The THAI Journal of SURGERY 2008; 29:109-132.
Official Publication of the Royal College of Surgeons of Thailand

Abstracts of the 33rd Annual Scientific Meeting of the Royal College of Surgeons of Thailand, 17-20 July 2008, Pattaya Exhibition And Convention Hall (PEACH), Pattaya, Thailand (Part 1)

BREAST

COMPARATIVE STUDY OF THE IMMUNOHISTOCHEMICAL BIOMARKERS IN PRIMARY BREAST CANCER AND ITS AXILLARY LYMPH NODES METASTASES

Hasun Moohamad, MD,[1] Surapong Supaporn, MD,[1] Wichittra Asanprakit, MD,[1] Sukchai Sathataporn, MD, PhD,[1] Wichai Vassanasiri, MD,[1] Phaibul Punyarit, MD[2]

[1]Surgical Oncology Unit, Department of Surgery, Phramongkutklao Hospital and College of Medicine

[2]Army Institute of Pathology, Bangkok, Thailand

Introduction: The immunohistochemical phenotype of biomarkers from the primary tumor is an important part of prognostic information, together with treatment strategies in breast cancer. However many studies show that cancer is a heterogenous disease and malignant cell can change expression of these proteins during tumor development and dissemination which may contribute to treatment planning.

Objectives: To compare the expression profile of estrogen receptor (ER), progesterone receptor (PR) and HER-2/neu in the primary tumors (PT) and metastatic lymph nodes (LN).

Methods: In this study, specimens of 28 female with invasive ductal breast carcinoma and axillary nodal metastases were studied with immunohistochemistry to compare the expression profile of estrogen receptor (ER), progesterone receptor (PR) and HER-2/neu in primary tumors (PT) and metastatic lymph nodes (LN). We assessed positive/negative results and the spectrum of results was expanded into extent and staining intensity.

Results: The average (± SD) age of the patients was 56.07 ± 11.0 years, 89.3% (25/28) were in clinical stage I and II, ER was positive in 20 out of 28 PT (71.4%), and in 19 out of 28 (67.9%) LN, PR was positive in 15 out of 28, both in PT and LN (53.6%), HER-2/neu was over-expressed in 9 out of 28 PT (32.1%) and in 5 out of 28 (17.9%) LN. Discordance in expression between PT and LN was not significant; 3 in ER (2 from positive to negative, 1 from negative to positive), 2 in PR (1 from positive to negative, 1 from negative to positive), 4 in HER-2/neu (4 from positive to negative). There are no significant changes in expression intensity between PT and LN for all three biomarkers.

Conclusions: This study demonstrated the consistent correlation of immunohistochemical phenotype of biomarkers in breast cancer between primary tumors and metastatic axillary lymph nodes in both qualitative and quantitative assessment. Nevertheless, changes in qualitative expression of these biomarkers may influence the treatment planning for some patients, particularly those whose results have changed from negative to positive, which might gain benefit from current targeted therapy.

ARE THERE ANY DIFFERENCES IN THE CHARACTERISTICS OF BREAST CANCER WITH REGARD TO ITS HER-2/NEU STATUS?

Hasun Moohamad, MD, Wichittra Asanprakit, MD, Sukchai Satthaporn, MD, PhD, Wichai Vassanasiri, MD, Surapong Supaporn, MD

Surgical Oncology Unit, Department of Surgery, Phramongkutklao Hospital and College of Medicine, Bangkok, Thailand

Objectives: To study if there are any differences in the characteristics of breast cancer with regard to its HER-

2/neu status.

Materials and Methods: We retrospectively reviewed 79 HER-2/neu overexpressed breast cancer patients treated at Phramongkutklao Hospital from 2003 to 2006. Patient characteristic, tumor characteristic, treatment characteristic and treatment outcome were compared between HER-2 positive group and HER-2 negative group. We expected that the differences in these characteristics may reflect the biological aggressiveness of HER-2/neu over-expressed breast cancer group which may contribute to changing our policy to improve treatment outcome in the future.

Results: The incidence of HER-2/neu overexpressed breast cancer at Phramongkutklao Hospital is 17.87% (79 in 442 cases) based on immunohistochemical study. There were no differences between HER-2 positive patients and HER-2 negative patients in terms of age distribution, menopausal status, presenting symptom, grade of tumor, lymphovascular invasion and TNM-staging. The expressions (immunohistochemical study) of estrogen receptor (ER), progesterone receptor (PR) were lower in HER-2 positive than HER-2 negative cases (ER 27.85% vs. 59.50%, PR 22.78% vs. 44.08% respectively, P <0.001). We also found that HER-2/neu status had influence on choosing adjuvant chemotherapy regimen as our review showed that 19.18% of HER-2 positive cases received taxane based chemotherapy regimen as compared with 5.51% in HER-2 negative cases, but there was no difference in other regimen (CMF or anthracyline based). In contrast to chemotherapy, HER-2/neu status had no influence on choosing adjuvant hormonal treatment. In our institution, only 13.43% (9 cases) of HER-2 positive cases received Trastuzumab, a humanized monoclonal anti HER-2/neu antibody as adjuvant targeted therapy. It seemed that HER-2 positive cases had poorer prognosis than HER-2 negative cases as recurrence rate was 19.12% and 13.73% (P = 0.252) in HER-2 positive and HER-2 negative cases respectively. Although not statistically significant, HER-2 positive cases had more incidence of visceral metastasis than HER-2 negative cases (5.28% vs. 2.1% respectively). HER-2 positive cases trended to be in locally advanced stage at presentation as compared to HER-2 negative cases (27.85% vs. 19.28%, P = 0.089) and were consistent with larger tumor size on physical examination (3.7 ± 2.5 cm. vs. 3.0 ± 2.0 cm, P = 0.048).

