The THAI Journal of SURGERY 2018; 39:95-113.
Official Publication of The Royal College of Surgeons of Thailand

Abstracts of the 43rd Annual Scientific Congress of The Royal College of Surgeons of Thailand, 27-30 July 2018, Ambassador City Jomtien Hotel, Pattaya, Chon Buri, Thailand (Part I)

GENERAL SURGERY

COLONIC DETOXIFICATION VERSUS POLYETHYLENE GLYCOL-ELECTROLYTE LAVAGE SOLUTION FOR BOWEL PREPARATION BEFORE COLONOSCOPY: A RANDOMIZED CONTROLLED TRIAL

Jirat Jirathammaopas*, Sumet Saeli

*Department of surgery, Hatyai hospital, Hatyai, Songkhla, 90110, Thailand

Background: Colonoscopy has been well established as the gold standard of the colorectal cancer screening that enables simultaneously biopsy or polypectomy. However, complete bowel preparation is required in colonoscopy. Inadequate bowel cleaning can lead to missing lesion, prolonging procedure duration, and increase patient discomfort. Bowel preparation with polyethylene glycol-electrolyte lavage solution (PEG-ELS) is considered as the best safety method. However, some patient can't tolerate a large volume of fluid intake. Thus, colonic detoxification is alternative method that can be used for bowel cleansing before colonoscopy procedure that has been implemented in Hatyai Hospital for many years. The objective of this study was to compare the efficacy and safety between colonic detoxification and PEG-ELS for bowel preparation before colonoscopy.

Objectives: The objective of this study was to compare the efficacy and safety between colonic detoxification and PEG-ELS for bowel preparation before colonoscopy.

Materials and Methods: A prospective randomized control study was conducted to compare the quality of bowel cleansing using quality grading and Boston Bowel Preparation Scale (BBPS). The main predictor was the method of bowel preparation. The bowel was prepared using colonic detoxification or the PEG-ELS.

Results: A total of 74 participants were randomly assigned to receive colonic detoxification (n = 37) or PEG-ELS (n = 37). Both groups of patients had similar baseline characteristics. PEG-ELS was associated with better quality grading of bowel preparation, total BBPS and scores at each segment. The results showed that there were no significant differences in satisfaction score, adverse effects, colonoscopic duration and colonoscopic finding.

Conclusions: In conclusion, colonic detoxification is considered an alternative safety method for bowel preparation before colonoscopy. Although quality grading of bowel preparation and BBPS in colonic detoxification is significant lower than PEG-ELS, it is considered high BBPS (more than 5) and significant difference in polyp detection rate was not found.

COMPARISON OF CLINICAL OUTCOMES BETWEEN SURGICAL OPEN GASTROSTOMY AND PUSH-METHOD PERCUTANEOUS ENDOSCOPIC GASTROSTOMY: A SINGLE INSTITUTION EXPERIENCE

Chomduan Watcharamon*, Kittikarn Thongsonkleeb*, Araya Khaimook*, Bunlue Chowdok*, Jitpanu Wongyongsil*, Arunchai Chang†

*Department of Surgery, Hatyai Hospital, Songkhla, Thailand

†Division of Gastroenterology, Hatyai Hospital, Songkhla, Thailand

Background: Gastrostomy is preferred route of

enteric feeding in patients with upper aero-digestive malignancies. There is no clinical trial comparing surgical (open) gastrostomy (SG) and push method of percutaneous endoscopic gastrostomy (P-PEG) in patients with upper aero-digestive cancer.

Objective: The objective of study was to compare clinical outcomes between SG and P-PEG.

Methods: Medical records of patients with upper aero-digestive malignancies who underwent SG and P-PEG at our institution from January 2014 to December 2017 were reviewed. The incidence of post-operative adverse events, duration of procedure, pain score at 24 hours after procedure, length of hospital stay (LOS), cost, and procedure-related mortality were compared between procedures.

Results: There were 99 patients: 53 in the SOG, and 46 in P-PEG groups. The SG cohort had higher incidence of post-operative adverse events (28% vs. 4%, $p = 0.002$), longer duration of procedure (52 ± 21 minutes vs. 29 ± 5 minutes, $p < 0.001$), higher pain score at 24 hours after procedure (5.2 ± 3.1 vs. 2.3 ± 2.7, $p < 0.001$), longer LOS (6 ± 3 days vs. 4 ± 3 days, $p = 0.003$). There were no significant differences in terms of cost (41,870 ± 24,275 Baht vs. 39,575 ± 21,814 baht, $p = 0.624$) and mortality rate (4% vs. 0%, $p = 0.493$). Type of procedure was an important factor for post-operative adverse events on multivariate analysis (*p*-PEG vs. SG: OR=0.12, 95%CI, 0.02 to 0.64).

Conclusion: P-PEG is associated with lower incidence of post-operative adverse events, shorter procedure duration, lower 24-hour postoperative pain score, and shorter length of hospital stay.

COMPARISON OUTCOME OF LAPAROSCOPIC HELLER MYOTOMY WITH PERORAL ENDOSCOPIC MYOTOMY FOR ACHALASIA

Warun Pluemsakulthai

Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University

Background: Achalasia is a primary motility disorder of the esophagus characterized by insufficient lower esophageal sphincter (LES) relaxation and loss of esophageal peristalsis. An Incidence of disease is about 0.03-1.1 in 100,000 individuals annually. Nowadays, gold standard of treatment is laparoscopic heller myotomy (LHM). Peroral endoscopic myotomy (POEM) is an alternative technique to create myotomy via natural orifice transluminal endoscopic surgery (NOTES) technique instead of laparoscopic approach in LHM.

Objective: This study showed the treatment outcomes comparing in LHM and POEM group. The primary outcome is recurrence rate of achalasia. The secondary outcomes are length of hospital stay, complication rate, operative blood loss, operative time, myotomy length, pain score, Eckardt score at post-op 1 and 6 months, and LES pressure.

Materials and Methods: Retrospective chart review of 93 patients, who was diagnosed achalasia and underwent LHM and POEM from 2001-2016 in single institute database. Fifty patients were treated with LHM and 43 patients were treated with POEM. The patient characteristics and severity of symptom were matched in both groups.

Results: The primary outcome, recurrence rate in 24 months post operatively was 6 vs. 4.7% (LHM vs. POEM) ($p = 1.0$), The secondary outcomes are length of hospital stay 5.82 vs. 4.37 days ($p < 0.01$), operative blood loss 48.2 vs. 7.2ml ($p < 0.01$), mean operative time 202 vs. 95 minutes ($p < 0.01$), myotomy length 9.2 vs. 14 cm ($p < 0.01$), pain score 4.2 vs. 2.6 ($p < 0.01$), postoperative 6 months Eckardt score 0.38 vs. 0.69 ($p = 0.162$) and mean LES pressure also decreased from a mean of 26.7 to 13.6 mmHg after POEM ($p < 0.01$). No serious complications related to LHM and POEM were encountered. Complications after POEM were mucosal injury (18.6%) and pneumoperitoneum (34.3%) without need of any additional treatment.

Conclusion: POEM group showed less length of hospital stay, operative blood loss, operative time and post-op pain than LHM group and statistically non-significant in recurrence rate, postoperative Eckardt score. Follow up post operatively 24 months in POEM group showed clinical improve, equally recurrence rate with LHM group and without serious complications.

CRITICAL VIEW OF SAFETY IN PREVENTTION OF BILIARY TRACT INJURIES DURING LAPAROSCOPIC CHOLECYSTECTOMY AT HATYAI HOSPITAL

Pattiya Kamoncharoen, Araya Khaimook

Department of Surgery, Hatyai hospital, Hatyai, Songkhla 90110, Thailand

Background: The critical view of safety (CVS) is a method for identifying the cystic duct during laparoscopic cholecystectomy (LC) to prevent misidentification of the bile duct and avoid biliary tract injury.

Objective: To compare incidence of bile duct injury in the group using CVS and the conventional group not using CVS.

Materials and Methods: We perform a medical record review of all patients undergoing laparoscopic

cholecystectomy (LC) at Hatyai hospital from November 2015 to February 2018. One group (Group 1), consisting of 2 consultants and 3 surgical fellows, used critical view of safety (CVS) to identify cystic duct before clipping and dividing the duct by taking snapshot of CVS and later signing documents to confirm identification. In the second group (Group 2), consisting of 7 other consultants in Department of Surgery, CVS was not a mandatory. Demographic data, operative techniques, operative time, complications were collected from the records.

Results: A total 510 patients underwent LC during the period. There were 239 patients in Group 1 and 271 patients in Group 2. There were three bile duct injuries in Group 1 (1.3%) and one bile duct injury in Group 2 (0.4%).

Conclusion: CVS cannot solely prevent bile duct injuries in our series.

DOES PYLORIC-RING RESECTION IN PANCREATICO-DUODENECTOMY PREVENT DELAYED GASTRIC EMPTYING?

Thakerng Pitakteerabundit, Tortrakoon Thongkun, Nan-ak Wiboonkhawn

Department of Surgery, Faculty of Medicine,
Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand

Background: Pylorus-preserving pancreaticoduodenectomy (PPPD) has been widely used in periampullary and pancreatic head cancer treatment; however, delayed gastric emptying is not infrequent. Delayed gastric emptying after pancreaticoduodenectomy increases treatment cost and length of hospital stay.

Objective: We report the rate of delayed gastric emptying between two surgical methods-pyloric-ring resection pancreaticoduodenectomy (PRPD) and pylorus-preserving pancreaticoduodenectomy (PPPD).

Materials and Methods: We retrospectively reviewed all patients who underwent pancreaticoduodenectomy in a single institution between June 1, 2014 and July 31, 2017, and placed them into either the pyloric-ring resection or the pylorus-preserving pancreaticoduodenectomy group. Descriptive analyses were conducted on the demographic, preoperative, intraoperative and postoperative details. The rate of delayed gastric emptying according to the definition proposed by the international study group of pancreatic surgery (ISGPS) was the primary endpoint. The secondary endpoints were postoperative hospital stay, intraoperative blood loss and blood transfusion, operative time and postoperative complications.

