 7.2kg, $p<0.05$). Operative time and the amount of blood loss were similar between the two groups (350 vs. 389 min., $p=0.25$, 12 vs. 22ml, $p=0.20$). Postoperative complications and LOS were similar between the two groups (2 vs. 2 cases, 10 vs. 11 days).

Conclusion: Laparoscopic surgery for infants with CBD took a long time, but the amount of bleeding was less. The postoperative results in the Lap group were similar with the Op group. Semi-emergency laparoscopic surgery in infants, which was required due to the biliary symptoms, could undergo safely and effectively. Therefore, the patients with prenatal diagnosis might undergo radical surgery soon after they have any biliary symptoms. Further studies are needed for late complications.