Conclusions: From our study, HER-2/neu over-expressed disease trended to have larger tumor size, and be in locally advanced stage at presentation. Of those who underwent surgery, about 80% had moderately or poorly differentiated tumor and about 70%-80% had negative hormone receptor expression. Finally, HER-2 positive cases had overall poorer prognosis than HER-2 negative cases, although more aggressive chemotherapy regimens were offered. We do not exactly know the role of aggressive chemotherapy regimens or novel antigrowth factors as adjuvant treatment will improve oncologic outcome of this special group of breast cancer.

TRIPLE NEGATIVE BREAST CANCER: A STUDY OF 80 CASES AT PHRAMONGKUTKLAO HOSPITAL

Hasun Moohamad, MD, Wichittra Asanprakit, MD, Sukchai Satthaporn, MD, PhD, Wichai Vassanasiri, MD, Surapong Supaporn, MD

Surgical Oncology Unit, Department of Surgery, Phramongkutklao Hospital and College of Medicine, Bangkok, Thailand

Objectives: To compare the characteristic of patient, tumor and treatment as well as treatment outcome between triple negative and non-triple negative groups.

Materials and Methods: We retrospectively reviewed 80 breast cancer patients who had no expression of estrogen receptor, progesterone receptor and HER-2/neu (triple negative) by immunohistochemical study treated at Phramongkutklao Hospital from 2003 to 2006. Characteristic of patient, tumor and treatment as well as treatment outcome were compared between triple negative and non-triple negative groups. We need to know the differences in characteristics which may underline the biological aggressiveness of triple negative group that may contribute to changing our policy to improve treatment outcome for this group of breast cancer patients in the future.

Results: The incidence of triple negative breast cancer at Phramongkutklao Hospital is 18.10% (80 in 442 cases) based on immunohistochemical study. There was no difference between triple negative and non-triple negative cases in terms of age distribution, menopausal status, presenting symptom, histologic type, lymphovascular invasion and TNM-staging. The histologic grade was higher or poorer differentiation in triple negative than non-triple negative cases (grade I, 5.13% vs. 16.25%; grade II, 42.31% vs. 47.06%; grade III, 48.72% vs. 25.21%; P <0.001). We found no differences in treatment characteristic in terms of surgical approach, adjuvant chemotherapy regimen offered, adjuvant radiation therapy for triple negative and non-triple negative cases. There also were no differences in overall recurrence rate between both groups (13.89% for triple negative cases vs. 14.80% for non-triple negative cases; P = 0.842). Triple negative cases trended to be in more locally advanced stage as well as larger tumor size at presentation in our study (LABC: 27.50% vs. 19.34%; P = 0.104, Tumor size: 3.51 ± 2.49 cm vs. 3.05 ± 2.01 cm; P = 0.117) than non-triple negative cases.

Conclusions: From our study, triple negative cases tended to have larger tumor size and locally advanced stage at presentation. The most important finding from our study was that triple negative cases had higher incidence of poorly differentiated tumor than non-triple negative cases as many as 50% of cases had grade III tumor. From this study we did not see any differences in treatment option and more importantly prognosis between these two groups of breast cancer patients. However, we could not conclude that triple negative cases should be regarded as non-triple negative cases from this small study as we had small number of patients, retrospective in nature and with limited follow-up data.

IMMEDIATE BREAST RECONSTRUCTION AFTER MASTECTOMY

Noppawat Samankatiwat, MD, MSc,
Montian Marutkarakul, MD, Kanes Thongsrisuk, MD
Department of Surgery, Ratchaburi Hospital, Ratchaburi, Thailand

Background: Breast cancer is the most common cancer among women worldwide. Surgery is the mainstay of the treatment of early breast cancer. The standard surgical treatment is modified radical mastectomy and breast conservation therapy. In Thailand, especially in the rural part, mastectomy is still the most common type of surgery performed in breast cancer treatment. However, it can cause substantial psychological morbidity to patients. Breast reconstruction can be useful in these patients in terms of reduction of psychological distress from the loss of the breast.

Objective: To evaluate outcome of immediate breast reconstruction after mastectomy at Ratchaburi Hospital, a regional referral center, in terms of success rate and complications.

Methods: Between February 2005 and May 2008, patients who underwent immediate breast reconstruction were recruited to the study. Retrospective review of the demographic data, diagnosis, pathology, preoperative and postoperative data was conducted.

Results: Sixteen patients, mean age 41.9 years (26-65 years) were enrolled in this study. Fourteen patients were diagnosed with invasive ductal carcinoma, including one medullary carcinoma and one mucinous carcinoma. Two patients were diagnosed with ductal carcinoma in situ (DCIS). Contralateral pedicled transverse rectus abdominis myocutaneous (TRAM) flap was performed in all patients. Among patients with invasive cancer, the number of patients who had T2N0, T1-2N1, T3N1 and T2N2 lesion was 7, 4, 1 and 2, respectively. Skin-sparing mastectomy was performed in 14 patients whereas nipple-sparing mastectomy was performed in 2 patients. Mean operative time was 7.6 hours (6.2-9.2 hours). No blood transfusion was required in all patients. No intraoperative complication was found. There was no TRAM flap necrosis or other postoperative complications at the recipient sites. However, there was abdominal wound infection in 2 patients, skin necrosis in 1 patient, and wound dehiscence in 1 patient that can be managed conservatively. The median length of hospital stay was 14 days (9-70 days). All patients were satisfied with the results. Adjuvant chemotherapy was given in 11 patients with an average of 34 days after surgery (18-46 days). In the period of follow-up 1-39 months (mean = 13.7 months), there was only one patient who had recurrent disease at 26 months of follow-up. However, she survives during treatment with systemic chemotherapy.