Results: Seventy-four patients were enrolled; 25 patients in the PPPD group and 49 in the PRPD group. The overall incidence of DGE was 29.7% (22 of 74 patients). The incidence of DGE in the PPPD group was statistically higher than that of the PRPD group (48.0% vs. 20.4%, $p = 0.029$). Postoperative hospital stay was 8 days in both groups. There was no significant difference in operative times, blood loss, incidence of perioperative blood transfusion and postoperative complications.

Conclusion: Patients undergoing pyloric-ring resection pancreaticoduodenectomy fared better in terms of delayed gastric emptying compared to their counterparts who underwent pylorus-preserving pancreaticoduodenectomy. Complication rates between two groups were not statistically significantly different.

EARLY AND LATE OUTCOMES OF ASYMPTOMATIC ABDOMINAL AORTIC ANEURYSM TREATED WITH ENDOVASCULAR ANEURYSM REPAIR IN DIFFERENCE AGE GROUPS

S. Kiattiubolwong, K. Chinsakchai, P. Mutigrangura, C. Ruviansetakit, C.Wongwanit, N. Sermsathanasawadi, S. Hahtapornsawan, K. Hongku, N. Puangpunngam

Division of Vascular Surgery, Department of Surgery Faculty of Medicine Siriraj Hospital
Mahidol University, Bangkok, Thailand

Background: Abdominal aortic aneurysm is common for male patients, increasingly with age. The traditional treatment is still open repair. Endovascular aneurysm repair (EVAR) has been increasingly performed for two decades, which shows the decrease in 30-day morbidity and mortality compared with open repair. However, the outcomes in young and elderly age group have not been studied.

Objectives: To investigate the early and late outcomes of EVAR among the three different age groups of asymptomatic aortic aneurysm repair.

Material and Methods: We reviewed the prospective AAA database who underwent elective EVAR from January 2012 to December 2017. These patients were classified into three groups by age: less than 70, between 70-80 and more than 80. Primary end point was 30 day post operative mortality. Secondary end points were composed of procedural details, peri-operative complications, re-intervention and survival rate during late follow-up.

Results: 290 patients included in this study. 30 days mortality was not statistical significantly among three groups (age < 70 yr 0 (0%), 70-80 yr 2 (1.4%) and > 80 yr 1 (1.1%)

(p=0.82). In addition, there were no statistical significances in procedural details, peri-operative complications in all three groups (age < 70 yr 8 (15.1%), 70-80 yr 17 (11.6%) and > 80 yr 18 (20.2%) (p = 0.201). At 5-year follow-up, the re-intervention free time was not statistically significant among three groups (age < 70 yr 52 (96.3%), 70-80 yr 144 (97.9%) and > 80 yr 86 (96.6%) (p=0.85). However, the survival time in age group less than 70 years was significantly much longer than the other two groups (age < 70 yr 88.89%, 70-80 yr 72.1% and > 80 yr 65.1%) (p = 0.02). No aneurysm related death in this study.

Conclusion: EVAR might be feasible in AAA management in all age group. During five-year follow-up, there was no difference in re-intervention rate and the death of three study groups, but the survival time of the youngest age group (less than 70) was statistically significant better than the others.

EVALUATION OF SURGICAL COMPLICATIONS IN A UNIVERSITY HOSPITAL: ROOT CAUSE ANALYSIS

Supparerk Prichayudh, Thanisorn Tungprayoonlert
Department of Surgery, Faculty of Medicine, Chulalongkorn University

Background: Despite the advance of surgery in the modern days; surgical complications can still occur, causing morbidity and sometimes mortality in surgical patients. Hence, surgical morbidity and mortality conference is crucial for quality of care improvement. Analyzing preventability and root causes helps prevent reoccurrence of the complications.

Objective: In the present study, we analyzed our General Surgery morbidity and mortality conferences in King Chulalongkorn Memorial Hospital (a 1400-bed university hospital) in terms of preventability and root causes.

Methods: We retrospectively reviewed our morbidity and mortality conferences from October 2012 to October 2016. The data collection included diagnostic groups, organ systems, severity, preventability, and root cause analysis (RCA) of the complications. Outcome of the patients was also obtained.

Results: There were 676 complications occurring during the study period. The most common organ system involved was gastrointestinal/Hepatobiliary-pancreatic system (42.8%). According to the Clavien-Dindo classification, severity of the complications was classified to grade 1 (20.7%), grade 2 (18.9%), grade 3 (41.6%), grade 4 (3.7%) and grade 5 (15.1%). We classified 27 complications as preventable (4.0%), 573 as potentially preventable (84.8%), and 76 as unpreventable (11.2%). RCA of the preventable and potentially preventable complications revealed that root causes were defect in preoperative management (6.1%), defect in intraoperative management (61.3%), defect in postoperative management (27.0%), and defect in a diagnostic/management decision (5.6%). Majority of the patients (80.2%) had a full recovery from the complications, while 4.7 % had residual functional impairment and 15.1% died.

Conclusions: The present study demonstrated that the majority of complications in general surgery were preventable or potentially preventable. RCA showed that the most common root cause was defect in intraoperative management.

IMPROVEMENT OF TRANSPLANTED KIDNEY BIOPSY YIELD BY USING CHULA SMART LENS

Natthida Incharoen, Kanrapee Nuwatkrisin, Supanut Lumbiganon, Pakorn Kiatsopit, Ukrit Rompsaithong, Kachit Pachirat, Wichien Sirithanaphol
Division of Urology, Department of Surgery, Faculty of Medicine, Khonkaen University, Khonkaen, Thailand, 40002

Background: Smart lens is a magnifying device which turns the smart phone into microscopic exploring instrument. It is convenient, cheap and portable. The purpose of this study was to examine if using Chula smart lens would increase the yield of kidney biopsy in transplanted kidney.

Objective: To examine if using Chula smart lens would increase the yield of kidney biopsy in transplanted kidney.

Material and methods: A total of 96 consecutive biopsies (standard group n = 50, smart lens group n = 46) during 1 June 2016 - 30 November 2017 in Srinagarind hospital were included. Clinical data, diagnostic quality and complication were retrospectively reviewed.

Results: Baseline characteristics were well balanced between two groups. The positive glomeruli rate in smart lens group was 100% and significantly higher than conventional group with the rate of 84%, p <0.01. The adequacy of tissue for pathological diagnosis was also higher in those obtained by using smart lens compared to standard arm; 93% vs. 80% respectively, p = 0.05. The mean number of biopsied cores was 3.4 cores in smart lens group and 3.0 cores in standard group. The complication rates were comparable between two arms. Four patients in smart lens group developed gross hematuria which was completely resolved after conservative treatment.

Conclusion: Using Chula smart lens result in more positive glomeruli, better histological quality and diagnostic yield with comparable complications compared to standard procedure.

IN HOSPITAL BOWEL PREPARATION IN ELECTIVE COLONOSCOPY IMPROVING BOWEL PREPARATION AND COST-EFFECTIVENESS

Siriporn Pongpattarapak

General surgery unit, Yala Regional hospital, Yala, 95000, Thailand

Background: Colonoscopy is modality of choice for colorectal cancer screening and prevention. Giving good information about bowel preparation is crucial for colonoscopy effectiveness in detecting precancerous polyps and cancer. Suboptimal bowel preparation frequently occurs in poor compliant patients despite counseling session before colonoscopy.

Objectives: This study aims to review results of bowel preparation that can achieve better stool clearance and costs between in hospital and out-patients in elective colonoscopy.

Methods: Patients who underwent elective colonoscopy at a Yala Regional hospital during January 2017 to December 2017 were enrolled. Records of in hospital and out-patient bowel preparation were compared about range of adequate bowel cleansing, procedure time, cost of procedure and admission.

Results: A total of 313 patients in the analysis, classify as patient satisfaction, 99 out-patient and 214 in hospital bowel preparation were match for indication and bowel preparation protocol. The in hospital group was elder than the other (mean age 61 and 57 years old, $p < 0.05$), had more excellent bowel clearance according to Aronchick score ± 3 (94.4%, $p < 0.05$) and significantly more success colonoscopy. The in hospital group had less procedure time than the other. No difference in rate of repeat colonoscopy due to inadequate bowel preparation between two groups. The cost of procedure, only colonoscopy and colonoscopy with biopsy were significantly less in out-patient group than in hospital group but similar when colonoscopy with polypectomy or with other procedures.

Conclusion: In hospital bowel preparation for elective colonoscopy is safe and effective. It offers excellent stool clearance and shorter procedure times. But this may increase chart due to potential cost such as service for admission room. Intensive counselling is need in poor compliance to minimize complications that may outweigh potential cost savings.

INCIDENCE AND RISK FACTORS OF POSTOPERATIVE PANCREATIC FISTULA AFTER PANCREATICODUODENECTOMY: A LARGE TERTIARY CENTER EXPERIENCE

Wilaiporn Manoontrakul, Chutwichai Tovikkai, Prawej Mahawithitwong, Prawat Kositamongkol, Supreecha Asavakarn, Wethit Dumronggittigule, Pholasith Sanserestid, Somchai Limsrichamrern, Yongyut Sirivatanauksorn

Hepato-Pancreato-Biliary and Transplant Surgery Unit, Division of General Surgery, Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University

Background: Postoperative pancreatic fistula (POPF) remains an important complication after pancreaticoduodenectomy (PD). PD is a major operation for treatment of periampullary and pancreatic cancer and the number of operation has increased in recent years.

Objectives: To explore incidence and identify risk factors of POPF.

Material and Methods: We retrospectively reviewed clinical data of 227 patients who underwent PD in Siriraj Hospital between January 2011 and December 2016. POPF was diagnosed and classified into three groups (grade A, B and C) according to the International Study Group on Pancreatic Fistula (ISGPF). Clinical relevant pancreatic fistula (CR-POPF) integrated only grade B and C. Risk factors of POPF after PD were analyzed. Univariate and multivariate logistic regression analysis were used to determine the risk factors correlating with POPF.