Conclusions: Immediate breast reconstruction after mastectomy using TRAM flap is a safe, reliable and effective procedure with low morbidity. It does not seem to delay the start of adjuvant treatment or compromise oncologic outcome.

ENCOCRINE

CLINICAL OUTCOMES OF PARATHYROIDECTOMY FOR HYPERPARATHYROIDISM AT KING CHULALONGKORN HOSPITAL (KCMH)

Thana Laopiyasakul, MD
Department of Surgery, King Chulalongkorn Memorial Hospital, Bangkok, Thailand

Background: Hyperparathyroidism (HPT) is an uncommon endocrine dysfunction caused by hypersecretion of parathyroid hormone (PTH). Parathyroidectomy is an option for practical therapeutic management of hyperparathyroidism.

Objective: The aim of this study was to evaluate the outcomes of parathyroidectomy in patients with hyperparathyroidism.

Methods: From July 2002 to March 2008, a retrospective analysis was performed in all patients who underwent parathyroidectomy for primary hyperparathyroidism (PHPT) and secondary hyperparathyroidism (SHPT). The clinical data and outcomes were reviewed and analyzed.

Results: In 68 months, there were 36 patients with hyperparathyroidism (18 male: 18 female) who required 41 operations. Of all patients, 20 were diagnosed as PHPT and 16 as SHPT. In PHPT group, parathyroid carcinoma was detected in 3 patients who had palpable neck mass, tumor size >2 cm (2 cm-3.8 cm) and high level of parathyroid hormone (527-3379 pg/ml). Pre-operative imaging and parathyroid scans were applied in 17 and 12 patients, respectively. Mean preoperative parathyroid hormone and calcium levels in SHPT were significantly higher than in PHPT. After surgery, parathyroid hormone level in PHPT was lower than in SHPT with statistical significance. In the immediate postoperative period, there were 12 patients who had hypocalcemia (33%: 28.8% in PHPT, 43.7% in SHPT) which improved after several months of follow-up. There was no recurrent laryngeal nerve injury in this study.

Conclusions: Parathyroidectomy is an effective and safe therapeutic procedure for hyperparathyroidism. Parathyroid carcinoma should be considered in patients with palpable parathyroid mass, tumor size > 2 cm and high parathyroid level.

STOMACH & SMALL INTESTINE

LAPAROSCOPIC SURGERY FOR PERFORATED PEPTIC ULCER

Noppawat Samankatiwat, MD, MSc,
Montian Marutkarakul, MD
Department of Surgery, Ratchaburi Hospital, Ratchaburi, Thailand

Background: Laparoscopic surgery is one of the most advanced technologies in abdominal surgery and has become the procedure of choice for some conditions. However, laparoscopic surgery has not been widely used for perforated peptic ulcer which is an important surgical emergency.

Objectives: The aim of this study was to evaluate outcome and demonstrate surgical techniques of this procedure at Ratchaburi hospital.

Materials and Methods: All laparoscopic treatment for perforated peptic ulcer performed between September 2004 and March 2008 was retrospectively reviewed. Data retrieval included patients' demographic data, intraoperative parameters and postoperative outcomes.

Results: Laparoscopic surgery was performed in 7 patients (6 males and 1 female) who were finally diagnosed with perforated peptic ulcer with the mean age of 46.85 years (22-78 years). Two patients had perforated prepyloric ulcer whereas 5 patients had perforated duodenal ulcer. All patients presented with sudden onset of abdominal pain with average duration of 10.4 hours (1-24 hours) prior to admission. Laparoscopic simple suture with omental graft was performed in all patients. Mean operative time was 150.7 minutes (90-300 minutes) whereas mean length of stay was 7.86 days (4-10 days). There was only one wound infection in the postoperative period. However, no mortality occurred during mean follow-up period of 7.4 weeks (1-22 weeks).

Conclusions: Laparoscopic simple suture with omental graft is a feasible, effective and safe alternative procedure in the management of perforated peptic ulcer.

LAPAROSCOPY-ASSISTED GASTRECTOMY FOR GASTRIC CANCER

Asada Methasate, MD, Jirawat Swangsri, MD,
Thawatchai Akaraviputh, MD,
Vitoon Chinswangwatanakul, MD,
Thanyadej Nimmanwudipong, MD,
Narong Lert-akayamanee, MD
Endo-Lap-UGI Unit, Division of General Surgery, Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

Background: Laparoscopy-assisted gastrectomy was first performed in Japan in 1992 and became one of the most popular minimally invasive surgeries for gastric cancer. However, in Thailand, this type of laparoscopic gastrectomy is not widely adopted, the cause of which may be from the fact that most gastric cancers in Thailand are far more advanced than in Japan. We successfully performed laparoscopy-assisted gastrectomy (total and subtotal) with D2-dissection of the lymph nodes. In this report, we describe our techniques and the clinical results.

Materials and Methods: During July 2007- May 2008, laparoscopy-assisted gastrectomy was done in seven patients with gastric cancer (adenocarcinoma) who were admitted to the Department of Surgery, Faculty of Medicine Siriraj Hospital. The procedure was performed using 5 trocar ports. After dissection of the stomach and complete removal of the lymph nodes, small incision was made in upper abdomen and specimen removed.

Results: There were 5 patients with subtotal gastrectomy and 2 with total gastrectomy. The number of lymph nodes removed was 37.5 ± 12.5 and there was no

conversion to open gastrectomy. Excellent postoperative outcomes were observed in all patients. There was no complication and no mortality.

Conclusions: Laparoscopy-assisted gastrectomy for gastric cancer can be done with good results as it offers several advantages over open operation, such as minimal postoperative pain, quicker mobilization and shorter hospitalization.

APPROACH TO ENDOSCOPY IN THE POST BARIATRIC SURGERY PATIENT

S Udomsawaengsup, MD, S Pungpapong, MD, C Tharavej, MD, S Manasnayakorn, MD, P Navicharern, MD

Department of Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Background: Bariatric surgery has become popular in the western countries. It also tends to be more common in the eastern population. Complications of these bariatric techniques are not uncommon. Endoscopy is an important role of malting a diagnosis and offering non-invasive treatment.

Methods: We reviewed indications for endoscopy in patients after bariatric surgery which included laparoscopic Roux-en-Y gastric bypass, laparoscopic gastric banding and vertical banded gastroplasty. The findings of endoscopies and the therapeutic procedures were described in detail.

Results: Symptoms after bariatric surgery that required endoscopy included abdominal pain and/or nausea/vomiting after gastric bypass, dysphagia and gastroesophageal reflux after gastric banding and abdominal pain/weight regain in post vertical banded gastroplasty.

Conclusions: Endoscopy plays an important role as diagnostic and therapeutic tools in patients after bariatric surgery. It can be performed safely by an endoscopist who is familiar with the expected post bariatric surgery conditions.

LAPAROSCOPIC ASSISTED DISTAL GASTRECTOMY WITH LYMPH NODES DISSECTION: A PRELIMINARY REPORT

Patpong Navicharern, MD, Warin Wesarachawit, MD, Chadin Taravej, MD, Suthep Udomsawaengsup, MD, Suppa-ut Pungpapong, MD, Sopark Manasanayakorn, MD

Chula Minimally Invasive Surgery Center (CMISC), Department of Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Background: Laparoscopic assisted distal gastrectomy has become the most popular surgical treatment for early gastric cancer in Japan. The procedure was still applied to very few Thai patients.

Methods: Our team reported 3 selected patients operated by this technique in 2007. Each one was diagnosed as having poorly differentiated adenocarcinoma of the stomach. They were 42, 55 and 81 years old with T staging of T3, T1 and T3 respectively. All consent forms were obtained prior to the procedures.

Results: The mean operative time was 240 minutes (range 215-255). No conversion to formal open surgery required. The mean number of retrieved lymph node was 17 (range 11-24). The average post-operative pain score (VAS) at 24 and 48 hours was 2.6 and 1 respectively. The mean dosage of narcotic consumption was 7.3 (range 6-10). One patient had partial gut obstruction and intra-abdominal collection which were treated by conservative method and percutaneous drainage. The other 2 could start oral diet on day 4 and were discharged from the hospital 2 and 3 days after that without any complications. All were doing well at the time of last follow-up.

Conclusions: Laparoscopic assisted distal gastrectomy is an interesting alternative surgical procedure for gastric cancer with less postoperative pain and faster recovery. The amount of lymph nodes dissected could be improved once surgeons have overcome the learning curve.

SURGICAL OUTCOMES OF PEPTIC ULCER PERFORATION: 5-YEAR EXPERIENCE AT SIRIRAJ HOSPITAL

Siriluck Prapasrivorakul, MD, Varut Lohsiriwat, MD, Sirirat Khawsa-ard, BBA, Darin Lohsiriwat, MD

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

Background and Aim: Peptic ulcer perforation (PUP) is one of the most serious complications of peptic ulcer disease. The surgical treatment of PUP has been changing over the recent years. Simple closure with omental graft is the commonest operation used, together with postoperative eradication of Helicobacter pylori. An acid reducing procedure might be performed in the selected cases. Mortality rate of PUP was reported to vary between 4%-30% and morbidity was reported as 25%-89%. The purpose of this study was to evaluate the surgical management and surgical outcomes of PUP at Siriraj Hospital.

Materials and Methods: Medical records of 151 patients undergoing surgery for PUP at Siriraj Hospital were reviewed retrospectively, between January 2002 and December 2006. The demographic data of patients (age,

gender, previous history of peptic ulcer disease, associated medical diseases, alcohol consumption, smoking, and current medication including NSAIDs, aspirin and corticosteroid), location of perforated ulcer, surgical techniques, postoperative complications and length of hospital stay were collected and analyzed.

Results: Of 151 patients, 118 patients (78%) were male. Sixty-six patients (44%) had associated diseases. Thirty-four patients (23%) had history of peptic ulcer disease. Most of perforated site was pre-pyloric ulcer (n = 108, 72%). Simple closure with omental graft was performed in 140 patients (92%), while an acid reducing procedure was performed in 7 patients (5%). Postoperative complications were found in 50 patients (33%). Pneumonia and wound infection were 2 most common complications. Thirteen patients (8.6%) died within 30 days after the operation. Two most common causes of death were sepsis with pneumonia and sepsis with intra-abdominal collection. Mean length of hospital stay was 11.5 days (range 1-76 days).