Results: Total of 227 patients were included in this study. POPF occurred in 96 patients (42.3%), and were classified into ISGPF grade A 21 patients (21.9%), grade B 54 (56.3%), and grade C 21 (21.9%). CR-POPF rate was 33.0%. Multivariate analysis revealed soft gland texture [Odds ratio (OR): 6.7, 95% confidence interval (CI): 1.4-30.9], small pancreatic duct (P-duct) diameter ≤ 3 mm [OR: 4.6, 95% CI: 1.0-21.4] and surgeons' experience < 10 years [OR: 6.2, 95% CI: 1.4-30.6] were significant risk factors of POPF. Regarding CR-POPF, these three risk factors were also statistically significant in multivariate analysis.

Conclusions: Even in high volume center, incidence of POPF after PD was still high and ISGPF grade B was the most common group. Gland texture, P-duct diameter, and surgeons' experience were independent risk factors for both POPF and CR-POPF.

INCIDENCE OF CHRONIC PAIN IN MESH FIXATION WITH CYANOACRYLATE GLUE IN LAPAROSOPIC INGUINAL HERNIA REPAIR

Theerawat Limpanichkul, MD*, Somboon Subwongcharoen, MD†

*Department of Surgery, Rajavithi Hospital, Bangkok, Thailand,

†Department of Surgery, College of Medicine, Rangsit University, Bangkok, Thailand

Background: Chronic groin pain is one of the long term complications after laparoscopic inguinal hernia repair that may cause problems to quality of life of patients.

Objectives: To study the incidence of chronic pain in mesh fixation with cyanoacrylate glue in laparoscopic inguinal hernia repair at 3 months and 1 year post-operatively.

Materials & Methods: A retrospective study of 50 patients who had undergone laparoscopic inguinal hernia repair with mesh fixation with cyanoacrylate glue. Chronic pain was assessed by phone calls using the Inguinal Pain Questionnaire (IPQ).

Results: At 3 months postoperatively, 46 patients (92%) had no pain and 4 patients (8%) had multilevel of pain from easily being ignored to interfering with most activities. At 1 year, 45 patients (90%) had no pain and 5 patients (10%) had multilevel of pain.

Conclusion: The use of cyanoacrylate glue for mesh fixation in laparoscopic inguinal hernia repair gave the good outcome in terms of chronic pain. It can be an alternative method for mesh fixation.

LAPAROSCOPIC SPLENECTOMY VERSUS OPEN SPLENECTOMY IN HATYAI HOSPITAL

Phadungkiat Tipmanee, Araya Khaimook

Department of Surgery, Hatyai hospital, Hat Yai, Songkhla 90110, Thailand

Introduction: Splenectomy is nowadays widely performed by laparoscopy; we compare the results of two different techniques of surgery, laparoscopic splenectomy versus open splenectomy. The objectives of this research were to evaluate the feasibility, safety, and potential benefits of laparoscopic splenectomy compared with open splenectomy.

Materials and Methods: We retrospectively reviewed all patients undergoing both laparoscopic splenectomy (LS) and open splenectomy (OS) for hematologic disease at Hatyai hospital from January 2013 to December 2017. LS was performed by a semi-lateral approach. Single Incision Laparoscopic Surgery (SILS) Foam Port was inserted at umbilicus. An additional port was added in the epigastrium or left upper quadrant if needed. The technique of splenic hilar control in LS consisted in the dissection of each segmental of secondary splenic vessel at the lower, middle, and upper parts of the spleen. They were then divided without individualizing the artery from the vein. Open splenectomy was done by midline incision and performed by an anterior approach.

Results: Total 32 patients were operated at a mean age of 36.3 years in 21 patients by LS and 17.2 years in 12 patients by OS. The operative time, intraoperative blood loss, postoperative pain score, time to first oral intake, and length of hospitalization for LS/OS were respectively 105/60 mins. (p-value 0.37), 150/120 ml. (p-value 0.37), 3.0/7.2 point (p-value 0.6), 10/28 hours (p-value 0.03), and 6.2/6.9 days (p-value 0.7). Conversion rate of LS was 2 (9.5%).

Conclusion: Laparoscopic splenectomy appeared safe, feasible, less pain in postoperative period and time to intake quicker than open splenectomy. LS was not increased risk of intraoperative bleeding and postoperative complications.

MULTIGENE TEST RISK OF RECURRENT SCORE COULD PREDICT AXILLARY LYMPH NODE METASTASIS IN T1 HORMONAL POSITIVE BREAST CANCER

Sikrit Denariyakoon*, Valla Fongchaiya*, Adhisabandh Chulakadabba*,†, Pichet Sampatanukul*, Kris Chatamra*

* Queen Sirikit Centre for Breast Cancer, Thai Red Cross Society, Bangkok, Thailand

† Department of surgery, King Chulalongkorn Memorial Hospital, Bangkok, Thailand

Background: The rate of lymph node metastasis in hormonal positive early breast cancer is 16.2-37.5%. Although sentinel lymph node biopsy (SLNB) is the gold standard of axillary assessment, unnecessary axillary operation with consequent arm and shoulder morbidity is to be concerned. Several prediction models and imaging modalities are not sufficiently accurate to substitute SLNB. Multigene profiling could demonstrate prognostic value which classified personalized cancer treatment and additional specific information.

Objectives: This study is to compare PAM50 ROR score in lymph node positive and negative in hormonal positive T1 breast cancer patients.

Materials and Methods: A review was performed in hormonal positive T1 breast cancer patients who underwent surgery in Queen Sirikit Centre for Breast Cancer during

March 2017-May 2018. PAM 50 gene expression was performed on FFPE sections using the Nanostringn Counter technology. *T*-test and Chi square were used to compare descriptive data. The prognostic factors were analyzed by multivariate analysis. Area under curve (AUC) of ROC curve was calculated. The statistic was analyzed by IBM SPSS software version 22.

Results: The study included 34 patients with estrogen receptor positive T1 breast cancer. Mean age was 53 years in N0 and 55 years in N1. There were 28 patients without axillary lymph node involvement and 6 patients with lymph node involvement. ROR score showed significantly predictive value of axillary lymph node involvement. (95% CI 1-1.054) Mean ROR score is 63.1 in LN positive patients and 42.9 in LN negative patients (p-value = 0.047) ROC was demonstrated and AUC was 0.75 (p-value = 0.058). The cut-off value at 40 showed sensitivity 1.0 and specificity 0.42. There were 14 patients (41%) with discordance of intrinsic subtype and surrogate subtype. Notably, there were 4 luminal B surrogate subtype patients exhibited HER enriched intrinsic subtypes.

Conclusions: PAM 50 ROR score is currently used to describe disease prognosis, further adjuvant treatment and intrinsic subtype. According to this study, ROR score seems to be useful to predict lymph node status in hormonal positive T1 breast cancer. This preliminary report showed that ROR score below 40 could exclude lymph node positive patients.

OUTCOME OF SURGERY FOR RETROPERITONEAL SARCOMAS IN SRINAGARIND HOSPITAL

Pitipong Sithiamnuai, Egapong Sathitgarnmanee†*

* Department of Surgery, Faculty of Medicine, Khon Kaen University, Khon Kaen 40002, Thailand

Background: Retroperitoneal sarcoma (RPS) is a rare malignant soft-tissue tumor that generally manifests as a large mass invading surrounding structure. Late presentation of these tumors is due to associated minimal symptoms, making surgical management difficult. Complete surgical removal is the most important for survival and prevention of recurrence. However, local recurrence of RPS is common. This study aims to report surgical outcomes, overall survival, recurrence rate, disease-free survival of RPS in patients who underwent surgical treatment at Srinagarind hospital.

Methods: A medical record review of all retroperitoneal sarcoma patients who underwent surgical treatment during 2000 - 2016 in Srinagarind Hospital, Khon Kaen University was performed. Tumor characteristics, median survival time, overall survival, recurrence, and complications were examined.

Results: There were 34 surgically treated RPS patients. Almost all RPS were stage IB (94%). The most common histologic type was liposarcoma (71%). The 5-year overall survival rate was 33.8% (95% CI: 18.5% to 49.7). The median survival time was 2.6 years (95% CI: 1.9 - 3.3). Local recurrence occurred in 18 patients (53%). The 5-year survival of patient also underwent subsequent resection of local recurrence0 was 25% and the median survival time was 25 years (95% CI: 2.1 - 3 years). Distant recurrence occurred in 2 patients (6%). Bleeding-related conditions were the most morbidity (41%).

Conclusions: Complete surgical removal of the RPS is the most important for survival of the patients. Subsequent resection of the recurrence still yielded satisfactory results, however. A high rate of local recurrence after surgical removal was noted. Surgeons must be aware of blood loss during the operation.

PILOT STUDY OF TREATMENT OF NO-OPTION CRITICALLIMB ISCHEMIA WITH GRANULOCYTE COLOY STIMULATING FACTOR MOBILIZED AUTOLOGOUS PERIPHERAL BLOOD MONOCLEAR CELLS

Nuttawut Sermsathanasawadi, Nuttapol Chruewkamlow*,†, Kiatisak Hongku*, Chumpol Wongwanit*, Khamin Chinsakchai*, Chanean Ruangsetakit*, Pramook Mutirangura**

*Division of Vascular Surgery, Department of Surgery, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand

†Division of Research, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand

Background: Although, critical limb ischemia (CLI) patients have been treated by surgical arterial bypass or endovascular treatment, 20% to 40% of patients with CLI could not be candidates for either of these approaches. These no-option CLI patients usually lost their limbs.

Objective: To study the efficacy and safety of granulocyte colony-stimulating factor (G-CSF) mobilized peripheral blood mononuclear cell (PB-MNC) in treatment of no-option CLI.

Methods: Ten patients with no-option CLI were treated with G-CSF 5-10 g/kg/day for 4-5 days. After white blood cell count reached 20,000-40,000/mm^3, PB-MNC was collected by blood cell separator. PB-MNC was injected to calf or thigh of ischemic limbs for 60-100 sites. Ankle brachial index, toe brachial index and transcutaneous

oxygen tension measurement was record at 1 and 3 months after injection. Amputation rate, wound healing rate and symptoms of patients were recorded.