Conclusions: PUP was associated with high rates of mortality (8.6%) and morbidity (33%). Simple closure with omental graft is still the mainstay of surgical treatment in these patients.

ENDOSCOPIC PERCUTANEOUS TRANS-ESOPHAGEAL GASTROSTOMY (ePTEG): AN APPROACH FOR GASTRIC DECOMPRESSION IN ADVANCED INTRAPERITONEAL CANCER

S Udomsawaengsup, MD, S Pungpapong, MD, C Tharavej, MD, S Manasnayakorn, MD, P Navicharern, MD

Department of Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Background: Gastric decompression is common in advanced intraperitoneal cancer. Percutaneous access into the abdomen is prohibited by metastasis. Long term nasogastric tubing causes several problems. Percutaneous trans-esophageal gastrostomy (PTEG) offers a perfect option but requires the specific kit. We develop an endoscopic PTEG (ePTEG) which creates an esophagostomy under endoscopy and allows enteral access.

Methods: The procedure is carried out by inserting an endoscope into the cervical esophagus. An ultrasound is utilized to demonstrate vital cervical structures and safely allow needle puncture into the esophagus. A guide wire is passed into the esophagus. The access is dilated and a silicone catheter is inserted into the cervical esophagus. Proper placement is confirmed endoscopically.

Results: From December 2007 to February 2008, 7 patients were treated with ePTEG. All of the patients had advanced peritoneal metastasis. Presenting symptoms were anorexia, nausea and vomiting. Placement was successful in all cases. There were no major complications.

Conclusion: ePTEG is a safe and effective method of gastric decompression in patient with advanced peritoneal cancer.

LAPAROSCOPIC MECKEL'S DIVERTICULECTOMY IN YOUNG PATIENT WITH VIRGIN ABDOMEN AND INTESTINAL OBSTRUCTION: A VIDEO PRESENTATION

Sopark Manasnayakorn, MD, Chadin Tharavej, MD, Suthep Udomsawaengsup, MD, Suppa-ut Pungpapong, MD, Patpong Navicharern, MD

CMISC-Chula Minimally Invasive Surgery Center, Department of Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Meckel's diverticulum can cause intestinal obstruction usually by the twisting of the ileum around the fibrous cord attached between the diverticulum and the abdominal wall. Other causes are rare. We report herein the intestinal obstruction caused by an internal herniation of the distal ileum through the loop formed by an adhesion between the inflamed diverticulum and the ileal mesentery.

Case Report: A 15 year-old male patient presented with clinical signs and symptoms of intermittent intestinal obstruction. There was no previous history of abdominal surgery. Physical examination revealed no visible hernia. Acute abdomen series showed dilated small bowel loops. CT scan of the abdomen disclosed multiple dilated small bowel loops with collapsed distal ileum without any identifiable cause. An internal herniation of the distal ileum through the loop formed by an adhesion between the inflamed Meckel's diverticulum and the ileal mesentery was found on diagnostic laparoscopy. The authors proceeded to laparoscopic Meckel's diverticulectomy with Endo GIA 45-2.5mm (Tyco Healthcare). Postoperative course was uneventful. The oral intake was started on the following day and regular diet was resumed on the 2nd postoperative day. The patient was discharged from the hospital on the 3rd postoperative day.

Conclusions: Laparoscopy may serve as a useful diagnostic tool in patients with intestinal obstruction without previous abdominal surgery or other identifiable causes. Furthermore, the causes of intestinal obstruction, for example those associated with Meckel's diverticulum, can be successfully managed with laparoscopic approach.

ESOPHAGUS

CHEMOTHERAPY ADDED IN TREATMENT MODALITY FOR ESOPHAGEAL CARCINOMA SIGNIFICANTLY IMPROVED SURVIVAL OUTCOME IN THAI PATIENTS: A COMPARATIVE ANALYSIS BETWEEN TWO TREATMENT ERAS

Somkiat Sunpaweravong, MD, Patrapim Sunpaweravong, MD, Boonmas Chansirimongkol, MD, Paradee Prechawittayakul, MD, Boonsin Tangtrakulwanich, MD, Puttisak Puttawibul, MD
Department of Surgery, Prince of Songkla University Hospital, Hat Yai, Songkla, Thailand

Background: Esophageal carcinoma remains one of the most devastating cancers among patients in Southern Thailand where incidence of this disease is highest countrywide. Chemotherapy added to local treatment modality, particularly to radiation, has provided survival benefit in locally-advanced disease. Interestingly, combined modality approach has just been introduced to our institution's practice recently. We conducted a comparative analysis of esophageal carcinoma patients treated between two periods of time to identify factors influencing treatment outcome and survival.

Methods: Medical records of patients diagnosed with esophageal carcinoma treated between 2003-2004 and 2005-2006 were reviewed. Patient characteristics and treatment modalities were analyzed to identify independent prognostic factors. Survival data were stratified and compared by treatment modalities and periods of time.

Results: As presented in the table, no patients from 2003-2004 received chemotherapy. Chemotherapy introduced to treatment modality beginning in 2005 significantly improved overall survival outcome. Independent prognostic factors included tumor stages and treatment modalities.