Results: Ten no-option CLI patients age between 62 to 77 years were included. Sixty percent were female. The presenting symptoms were gangrene 40%, non-healing ulcer 40 % and rest pain 20%. Risk factors included diabetes mellitus 60%, hypertension 90%, dyslipidemia 90% and smoking 30%. CD34 positive cell per site of injection was range from 0.81 to 9.91 ± 106/ml. Only one (10%) patient undergone major amputation after injection. Other patients had symptom improvement including relieve of rest pain, healed wound and limb saving. However, 2 patients came to hospital again for recurrent of CLI symptoms. These 2 patients had been re-injection of PB-MNC. Both patients could save their limbs. None of patient had complication after PB-MNC injection.

Conclusion: G-CSF mobilized PB-MNC is safe and effective in treatment of no-option CLI.

PREDICTIVE SURGICAL OUTCOME OF EUROSCORE II FOR ACTIVE ENDOCARDITIS

Tosapon Himmunngan, Komkrit Komuttarin
Department of surgery Maharat Nakhon Ratchasima Hospital, 49 Changwat Road, Muang, Nakhon Ratchasima, 30000, Thailand

Background: The European System for Cardiac Operative Risk Evaluation II (EuroSCORE II) was developed from the original EuroSCORE (1999), to predict the mortality rate of patients undergoing cardiac surgery. EuroSCORE II underestimates post - cardiac surgery mortality in high risk patients. There are few studies of the association between EuroSCORE II and mortality rate of patients with active endocarditis.

Objective: Evaluate the accuracy of EuroSCORE II to predict in-hospital mortality and long term result in active IE patients

Material &Methods: A retrospective study was performed at Maharat Nakhon Ratchasima Hospital. Active endocarditis patients, aged 18 years or more, underwent cardiac surgery in the active phase during 2008 to 2017 were recruited to the study. Hospital mortality rate of the patients were compared of EuroSCORE II.

Results: From 121 patients undergoing cardiac surgery, 24 were dead, the mortality rate of 19.8%.The EuroSCORE II was classified into 5 rating scales, group I (score 0, < 10) death 7.1%, group II (score 10, < 20) death 32%, group III (score 20, < 30), death 29.4%, group IV (score 30, < 40) death 66.7% and group V (score ≥ 40) death 66.7% cut - off point was 12 and over. EuroSCORE II scores of 12 and above had a sensitivity of 40.9%, a specificity of 92.2%, a positive predictive value and negative predictive value of 75% and 73.2, respectively.

Conclusion: There was no association between EuroSCORE II and actual mortality rate particularly in severe cases. Therefore EuroSCORE II should be used with caution for making a decision for cardiac surgery especially in group with severe active Endocarditis (EuroSCORE II ≥ 12.0).

PREDICTORS OF POSTOPERATIVE ATRAIL FIBRILLATION AFTER OFF-PUMP CORONARY ARTERY BYPASS GRAFTING

Permyos Ruengsakulrach, Kosin Thupvong, Vitoon Pitiguagool, Piyapan Pamornsing, Siriwasan Akanitthapichat, Jamorn Udomkusonsri, Somboon Boonkasem
Division of Cardiovascular Surgery, Bangkok Heart Hospital, Bangkok Hospital Group, Bangkok, Thailand

Background: Postoperative atrial fibrillation (AF) is one of the most common complications after cardiac surgery and associated with other major complications such as stroke, ventricular arrhythmia and hemodynamic compromised. Off-pump Coronary Artery Bypass Grafting (OPCAB) compared with conventional coronary bypass grafting may improve short-term outcomes (stroke, renal dysfunction, blood transfusion, respiratory failure, atrial fibrillation, wound infection, ventilation time, and length of stay) however incidence of AF is still high.

Objective: The objective of this study is to identify predicting factors of postoperative AF after OPCAB.

Materials and Methods: Between January 2001 and December 2017, 1879 consecutive patients underwent OPCAB. Mean age was 63.0 ± 10.4 years and 79.4% were male. Mean body mass index was 25.8 ± 4.0. The incidence of considering factors was as follows: current smoking 14.3%, diabetes 48.9%, hypertension 73.4%, on renal dialysis 1.8%, heart failure 21.1%, cardiogenic shock 5.6%, recent myocardial infraction (MI) 13.8%, previous percutaneous coronary intervention 10.2%, and previous cardiac surgery 2.4%. The mean left ventricular ejection fraction was 54.8 ± 15.2%. Significant left main disease (≥ 50% stenosis) was found in 34.7%. The last preoperative serum creatinine was 1.2 ± 0.8 mg/dl. Perioperative intraaortic balloon pump was used in 16.3%. All of the measured variables were subjected to univariate and, consecutively, to multivariate logistic regression analysis to determine predictors of postoperative AF.

Results: The postoperative AF was found in 23.5%. The predictors of postoperative AF were age ($p < 0.001$), recent MI ($p = 0.006$), heart failure ($p = 0.039$) and Cardiogenic shock ($p = 0.044$).

Conclusions: Age, recent MI, heart failure and cardiogenic shock were independent predictors for postoperative AF after OPCAB. Chemoprophylaxis with Beta-receptor antagonists in elderly or amiodarone in patient with recent MI, heart failure and cardiogenic shock may effective against the development of postoperative AF in OPCAB. Randomized controlled trials are warranted.

PREOPERATIVE CLINICOBIOLOGICAL SEVERITY OF SECONDARY HYPERPARATHYROIDISM PATIENTS IN THAMMASAT UNIVERSITY HOSPITAL

Pornratree Boonsanong, MD, Wilairat Prasert, MD, FRCST
Department of Surgery, Faculty of Medicine, Thammasat University, Thailand

Background: Although the initial and predominant management of hyperparathyroidism in ESRD is medical therapy, there are approximately 10 percent of patients developed refractory hyperparathyroidism that cannot be controlled to acceptable levels by medical therapy. Those patients ultimately require surgery to correct ESRD-related hyperparathyroidism. We assessed preoperative clinicobiological severity of secondary hyperparathyroidism patients in Thammasat university hospital compared to the standard recommendation.

Methods: We conducted retrospective review data for 3 years (January 2015 to April 2018) from outpatient department cards of Thammasat university hospital which collected data from whole entire department in the hospital that deserved for surgical parathyroidectomy. We reported categorical data as percent (%) and continuous data as mean and median.

Results: This study included 40 patients with secondary hyperparathyroidism in Thammasat University Hospital. There were 42.5% of male and 57.5% of female. The median age is 46 years. Mean of duration of hemodialysis were 7 years before parathyroidectomy. 97.5% had PTH level more than 1000. Mean of serum PTH level , serum corrected calcium level, serum phosphate level, and serum calcium phosphate product were 2002.97 pg/ml, 10.03mg/dL, 6.64 mg/dL, and 66.60 respectively. Only 19 patients (45%) were work up BMD and showed osteoporosis 17.5%, specific symptom (fracture/deformity) 5%.

Conclusions: The secondary hyperparathyroidism patient who failed medication in Thammasat University hospital was parathyroidectomy later than standard recommendation.

PULMONARY EMBOLISM IN THE POSTOPERATIVE GENERAL SURGERY PATIENT AT SRINAGARIND HOSPITAL

Sathienrapong Chantawibul, Supatcha Prasertcharoensuk
Department of Surgery, Faculty of Medicine, Khon Kaen University 40002, Thailand

Objective: Pulmonary embolism has historically been perceived to be a rare disorder in Asia. New evidence has emerged recently that contradicts this perception. The aim of this study was to examine the incidence of acute pulmonary embolism and its outcome in the postoperative general surgery patient at Srinagarind Hospital.

Materials and Methods: A medical chart review of patients who were diagnosed with acute pulmonary embolism (PE) in the postoperative period during 2007 to 2015 was done.

Results: The incidence of acute PE in the postoperative surgical patient rose from 3.7 in 10,000 to 20.5 per 10,000 in 9 years, The average age of these patients was 57.6 years; the average BMI was 23.4; 25% has history of DVT; 75% has malignant diseases, 86% had clinical and other evidence of PE. Only 7% received preoperative mechanical prophylaxis is for PE.

Conclusions: The incidence of PE is not low as previously believed, and it is on the rise. Postoperative PE has a mortality rate of 38%. The use of preoperative thromboembolic prophylaxis is still low.

REMISSION OF TYPE 2 DIABETES MELLITUS IN BARIATRIC-METABOLIC SURGERY AND PREDICTORS OF FAILURE OF REMISSION

Nithi Charnpreechakul

Objectives: The aim of the study was to evaluate the outcomes of morbidly obese patients with type 2 diabetes mellitus (DM) managed by laparoscopic Roux-en-Y gastric bypass surgery and laparoscopic sleeve gastrectomy.

Methods: The present study was a single-institution cohort study. There were 37 morbidly obese patients with type 2 diabetes mellitus undergoing bariatric metabolic surgery between January 2013 and January 2018. The average follow-up time was 25 months. The primary outcome was DM remission. Potential prognostic factors for failure

of DM remission including weight loss, FBS, HbA1c level, lipid profile, serum creatinine, and use of anti-diabetic medications were examined.

Results: Patient, undergoing bariatric-metabolic surgery, complete remission of DM occurred in 62% (23/37), and partial remission in 24 (9/37), with some improvement in 3% (1/37). Relapse of DM occurred in 1 patient. Average percentage of estimated weight loss was 28%. HbA1C decreased on average from 7.5 to 5.6% ($p < 0.001$), FBS from 144.8 to 95.6 mg/dL ($p<0.001$). Predictors of failure of Dm remission included lower percentage of estimated weight loss ($p < 0.001$), and the use of insulin to control DM ($p = 0.001$).

Conclusions: After 2 years of follow-up, a large proportion of morbidly obese and diabetic patients who underwent bariatric-metabolic surgery had complete or partial remission of DM. There were also significant weight loss, reduction in HbA1c, and reduction in use of anti-diabetic medications. Patients who did not lose much weight or required insulin to control diabetes were more likely to fail to go into remission.