Conclusions: Chemotherapy added to local treatment modality improved survival outcome among esophageal carcinoma patients in Southern Thailand, confirming evidence from the literature. Chemoradiotherapy approach has been implemented as a standard practice for esophageal carcinoma in our institution.

COMBINED THORACO/LAPAROSCOPIC ESOPHAGECTOMY FOR END-STAGE ACHALASIA

Chadin Tharavej, MD
Chulalongkorn University, Bangkok, Thailand

This study aimed to report the safety and feasibility of combined thoracoscopic and laparoscopic esophagectomy for end-stage achalasia.

Case Report: Two patients were diagnosed of end-stage achalasia and underwent combined thoraco/laparoscopic esophagectomy. Both patients had cardiomyotomy performed via left thoracotomy 15 and 22 years ago and underwent multiple dilatations after surgery. They presented with difficulty of swallowing and their esophagograms revealed markedly tortuous and dilated esophagus. Mean diameter of distal esophagus was 11 cm. Thoracoscopic esophageal mobilization using 4 thoracoscopic ports was performed in the first stage. The patients were repositioned supinely and underwent laparoscopic gastric mobilization. Finally, left neck incision was made in a standard open technique for cervical esophagogastrostomy.

Results: Combined thoraco/laparoscopic esophagectomies were successfully performed in both patients. The mean total average operative time was 372 minutes (mean average operative time for thoracoscopic esophageal mobilization was 138 minutes and for laparoscopic gastric mobilization was 122 minutes). Mean average blood loss was 520 cc. Length of ICU stay was 1 day in both patients. Both patients took solid food on day 8 without any complication.

Conclusion: We conclude that thoraco/laparoscopic esophagectomy is safe and feasible and should be a treatment of choice for end-stage achalasia.

PREOPERATIVE CHEMORADIATION WITH INTENSIFY-MODULATED RADIATION THERAPY (IMRT) INCREASES PATHOLOGICAL COMPLETE RESPONSE RATE IN LOCALLY ADVANCED SQUAMOUS CELL CARCINOMA OF THE ESOPHAGUS

Chadin Tharavej, MD
Chulalongkorn University, Bangkok, Thailand

Objectives: Pathological complete response (pCR) has been defined as a favorable indicator in esophageal cancer patients undergoing preoperative chemoradiation treatment. About 20%-30% of pCR has been reported in prospective randomized trials. Increased rate of pCR may translate into long term survival benefit for esophageal cancer patients.

Methods: Twenty-two patients with locally advanced squamous cell esophageal cancer (T3, N0-1, M0) underwent preoperative chemoradiation during 2006-2007. Concurrent chemoradiation with 2 cycles of cisplatin and 5-FU and

50Gy irradiation using IMRT were given to all patients. Esophagectomy was performed in all patients with resectable cancer within 6-8 weeks after complete neoadjuvant treatment.

Results: One out of 22 patients (4.5%) died during preoperative chemoradiation treatment from sepsis. Three out of 22 patients (13.6%) developed distant metastasis during preoperative therapy. Three patients refused surgery because of much clinical improvement with patients being able to have solid food. They underwent upper GI endoscopy and PET scan with no residual tumor demonstrated in all 3 patients. Fifteen patients underwent esophagectomy with no operative mortality. Resectability rate was 83%. R0 resection was achieved in all 15 patients. Ten out of 15 patients (67%) had pathological complete response. Two patients had T0 N1, 1 patient had T1N0 and 2 patients had T1N1 lesion. All patients were still alive at the median follow-up of 10 months.

Conclusions: Two-third of locally advanced squamous cell esophageal cancer who had preoperative chemo-radiation with high dose IMRT had pathological complete response. No operative mortality has been found with this treatment. This may translate into long term survival benefit over surgery alone for locally advanced esophageal cancer. Prospective randomized trial is ongoing in our institute.

COLON, RECTUM & ANUS

SURGICAL MANAGEMENT OF MALIGNANT MELANOMA OF GASTROINTESTINAL TRACT

Satida Arunakul, MD, Varut Lohsiriwat, MD, Wikrom Karnsakul, MD, Thawatchai Akaraviputh, MD*

Division of Endo-Laparoscopic Surgery, Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

*Department of Pediatrics, West Virginia University School of Medicine, WV, USA

Introduction: Malignant melanoma (MM) of the gastrointestinal (GI) tract could be either primary or metastasis. Prognosis of this disease is poor with 5-year survival less than 10%. Systemic metastasis is the most common cause of death.

Objectives: This study aimed to characterize clinical features, surgical treatments and outcome, including recurrence and survival of MM of the GI tract in a referral hospital.

Methods: A retrospective review was performed of all patients with MM of GI tract treated at our institution between 1999 and 2007.

Results: Fourteen patients had GI involvement with either primary or metastatic melanoma. The median age of the patients was 64 years (range 32-87 years). Of the patients, 10 (71%) were female. Intraabdominal mass was the commonest manifestation (n=5, 35.7%), followed by abdominal pain (n=4, 28.6%). Other presentations included dyspepsia, jaundice, gut obstruction and rectal tenemus. Primary GI melanoma was found in 11 patients (78.6%); anal canal in 7 (50%), stomach 2 (14.3%), jejunum 1 (7.1%) and sigmoid colon 1 (7.1%), whereas 3 patients (21.4%) had metastatic MM (thumb, eye & ovary). Eight patients underwent curative resection, 3 had palliative operations, and the other 3 received supportive management. Patients who underwent curative resection had a longer mean survival time than patients without curative resection (28.3 VS 5.0 months).