THE BENEFIT OF REPEAT FAST IN BLUNT ABDOMINAL TRAUMA: A SYSTEMATIC REVIEW AND META-ANALYSIS

Apirut Hongsuwan, Amarit Tansawet, Suphakarn Techapongsatorn, Wisit Kasetsermwiriya

Department of Surgery, Faculty of Medicine Vajira Hospital, Navamindradhiraj University, Bangkok, 10300, Thailand

Background: Focused Assessment Sonography for Trauma (FAST) has become commonplace in the management of blunt abdominal trauma. Small amount of intraabdominal bleeding may limit the sensitivity of FAST. However, if initial FAST is negative, intraabdominal bleeding cannot be excluded. It remains unclear whether to observe by clinical symptom or re-examine with imaging in patients with abdominal trauma. This meta-analysis studied the benefit of repeat ultrasound to detect abdominal injury.

Objectives: To evaluate the benefit of repeat FAST in blunt abdominal trauma patients.

Materials and Methods: The Ovid-MEDLINE and Scopus databases were thoroughly searched for studies evaluating the secondary/repeat ultrasound in blunt abdominal trauma patients. The inclusion criteria included; 1) Blunt abdominal trauma patients 2) Age ≥ 15 years old and 3) Perform repeat FAST. A meta-analysis and systemic review was conducted to evaluate the percentage of abdominal injury detection when repeat FAST was used. Rate of abdominal injury diagnosis with Computer tomography (CT) scan was also compared with the ultrasound.

Results: Five original studies with 2209 subjects were collected from the databases. The repeat FAST and CT scan increased positive injury detection rate when compared with initial ultrasound alone. Initial FAST had sensitivity, specificity, positive likelihood ratio and negative likelihood ratio 72%, (95% CI 0.43-0.90), 98% (95% CI 0.92-0.99), 29 (95% CI 9.1-92.7), 0.28 (95% CI 0.12-0.69), respectively, while repeat FAST had 90% (95% CI 0.72-0.97), 98% (95% CI 0.84-1.0), 41.1 (95% CI 5.5-312.7), 0.1 (95% CI 0.04-0.31), respectively. The appropriate timing for repeat FAST was inconclusive due to insufficient data for subgroup analysis. However, performing repeat FAST may help in case of inability to examine the patient with CT scan.

Conclusion: Performing repeat FAST in patients with blunt abdominal injury significantly increased sensitivity of abdominal injury detection, and it could be an option for patients who are not fit for the CT scan.

THE CORRELATION BETWEEN TUMOR REGRESSION GRADE AND THREE-YEAR DISEASE FREE SURVIVAL IN LOCALLY ADVANCED RECTAL CANCER AFTER PREOPERATIVE CHEMORADIATION FOLLOWED BY SURGERY

Chaochankit W, Laohawiriyakamol S*, Boonpipattanapong T*, Wanichsuwan W*, Kanjanapradit K†*

* Department of Surgery, Faculty of Medicine, Prince of Songkla University, Songkhla, Thailand

†Department of Pathology, Faculty of Medicine, Prince of Songkla University, Songkhla, Thailand

Background: The colorectal malignancy is the fourth most common cancer and increases the mortality rate. Especially, in locally advanced rectal cancer (stage II and III) would have high local recurrence and decease overall survival (OS). The treatment of this group is preoperative chemoradiation (CRT) followed by surgery. In several studies showed the benefit of tumor regression grade (TRG) and pathological complete response (pCR) that related to local recurrence and overall survival. This study aimed to find the correlation between TRG and three-year disease free survival (DFS) in locally advanced rectal cancer after preoperative CRT followed by surgery.

Methods: The data were retrospectively collected from 83 locally advanced rectal cancer patients who received preoperative CRT at Songklanagarind Hospital from January 2010 to December 2014. All patients would receive preoperative CRT with 5FU-based chemotherapy regimen

and total dose of 45-50.4 Gy in 25 daily fractions of radiation and follow by surgery.The exclusion criteria compounded with patients who were younger than 18 years, advanced rectal cancer patients and patients who had other sites of malignancy. The TRG classification was used Mandard TRG system that had 5 levels. The TRG 1-2 patients were defined as the good response TRG. The TRG 3-5 patients were defined as the bad response TRG.

Results: Among 74 patients, the patients were divided into good response TRG (28.4%) and bad response TRG (71.4%). The 3-year DFS and 3-year OS did not have any significantly differences in both groups. The 6 patients (9%) had pCR. The down staging was 60.8% after preoperative chemoradiation. The male and preoperative CRT carcinoembryonic antigen (CEA) level > 5 ng/mL were the factors related to the TRG from multivariate analysis.

Conclusion: The TRG did not relate to 3-year DFS and 3-year OS in locally advanced rectal cancer patients who received preoperative CRT and followed by surgery. But the pCR had trend to relate to DFS in locally advanced rectal cancer patients. Male and pre-CRT CEA level related to TRG.

THE EFFECT OF LOBULAR BRANCH OF GREAT AURICULAR NERVE PRESERVING PAROTIDECTOMY ON FREY'S SYNDROME AND EAR LOBULE SENSATION

Napong Bespinyowong, Poonpissamai Suwajo, Pornthep Pungrasmi, Sirachai Jindarak, Apichai Angspatt

Division of Plastic and Reconstructive Surgery, Department of Surgery, King Chulalongkorn Memorial Hospital

Background: Traditional superficial parotidectomy as the treatment of parotid lesions often encountered numbness of ear lobule and Frey's syndrome. Many techniques had been described aiming to reduce those unfavorable consequence. This study sought to evaluate the effects of the lobular branch of great auricular nerve preserving parotidectomy on Frey's syndrome and ear lobule sensation.

Methods: 40 patients who presented with clinically benign parotid lesions and underwent SMAS preserved with or without lobular branch of great auricular nerve preserving superficial parotidectomy were enrolled in a descriptive retrospective study. Sensation of the ipsilateral ear lobule using light touch sensation technique and symptoms of Frey's syndrome were evaluated. Minor's starch iodine tests were also performed.

Results: The incidence of Frey's syndrome in the SMAS and lobular branch of great auricular nerve preserving parotidectomy is 21.9% (7/32) subjectively and 28.1% (9/32) objectively comparing to 66.7% (6/9) subjectively and 77.8% (7/9) objectively in the SMAS only preserving group. The sensation of the ear lobule is intact 78.1% (25/32) in the nerve sparing group comparing to 33.3% (3/9) in SMAS only preserving group.

Conclusion: This study showed that incidence of Frey's syndrome in the SMAS and lobular branch of great auricular nerve preserving parotidectomy is lower than the SMAS preserving only group. The sensation of the ear lobule is also much better in the nerve sparing group compare to the SMAS only preserving group.

THE EFFECTS OF WOUND PROTECTOR TO DECREASE THE SURGICAL SITE INFECTION IN OPEN ABDOMINAL SURGERY, DOUBLE-BLIND PROSPECTIVE RANDOMIZED CONTROLLED TRIALS

Phongthorn Tuntivararut, Akkaraphorn Deeprasertvit, Waranyu Jiramarit*

Department of surgery, Police general hospital, Bangkok 10330, Thailand

Surgical site infection (SSI) is the most common cause of postoperative morbidity after the laparotomy. Many independent factors show to increase risk of SSI. Prevention of SSI is very important especially intraoperative period. The patients undergoing a standard midline laparotomy were prospectively randomized to use or not use a wound protector between September 2016 and January 2018. The 128 patients were eligible for the study. All demographic data and surgical variability of the 2 groups are no significantly difference. Preoperative and perioperative data, those can be risk factors for SSI, were collected for analysis. Wound protector was used in 64 patients (WP group) and was not used in 64 patients (Non-WP group). A patient in non-WP group dead from non-SSI related condition. Three patients (1 patient from non-WP and 2 patients from WP group) undergone re-operation before 30 days without any wound complication. Surgical site infection was occurred in 30 patients (24%), with significantly higher incidence in Non-WP group than WP group (17.7% vs. 6.5%, P-value 0.006). Multivariate analysis revealed that placement of a wound protector could decrease the incidence of SSI (odds ratios [OR] 0.269, 95% confidence interval [CI] 0.109-0.667). Many specific conditions that wound protector could prevent the SSI were found. We conclude that intraoperative wound protector placement is effective for decreasing the incidence of surgical site infection in the major laparotomy operation.

THE EFFICACY OF ARGON PLASMA COAGULATION COMBINED WITH MESALAZINE RECTAL SUPPOSITION COMPARED WITH ARGON PLASMA COAGULATION ALONE IN CHRONIC HEMORRHAGIC RADIATION PROCTITIS

Poon Wongvisavavit, MD
Prince of Songkla University

Background: Chronic hemorrhagic radiation proctitis is a common complication of pelvic radiation. Argon plasma coagulation (APC) is indicated in failed medical treatment patients. Mesalazine is used for prevent bleeding rectal ulcer after procedure.

Objective: This study aimed to review the efficacy of combination treatment of Argon plasma coagulation (APC) with mesalazine rectal supposition compared with APC alone in chronic hemorrhagic radiation proctitis patients.

Methods: All chronic hemorrhagic radiation proctitis patients who were treated with APC in Nanthana-Kriengkrai Chotiwattanaphan Institute of Gastroenterology and Hepatology, Songklanagarind hospital in 6 years period were retrospective reviewed and divided into two groups. We then compared the patient's characteristic, treatment and the outcomes of the two groups. The main outcome is rectal haemorrhage, assessed by improvement of hematocrit post- intervention within each group.

Results: A total of 20 patients were enrolled (APC alone n = 12, APC with mesalazine n = 8). All patients were female, with a mean age of 63.35 years and 95% having cervical cancer. There are no differences in the baseline hematocrit between the two groups (APC alone = 28.5%, APC with mesalazine = 26.5%, *p*-value = 0.553). There was no difference in medication usage. In the APC with mesalazine group there was a difference between baseline and post-intervention hematocrit (26.51% and 30.8%, *p*-value = 0.04) but no difference in the APC alone group (28.52% and 28.20%, *p*-value = 0.8). Post- intervention APC with mesalazine group had a 3.94% improvement of hematocrit while there was a 0.267% decrease in APC alone group (*p*-value=0.05). Mean followed-up hematocrit time difference (2.1 months in APC alone, 5 months in APC with mesalazine, *p*-value < 0.001).

Conclusion: APC coupled with mesalazine may have a greater efficacy than APC alone for the improvement of hematocrit and prolongation of mean followed-up hematocrit time reflective of improvement of recurrent bleeding and symptoms. A large RCT is needed to confirm the benefits of this combination treatment.

TOTAL CENTRAL VENOUS CATHETERIZATION DAYS UNTIL INFECTION IN THE NEONATAL INTENSIVE CARE UNIT IN HATYAI HOSPITAL

Ruth Paisansilp, Anan Sriniworn
Department of surgery, Hatyai hospital, Hat Yai, Songkhla 90110, Thailand

Introduction: Central Venous Catheterization (CVC) is commonly used in nowadays in NICU for panenteral nutrition, venous access, and evaluation of fluid status. Due to CRBSI rate catheter are schedule to be removed within 14 day after insertion. This research is to study for how long catheter can be used until infection occurs.

Materials and Methods: We retrospectively reviewed all patients undergoing insertion of central venous catheterization in NICU in Hatyai hospital from October 2015 to August 2017 was performed. Variable of interest included demographics, anatomical site, hospital location, line days, line infection, Anesthesia used, and complications. Line infection was defined as a positive blood culture drawn through the catheter.

Results: Total 81 catheters were placed Majority of catheters 70 (86.4%) were placed in NICU at mean Gestational age of 34 ± 4.6 weeks. Right subclavian vein and left subclavian veins were most common anatomical sites 41 (50.6%) and 24 (29.6%) respectively. Two catheters were infected (2.5%). The rate of infection before 14 days were 5.05 events per 1000 catheter days (95% CI 0.61-18.24) and after 14 days were 0 per 1000 catheter days (95% CI 0-0.008) incidence rate difference 5.05 (95% CI -1.59-11.69) *p*-value 0.1365

Conclusion: NICU line infection rates decreased with implementation of CABSI prevention protocols in NICU of Hatyai hospital. There was no stratifical difference in infection rate before 14 days and after 14 days. As a result, Schedule to remove central venous catheter within 14 days were not needed in order to reduce infection rate.

TREATMENT OUTCOMES OF THE ADVANCED ENDOSCOPIC RESECTION FOR SMALL RECTAL NEUROENDOCRINE TUMOR

Chaiyasit Kitpaiboonwattana, MD, Sukit Pattarajierapan, MD, Supakij Khomvilai, MD
Surgical Endoscopy Colorectal Division, Department of Surgery, Chulalongkorn University

Introduction: The European Neuroendocrine Tumor Society consensus guidelines for management of

colorectal neuroendocrine tumors (NETs) stated that rectal NETs less than 1 centimeter with no poor prognostic factors (G3, lymphovascular invasion, muscularis propria invasion) can be safely removed with advanced endoscopic techniques.However, there was no specific recommendation on the optimal endoscopic resection technique.

Aims: To report the therapeutic efficacy, safety and oncologic outcomes in each endoscopic resection techniques (endoscopic mucosal resection [EMR], precut EMR, endoscopic submucosal dissection [ESD]) for rectal NETs.

Methods: Between January 2013 and March 2018, 34 consecutive patients with rectal NETs were endoscopically resected by EMR, precut EMR or ESD. The method performed for endoscopic resection was based on the operator's discretion. The demographic, pathological data and clinical outcomes of the patients treated by each modality were prospectively collected and analyzed.

Results: Thirty-four patients were enrolled in this study. The EMR, precut EMR and ESD were performed in 12, 11 and 11 patients, respectively. The tumor in ESD group was significantly larger than the EMR and pre-cut EMR group. (ESD group 8.5 ± 2.1 mm, EMR 5.8 ± 2.8 mm, pre-cut EMR 6 ± 2.4 mm; $p = 0.02$). Complete resection rate for EMR, pre-cut EMR and ESD were 91.6%, 100% and 100%, respectively. There was no postoperative complication. Recurrence was not observed in the EMR, pre-cut EMR or ESD group. Median follow-up time was 14 months (range 1-50).

Conclusion: Advanced endoscopic resections EMR, pre-cut EMR or ESD are efficient and safe modalities for rectal NETs.

PAEDIATRIC SURGERY

ASSESSMENT OFCHILDREN WITH HIRSCHSPRUNG DISEASE POST DEFINITIVE SURGERY - ANORECTAL MANOMETRY AND FUNCTIONAL OUTCOMES

YW Koay, Anand S†, YI Yik†*

* Institute Paediatric Hospital Kuala Lumpur

† University Malaya Medical Center

Background: Hirschsprung disease is a common cause of intestinal obstruction among the neonatal population. Surgical procedures are the mainstay treatment and outcomes had been reported to vary according to institutions.

Objectives: To evaluate the results of anorectal manometry (RAIR-rectoanal inhibitory reflex and Anal Resting Pressure) and functional outcomes (PICSS), in children with Hirschsprung disease post definitive surgery.

Methods: Prospective cross sectional study involving children with Hirschsprung disease after definitive surgery in University Malaya Medical Centre (UMMC) and University Malaya Specialist Centre (UMSC). Children post surgery more than 6 months with no underlying post operative complications were recruited. Functional outcomes of their bowel continence will be evaluated by PICSS questionnaires, and anorectal manometry performed. Pearson's Chi square ($\gamma 2$) and Fisher's Exact test were used to determine the significance of RAIR and ARP in correlation with the PICSS, comparing groups of different surgeries. One-way Annova was used to demonstrate the significance of RAIR and ARP, correlating with the episodes of enterocolitis post corrective surgery.

Result: Total of 33 children was recruited. 13/33 (39.4%) patients have presence of RAIR in which 9 of them, who have RAIR underwent transanal pull-through procedure (TAPT). Duhamel surgery recorded absence of RAIR with 8/9 (89%). There was a significant difference of the RAIR result, comparing HD children who underwent Duhamel surgery and Non Duhamel surgery (p-value = 0.041). Normal ARP was recorded in 24 children (72.8%). Soave surgery has the highest mean anal resting pressure 101.7 ± 45.4 mmHg. Presence of RAIR does not promise good functional outcome on PICSS result (p-value = 0.191). This study reported presence of RAIR in HD children post surgery, 10/13 (76.9%) has normal continent, 23.2% of them has incontinence, and none of them were constipated. 10/19 (52.6%) who has absent RAIR, normal continence.

Conclusion: Absence of RAIR post surgery does not always result in constipation and incontinence. Transanal pull-through has demonstrated a better outcome in comparison to other procedures performed for children with HD at our centre. Anorectal manometry and PICSS can be recommended as adjunct to assess the trend of continence for children with Hirschsprung disease, after definitive surgery.

BACTERIOLOGICAL STUDY, CLINICAL APPRAISALS AND TREATMENT OF BCGOSIS IN THAILAND

Ornpalin Rintaravitoon, Ravit Ruangtrakool
* Division of Pediatric Surgery, Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, 10700, Thailand

Background: Bacillus Calmette-Guerin (BCG) vaccine is the live attenuated vaccine derived from a virulent strain of Mycobacterium bovis. BCG related regional lymphadenitis, so called BCGosis is one of the common complications following BCG vaccination.

Objectives: The purpose of this research was to study the bacteriology of BCGosis focusing on the positive finding of Mycobacterium bovis. We also evaluated clinical presentation, investigations, treatment (both medical and surgical management) and outcomes of BCGosis.

Material and Methods: A retrospective review was performed of all BCGosis patients under 1 year of age who underwent surgical management at Division of Pediatric Surgery, Siriraj Hospital from 2006 to 2016. Descriptive statistics were used for analyzed this study.

Results: Thirty-six patients (21 boys and 15 girls) were reviewed. The most common location of BCGosis was left axilla (58.3%). Almost all patients underwent excision, there was only one patient underwent incision and drainage. AFB stains from pathologic and bacteriologic study were positive 33.3% and 2.8%, respectively. Pathologic examination showed caseous granulomatous inflammation in 41.7% of the patients. M. bovis was isolated from the culture of 13 patients (36.1%). The conventional PCR test for M. tuberculosis complex was performed in 33 patients and positive finding was 22.2%. No patients had surgical complications. Anti-tuberculosis drugs were given in 22 patients after the operation. 1-year recurrence free time of this study was 93.8%.

Conclusion: Although clinical features are imperative for making the diagnosis of BCGosis, investigations can help to confirm this. However, there are some limitations of the demonstrated investigations; further investigations are needed for identification of BCG among strains of the M. tuberculosis complex. Surgical excision is the mainstay of treatment for BCGosis with low recurrence rate. The role of anti-tuberculosis drugs is still unclear but believed to have benefit in case of positive M. bovis culture.

COMPLICATIONS OF SURGERY FOR SACROCOCCYGEAL TERATOMA IN CHILDREN

Tran Ngoc Son, Duong Van Mai
Saint Paul Hospital, Hanoi, Vietnam

Aim: To report our experience with complications of surgery for sacrococcygeal teratoma (SCT) in children.

Methods: Medical records of all children undergoing surgery for SCT at our center from January 2011 to December 2015 were reviewed.

Results: 32 patients were identified, 24 girls and 8 boys with a median age of 34 days (range 1 day to 7 years). Median size of the tumors was cm. (range). SCT type I, II, III, IV according to Altman classification were 53.1%, 37.5%, 6.3%, 3.1% respectively. Histology showed mature teratoma in 84.4%, immature in 12.5%, with malignant component in 3.1%. Tumor excision was performed by posterior sacral approach in 84.3%, abdominal - in 3.1% and combined abdominal-sacral approach in 12.5%. Intraoperative rectal injury occurred in 3.1% which was managed by rectal suture and colostomy. During postoperative period 6.3% patients suffered from urinary retention, treated by catheterization, 12.5% - wound infection. Median postoperative hospital stay was 7 days (range 3 - 37 days). At a median follow up 44.5 months, 12.5% patients suffered from urinary incontinence (half of them recovered 6-18 months after acupunture), 6.3% - constipation, 3.1 % - fecal soiling, Recurrence occurred in 6.3%. Overall survival was 100%.