Conclusions: Metastatic melanoma to the GI tract can result in significant morbidity and death. Curative resection can be performed safely with longer mean survival time. In selected patients, surgical treatment of MM involving the GI tract is an appropriate therapy.

LAPAROSCOPIC COLON RESECTION FOR THE MANAGEMENT OF COMPLICATED DIVERTICULITIS

Poschong Suesat, MD

Bhumibol Adulyadej Hospital, Directorate of Medical Service, Royal Thai Air Force, Bangkok, Thailand

Background: Diverticulitis is the most common clinical complication of diverticulosis. The patient's symptoms usually respond promptly to non-operative treatment. Surgery is seldom indicated in uncomplicated diverticulitis. However, if the patient suffers the attacks of complicated diverticulitis, surgical treatment should be considered. Complications of diverticular disease and their associated mortality rates are so severe that attempts have been made to define groups of patients who would benefit from elective colon resection to resolve these problems. These include patients with recurrent attacks of local inflammation, persistent tender abdominal mass, narrowing or marked deformity of the sigmoid colon on radiographic examination, dysuria associated with diverticulosis, rapid progression of symptoms from time of onset, clinical or radiographic signs that do not definitely exclude carcinoma, and relatively young age patients. Laparoscopic surgical procedures reduce the cost of surgery

when length of hospital stay can be shortened. Shorter hospital stays can be demonstrated in laparoscopic cholecystectomy, fundoplication, splenectomy and adrenalectomy, for example. Procedures that still require longer hospital stay, such as laparoscopic colectomy, are even less likely to deliver a lower bottom line than their open-surgery counterparts. Nonetheless, with responsible use of disposable instrumentation and a commitment to the most effective use of the in-patient setting, most laparoscopic procedures can be made equal or less expensive than their conventional equivalents. Patient undergoing laparoscopic approach has small incisions, less postoperative pain, shorter hospital stays, and early return to work. These benefits may be achieved while preserving the time-honored technical aspects in laparoscopic surgery.

Objectives: This is a preliminary report of patients who underwent laparoscopic procedures for the treatment of complicated diverticulitis.

Methods: From 1995-2007, 9 patients with complicated diverticulitis were managed by laparoscopic procedures. These included 5 patients with recurrent attacks, 3 with phlegmons and 1 with massive hemorrhage.

Results: There were 5 men and 4 women, with age range 45-79 years. They were all successfully managed with either laparoscopic-assisted or hand-assisted laparoscopic colon resections. Four right colectomies, 1 left colectomy, 2 sigmoid colectomies and 2 subtotal colectomies were performed. Operative time ranged from 110-250 minutes. The hospitalization ranged from 4-7 days. The previous symptoms subsided in all patients. No complications or serious problems were detected during the hospitalization and follow-up periods.

Conclusions: Laparoscopic colon resections for the management of complicated diverticulitis are feasible and can be performed in the same maneuver as in open procedures.

MONO- OR POLY-ANTIMICROBIAL PROPHYLAXIS IN COLORECTAL SURGERY

Varut Lohsiriwat, MD, Atthaphorn Trakarnsanga, MD, Thawatchai Akaraviputh, MD,
Vitoon Chinswangwatanakul, MD, PhD, Darin Lohsiriwat, MD
Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

Background: The use of prophylactic antibiotics in colorectal surgery is well established. Type of antibiotics, however, varies significantly among surgeons.

Objectives: The aim of this study was to determine whether mono-antimicrobial regimen is as effective as poly-antimicrobial regimen in the prevention of surgical wound infections following colorectal cancer surgery.

Materials and Methods: The medical records of 56 patients with colorectal cancer undergoing elective oncological resection from January 2004 to September 2006 at Siriraj Hospital were retrospectively reviewed. Patients were divided into 2 groups according to the regimen of intravenous antibiotics administration; group A: monotherapy (cefminox - Meicelin®) and group B: polytherapy (ceftriaxone plus metronidazole). Duration of antibiotic administration was up to 24 hours in colonic surgery and up to 3 days in rectal surgery. Patients' characteristics and rate of wound infection within 30 days after the operation were compared between the 2 groups.

Results: This study included 25 males and 31 females, with a mean age of 63 years (range 27-86 years). There were 18 patients in group A and 38 patients in group B. There was no significant difference in patient's characteristics between the 2 groups. Overall rate of wound infection was 14.3%. The rate of wound infection was not significantly different between the 2 groups (group A 11.1% vs group B 15.8%, P = 1.00). No adverse drug reaction was found in this study.

Conclusions: Based on this study, there was no significant difference in the rate of wound infection following colorectal cancer surgery with mono-antimicrobial regimen, compared to that with poly-antimicrobial regimen. Thus, single-drug regimen could be a feasible alternative in antibiotic prophylaxis for the prevention of wound infection following lower gastrointestinal tract surgery.

THE RELIABILITY OF GOODSALL'S RULE IN PATIENTS WITH ANAL FISTULA

B Muyphuag, MD, J Pattana-arun, MD, A Rojanasakul, MD
Colorectal Division, Department of Surgery, Chulalongkorn University Hospital, Bangkok, Thailand

Introduction: Identification of the fistula tract is vital to successful treatment of anal fistula. The common approach is to identify the internal opening, external opening and fistula tract according to Goodsall's rule using normal saline or water injection or probing.