Conclusions: Although overall survival after surgery for SCT in children is good, late complications of urination and defecation disorder can occur and long term follow up is mandatory. Some complications of urinary incontinence may recover after acupunture.

IMPACT OF SURGICAL MARGIN AND OTHER FACTORS ON OUTCOME OF HEPATOBLASTOMA PATIENTS

Napasin Mapairoje*, Jiraporn Khorana†, Jitsupa Treetipsatit‡, Kamon Phuakpet§, Mongkol Laohapensang*
* Pediatric Surgery Unit, Department of Pediatric Surgery, Siriraj Hospital, Bangkok, Thailand
† Pediatric Surgery Unit, Department of Pediatric Surgery, Maharaj Nakorn Chiang Mai Hospital, Chiang Mai, Thailand
‡ Thailand Department of Pathology, Siriraj Hospital, Bangkok, Thailand
§ Hematology and Oncology Unit, Department of Pediatric, Siriraj Hospital, Bangkok, Thailand

Background and Purpose: About half of all hepatic

malignancies in children are hepatoblastoma. It is widely accepted that complete resection of tumor is necessary. For those whom resection is not possible, orthotopic liver transplant (OLT) has becoming a viable surgical option, but host short-and long-term complications. We hypothesize that favorable outcomes may be achieved no matter what the resection margins are, so other key structures could be easily avoided.

Methods: This is a retrospective study of hepatoblastoma patients who underwent liver resection between January 2004 and December 2015 at Siriraj hospital, Bangkok, Thailand. This consists of 29 patients' age less than 15 years old at the time of surgery. Outcomes were evaluated in death and recurrent rate. Factors that may have impact the outcome were included in the study such as AFP, PRETEXT, type of pathological tissue and lymphovascular invasion.

Results: After follow up, we found that 8 patients (28%) did recur, while 21 patients (72%) did not. 18 patients (86%) in the non-recurrence group and 6 patients (75%) in the recurrence group had free surgical margin. There was no statistical significance ($p = 0.6$). The only two factors that were statistically significant between the non-recurrence and recurrence group were metastasis and lymphovascular invasion.

Conclusion: According to our findings, there is no difference on recurrent rate no matter how much the surgical margin is. Thus surgeons could perform tumor resection despite of its closed proximity to other important structures. Two factors that play an important role in the recurrent rate of the hepatoblastoma are metastasis and lymphovascular invasion.

LONGGEVITY AND COMPLICATIONS OF TOTALLY IMPLANTABLE VENOUS ACCESS DEVICE (TIVAD) USED IN PEDIATRIC CANCER PATIENTS, EXPERIENCE FROM A UNIVERSITY HOSPITAL IN THAILAND

Wison Laochareonsuk, Kaimook Boonsanit, Piyawan Chiengkrivate, Surasak Sangkhathat

Department of Surgery, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand 90110

Introduction: A TIVAD has gained more acceptances to be used for central venous access in pediatric patients who require long-term chemotherapy with an aim to avoid the problem of extravasation and improve quality of life.

Objectives: To appraise experience of the pediatric cancer center in a university hospital in Thailand regarding employment of this device.

Methods: Medical records of consecutive patient aged less than 15 years who were diagnosed of malignancy and underwent an implantation of TIVAD from the years 2010 to 2018 were review with main focuses on effective duration and complications of the device. Cases who were referred to other hospital or loss to follow-up after the procedure were excluded.

Results: A total of 138 lines in 132 patients (97 hematologic malignancies and 35 solid tumors) were included in the analysis. Average age of the patients was 6.2 years with 65 cases (47.1%) aged less than 5 years and 38 cases (27.5%) less than 3 years. Considering access sites, neck veins were used in 55 lines, subclavian veins in 82 lines and 1 femoral venous access. The only femoral line and 25 neck lines (45.4%) were approached by an open venesection. Median follow-up period was 508.5 days. Immediate complications occurred in 13 cases (9.4%), 4 of these required a surgical revision. Excluding cases with death from unrelated causes and those with immediate complications, overall TIVAD survival was 726.8 days when event-free device survival was 710.5 days. In cases with hematologic malignancies, 1000-day overall survival and problem-free survival of TIVAD were 82.2% and 75.5%, respectively. Catheter related infection and mechanical obstruction were 2 most prevalence problems occurring to the device, occurring in 0.2 and 0.04 events/1,000 catheter days, respectively. Subclavian access was significantly related with infectious complications when compared to neck vein approach (22.2% vs. 7.2%, p-value 0.02).

Conclusion: A majority of TIVAD can be implanted for pediatric chemotherapy longer than 3 years without serious complication. Refinement of surgical technics to reduce mechanical complications and improving care process to prevent catheter related infection may improve the longevity of the line.

MANAGEMENT OF INTUSSUSCEPTIONS IN OLDER CHILDREN

Tran Van Quyet, Pham Duc Hiep, Hoang Van Bao, Tran Ngoc Son

Saint Paul Hospital, Hanoi, Vietnam

Aim: To report our experience of management of intussusceptions in older children.

Methods: Retrospective study of all patients older than 24 months with intussusceptions treated at 2 centers between January 2015 and October 2017. Air enema reduction (AER) was performed first for patients without detected pathologic lead point (PLP). Surgery was indicated for cases with detected PLP and for cases after failed AER.

Results: 210 patients were enrolled in the study with

Table 1: Clinical presentation, PLP and treatment results

	Age group			
	24 months - 5 years (n=157)	**>5 year-old (n=53)**	**Total (n=210)**	***P***
Clinical presentations				
Periodic abdominal pain/crying	157 100%	53 100%	210 100%	
Vomiting	87 55.4%	24 45.3%	99 47.1%	0.201
Bloody stool	5 3.2%	1 1.9%	6 2.9%	0.624
Palpable abdominal mass	22 14.0%	6 11.3%	28 13.3%	0.618
PLP and treatment results				
Pathologic lead point	0 0%	3,8 %	2 0.9%	0.014
Successful air enema reduction	156 99.4%	51 96.2%	207 98.6%	0.096
Recurrence	28 17.8%	1 1.9%	29 13.8%	0.004

a median age of 34 months (range: 25months to 14 years): 157 patients aged 24 months to 5 years (group A) and 53 patients aged older than 5 years (group B). The common clinical presentations were abdominal pain 100%, vomiting 47.1%, 13.5% palpable mass, 2.9% bloody stool. Ultrasound showed typical target sign in all cases but no PLP was detected. AER was performed in all cases with 98.6% successful reduction rate and no complications or mortality. Among 3 patients underwent surgery for failed AER, 2 had PLP (0.9%). The rate of recurrent intussusceptions after AER was 13.8%. Clinical presentations, AER success rate were similar between group A and group B but PLP was more frequent (3.8% vs. 0%, $p = 0.014$) and recurrences were less in group B compared to group A (1.9% vs. 17.8%, $p = 0.004$).

Conclusions: Most of intussusceptions in children older than 24 months are without PLP and can be treated by AER with good results. Patients older than 5 year have significantly higher rate of PLP and less recurrence than patients 24 month- to 5 year-old.

MORBIDITY AND MORTALITY OF PATIENTSWITH CONGENITAL ABDOMINAL WALL DEFECTS (GASTROSCHSIS AND OMPHALOCELE) AT KCMH

Nimmita Srisan, Prapapan Rajatapiti, Paisarn Vejchapipat, Dusit Viravaidya*

*Pediatric Surgery Unit, King Chulalongkorn Memorial Hospital, Bangkok

Background: Gastroschisis and omphalocele are the most common congenital abdominal wall defects. There is no standard management for these anomalies and patients may require long-term hospitalization.

Objectives: To study characteristic, mode of treatment, morbidity and mortality of patients with congenital abdominal wall defects.

Methods: It is retrospective study from medical record. We collected data of patients with congenital abdominal wall defect in King Chulalongkorn Memorial Hospital from 2005 to 2015.

Result: There were 111 infants with abdominal wall defect - 78 gastroschisis, 33 omphalocele. Infants were born to mother younger than 20 years old 42.31% in gastroschisis and 0.06% in omphalocele. Most common associated anomalies are congenital heart disease (14.1% in gastroschisis and 48.5% in omphalocele). Most of our cases were treated successfully with primary closure (60.3%). Most common complications are sepsis in gastroschisis (48.7%) and surgical site infection in omphalocele (48.5%). Mortality rate were 7.7% in gastroschisis and 18.2% in omphalocele.

Conclusion: Gastroschisis was more common but had a lower associated anomalies, lower morbidity and low mortality rate comparing with Omphalocele. Infants with gastroschisis were associated with young maternal age. Most of cases were treated with primary abdominal closure. Median duration from surgery to enteral feeding and duration of hospital stay are indifferent among group.

PREDICTIVE FACTORS FOR PATHOLOGICALPERIPHERAL LYMPHADENOPATHY FROM SURGICAL BIOPSY IN CHILDREN

*Atinuch Udomtong, Nutnicha Suksamanapun, Monawat Ngerncham, Mongkol Laohapensang**

Division of Pediatric Surgery, Department of Surgery, Faculty of Medicine, Siriraj Hospital, Mahidol University, Thailand

Background: Peripheral lymphadenopathy is a common problem in children. While most of them are self-limiting; some enlarged lymph nodes require surgical biopsy to determine their etiologies and proper treatments.

Objectives: This study is aimed to identify clinical factors that can help surgeons to identify lymphadenopathy that are more likely to be pathological and be able to prevent unnecessary operations.

Material and Methods: A retrospective chart review was conducted in children with peripheral lymphadenopathy who underwent surgical biopsy in Division of Pediatric Surgery, Siriraj Hospital from January 2012 to December 2017. Baseline demographics, associated symptoms, duration of lymphadenopathy, lymph node characteristics, recent antibiotic therapy, blood tests, chest radiography, and pathological reports were obtained and analyzed.

Result: Surgical biopsy was performed in 98 children. Reactive hyperplasia was found in 49 cases (50%). Forty-nine pathological lymphadenopathies were identified, including TB lymphadenitis (38.8%), malignancy (30.6%), and other infectious lymphadenopathies (30.6%). Pathological lymphadenopathy was significantly associated with: age < 2 years (OR 4.0, 95% CI: 1.3, 12.6) or age > 10 years (OR 7.6, 95% CI: 2.6, 22.3), diameter > 2 cm (OR 6.3, 95% CI: 2.5, 16.2) especially those who progress within 4 weeks (OR 8.4, 95% CI: 1.7, 42.3), fixation to adjacent tissue (OR 7.6, 95% CI: 1.6, 36.2), leukopenia (OR 6.9, 95% CI: 1.4, 34.4), and leukocytosis (OR 4.6, 95% CI: 1.4, 15.7).

Conclusion: Pathological lymphadenopathy should be suspected in specific age groups, rapid enlargement, fixation to adjacent tissues, and abnormal WBC. Carefully history taking, physical examination and basic blood tests could avoid unnecessary surgical tissue sampling.

SURGICAL SITE INFECTION AFTER COLOSTOMY CLOSURE IN HIRSCHSPRUNG DISEASE AND ANORECTAL MALFORMATION: SINGLE-DOSE VS. MULTIPLE-DOSE PROPHYLACTIC ANTIBIOTICS

Hui Shan Cheah, Yee Ian Yik†, Zakaria Zahari**

* Department of Paediatric Surgery, Paediatric Institute, Kuala Lumpur, Malaysia
†Division of Paediatric & Neonatal Surgery, University Malaya Medical Centre, Kuala Lumpur, Malaysia

Introduction: There is no consensus on the use of antibiotic prophylaxis for colostomy closure in the paediatric population.

Objective: This study aimed to assess the efficacy of single-dose antibiotic prophylaxis in the prevention of surgical site infection (SSI) after colostomy closure in children with Hirschsprung disease (HD) and anorectal malformation (ARM).

Methods: All children, with HD & ARM, aged 12 years and below, with colostomy closure between June 2012 and October 2015 were recruited. Single-dose antibiotic prophylaxis consisting of intravenous Cefotaxime and Metronidazole, was administered for "prospective group" during induction of anaesthesia, between March 2014 and October 2015. Patients administered multiple-dose antibiotics (intravenous Cefotaxime and Metronidazole during induction of anaesthesia and were continued up to 24 hours post-operatively), from June 2012 until February 2014, were considered as the "historical group". Demographic data, types of stoma, operative variables and complications were recorded. Primary outcome measured was SSI. A $p < 0.05$ was considered statistically significant.

Results: A total of 103 patients were recruited, with 53 (HD = 3, ARM = 50) patients in the historical group and 50 (HD = 4, ARM = 46) patients in the prospective group. The number of cases for HD and ARM, demographic distribution, types of colostomy and duration of surgery were fairly similar in both groups. There were 33 male and 20 female in historical group with mean age of 7.9 months (range 6.8 - 16.3 months). Among the 50 patients in prospective group, 34 were male and 16 were female. They had a mean age of 8.8 months (range 7.9 - 20.5 months). Double barrel colostomy in historical group and prospective group were 33 and 32, whereby loop colostomy were 20 and

18, respectively. Both groups had a mean duration of surgery of around 90 minutes. There were 5 (9.4%) cases of SSI in historical group and 2 (4%) cases in prospective group, with $p=0.438$. Statistical significance in cost reduction by administration of single-dose antibiotic was obtained ($p < 0.001$).

Conclusion: Single-dose antibiotic prophylaxis in colostomy closure has not caused an increase in SSI, as compared with multiple-dose antibiotics. It was cost-effective in the prevention of SSI in children undergoing colostomy closure for HD and ARM.

THE CORRELATION BETWEEN FUNCTIONAL OUTCOMES REGARDING BOWEL MOVEMENT CONTROL AFTER SURGICAL TREATMENTS AND THE QUALITY OFLIFE IN THAILAND ANORECTAL MALFORMATION PATIENTS

Wimalin Chanwanichborikarn, Nutnicha Suksamanapan, Mongkol Laohapensang, Monawat Ngerncham

Division of Pediatric Surgery, Department of Surgery
Faculty of Medicine Siriraj Hospital, Mahidol University,
Bangkok 10700, Thailand

Background: The ideal goal of surgical correction in Anorectal Malformation (ARM) patients is achieving normal functional outcomes, which leads to improved quality of life (QoL). Several bowel function assessment tools were proposed to evaluate these patients. However, the relationship between functional outcomes and QoL still lacks.

Objectives: The aim of this study is to evaluate an association between functional outcomes regarding bowel movement control after surgical treatment and QoL among ARM patients.

Methods: ARM patients aged 6 - 15 years and their parents were interviewed to collect information regarding their bowel functions and QoL after surgery. The patients who had comorbidities such as Down syndrome, mental retardation, neurologic disorders were excluded. Bowel functions was assessed in six domains: continence, feeling of urge to defecate, frequency of defecation, soiling, constipation, and smell using a scale modified from Rintala and Lindel's Bowel function score and Krickenbeck's Assessment of outcomes. The quality of life (QoL) was assessed in five domains: physical, mental, social, learning, and holistic view of life using a validated Thai Quality of Life Instrument for Children (ThQLC) scale. The correlation between bowel functional scale and QoL was evaluated with Pearson correlation under the assumption of Type I error of 0.05.

Results: Thirty-three cases of ARM with an average age of 10 year-old were included. The most common procedure was posterior sagittal anorectoplasty (PSARP) (46%), followed by anoplasty (27%). The Cronbach's Alpha for the functional scale and ThQLC were 0.78 and 0.90, respectively. There was no significant correlation between overall functional score and ThQLC. However, there is a significant association between functional score in term of smell and ThQLC ($r = -0.43$, $p = 0.01$). Analyses of QoL subdomains revealed additional relationships between soiling and holistic view of life QoL ($r = -0.47$, $p < 0.01$) and between smell and social QoL ($r = -0.47$, $p < 0.01$).

Conclusion: Overall functional outcomes for bowel movement control after repair of ARM is not correlated with QoL. However, functional score in term of soiling and smell significantly associates to QoL. Intervention reducing soiling and resultant smell can potentially improve QoL.

THE FACTORS AFFECTING THE PRESENCE OF ESOPHAGEAL VARICES IN BILIARY ATRESIA PATIENTS AFTER KASAI OPERATION

Pattawarin Wata, Nutnicha Suksamanapun, Monawat Ngerncham, Mongkol Laohapensang

Division of Pediatric Surgery, Department of Surgery, Faculty of Medicine, Siriraj Hospital, Mahidol University, Thailand.

Background: Biliary atresia (BA) is a common etiology of portal hypertension and cirrhosis in children. Despite of portoenterostomy, liver scarring may still in progress. Later on, variceal bleeding leads patients to catastrophic outcomes. Primary prophylaxis plays an important role to improve survival. However, there is no validated protocol for first surveillance esophagogastroduodenoscopy (EGD) in these patients.

Objectives: To identify the factors which relate to esophageal varices (EV) discover by the first esophagogastroduodenoscopy after Kasai operation.

Method: A retrospective chart review of post-surgical correction of biliary atresia patients who underwent EGD in Siriraj Hospital between January 2005 and December 2016. Baseline characteristics, age at operation, blood tests at 3 and 6 months on follow up, age at EGD, and analyzed to evaluate correlation.

Results: We found 80 patients of BA who underwent KPE. 56 patients were included in this study, which was 10 month-old to 5-year-old. EV was found in 21 patients

(37.5%). Surveillance EGD was initiated in 19 children, while endoscopic variceal bleeding control was indicated in only 2 patients. There was no complication related to endoscopic procedure. Comparing between variceal group and non-variceal group, age at KPE more than 90 days, anemia, presence of cholangitits, serum bilirubin and serum albumin level were statistically significant different.

Conclusions: EV is common in BA patients, especially those who have older age at Kasai operation, anemia, presence of cholangitis, and abnormal liver function tests. Early endoscopy may be beneficial in selected high-risk patients.

WATCH! IT IS NOT HAEMANGIOMA!

Hui Shan Cheah, Zakaria Zahari

Department of Paediatric Surgery, Paediatric Institute, Kuala Lumpur, Malaysia

Background: Haemangioma is the most common benign tumour in infancy and childhood with prevalence of about 4% in children. This benign vascular tumour does not require any surgical intervention or even medical treatment in most cases. It involutes with time, except in Non-Involuting Congenital Haemangioma (NICH). Hence it is sometimes overlooked, leading to a delay in diagnosis of malignant tumours which may have similar presentation.

Case Presentations:

First case: A 2-month-old boy came with upper lip swelling (3x2cm) which was noticed since 2 weeks of life and gradually increasing in size. He was initially diagnosed to have infantile haemangioma and commenced on Propanolol. Ultrasonographic findings raised the suspicion of soft tissue tumour and proceeded with MRI of the face and brain. A large supratentorial mass was seen in left basal ganglia obstructing the left foramen of Monroe and causing marked midline shift. With the presence of pedunculated lip mass, these findings may represent atypical rhabdoid tumour (ATRT). Lip mass was excised and histopathological examination confirmed the diagnosis of malignant rhabdoid tumour. Child received palliative care following the excision. Tumour over the upper lip regrew aggressively (8×7cm) within a month time with active bleeding. Unfortunately, child succumbed to the disease after the palliative surgery, due to increased intracranial pressure secondary to the brain metastasis.

Second case: A 6-month-old boy has been followed up for liver haemangioma since neonatal period. Serial ultrasounds were done and showed features consistent of liver haemangioma with no change in its size and sonographic appearance. Child was thriving well with no signs of high cardiac output failure. At six months old, his serum alpha feto-protein remained more than 20,000ng/ml and a CECT abdomen was performed. Tumour bleeding ensued and required an emergency extended right hepatectomy. Histopathological examination showed features of hepatoblastoma. Chemotherapy was commenced after the surgery.

Discussion: Haemangioma is common. Nonetheless, the possibilities of malignant tumour should be considered when it does not follow the nature of its disease.