Objective: To estimate the reliability of Goodsall's rule.

Methods: Charts and operative reports of patients diagnosed with anal fistula at Colorectal Division, Department of Surgery, Chulalongkorn University during January 2005 and December 2007 were retrospectively reviewed. There were 91 patients with a total of 98 fistula tracts.

Results: There were a total of 98 fistula tracts, 49 each having anterior and posterior external openings. In the group with anterior external openings, 39 (79%) had internal openings and fistulae according to Goodsall's rule, while 10 did not. In the group with posterior external openings, 33 (67.35%) had internal openings and fistulae according to Goodsall's rule, while 16 did not.

Conclusions: Goodsall's rule assists in identifying the internal opening in anal fistula, but this rule is not applicable in all anal fistulas.

GUM CHEWING REDUCES POSTOPERATIVE ILEUS AFTER OPEN COLECTOMY

Kunakorn Pooreesathian, MD

Department of Surgery, Songklanagarind Hospital, Prince of Songkla University, Hat Yai, Songkla, Thailand

Background: Postoperative ileus is a common phenomenon after abdominal surgery. Prolonged delay in bowel function may lead to prolonged hospital stay, hospital-acquired infections or complications and pulmonary compromise. As a result, the prolonged length of hospitalization may lead to increased cost, mobidity and motality. Sham feeding or gum chewing has been reported to enhance bowel motility. This effect of gum chewing is evaluated as a convenient method to enhance postoperative recovery from ileus after open colectomy.

Objective: To determine the results of gum chewing for its effect on patients with postoperative ileus who had undergone open colectomy at Songklanagarind Hospital.

Materials and Methods: A total of 45 patients who underwent elective open colectomy at Songklanagarind Hospital during 2006-2007 were randomized into 2 groups: a gum chewing group (n = 23) and a control group (n = 22). Patients in the gum chewing group chewed sugarless gum 3 times daily for 20-30 minutes each time until having bowel movement. Patient's demographics, intra-operative and post operative care were equivalent between the 2 groups. The time of the first appetite feeling, passage of flatus and defecation were recorded.

Results:

Characteristic	Control group (n = 22)	Gum chewing group (n = 23)	P value
First appetite feeling (hours, mean ± SD)	59.1 ± 34.9	41.7 ± 29.5	0.56
First flatus (hours, mean ± SD)	68.2 ± 40.8	61.1 ± 20.1	0.01
First of feces passing (hours, mean ± SD)	111.9 ± 64.7	105.8 ± 39.8	0.067
Length of hospital stay (days, mean ± SD)	14.9 ± 8.2	11.3 ± 2.5	0.001

Conclusions: Gum chewing improves early recovery from postoperative ileus after open colectomy by stimulating bowel motility. Gum chewing is an inexpensive and helpful adjunct to postoperative care.

RISK AND PROGNOSTIC FACTORS FOR PREDICTING RECURRENCES AND SURVIVAL OF COLORECTAL GASTROINTESTINAL STROMAL TUMOR

Pornthep Pratanvanich, MD, J Pattana-arun, MD, P Atithansakul, MD, C Sahakitrungrueng, MD, A Rojanasakul, MD

King Chulalongkorn Memorial Hospital, Bangkok, Thailand

Objectives: This study was designed to review the clinical characteristics of surgically treated gastrointestinal stromal tumors of the colon, rectum and anus, to evaluate their immunohistochemical and pathologic features and to identify associated prognostic factors influencing the outcome of curative resection of colorectal gastrointestinal stromal tumor.

Methods: The clinicopathological factors and other tumor aggressiveness influencing disease-free survival were assessed in 17 patients with gastrointestinal stromal tumors (8 rectum, 3 RV septum, 2 cecum, 1 ascending colon, 3 anal canal) diagnosed and primarily treated at our institution between 2000-2006.

Results: There were 8 men and 9 women with a mean age of 56 years (range 38-73 years) at the time of diagnosis. Five tumors (29%) were negative in KIT staining. Tumors were classified on the basis of size and mitotic rate according to current National Institute of Health recommendations: 76% (n = 13) were high-risk, 12% (n = 2) were intermediate-risk, 12% (n = 2) were low-risk. The median follow-up period was 39 months (range 2-96 months). Recurrence was noted in 6 patients (4 local recurrence, 1 liver metastasis, 1 lung metastasis). Overall median DFS was 34 months, and estimated one-year, two-year, three-year, four-year and five-year DFS rates were 100%, 66%, 46%, 26%, and 20% respectively. Overall 5-year survival was 29%. The independent prognostic factors that significantly associated with high tumor recurrence and poor survival included age <60 year (p = 0.018), mitotic count >10/50HPF (p = 0.025), histology pleomorphism (p = 0.008), necrosis (p = 0.045), Ki67 index >10% (p = 0.006), p53 >50% (p = 0.006) and CD117 negative (p = 0.046).

Conclusions: The majority of colorectal gastrointestinal stromal tumors are high-risk. Patients with high-risk have a significant likelihood of developing metastases that are associated with poor prognosis. These patients need to be closely followed for an extended period and should be

considered for adjuvant therapy with tyrosine kinase inhibitors.

HAND-ASSISTED LAPAROSCOPIC PROCTECTOMY

Jirawat Pattana-arun, MD, Pornthep Pratanvanich, MD, Arun Rojanasakul, MD

Chulalongkorn University, Thai Red Cross Society, Bangkok, Thailand

Background: Laparoscopic complete mobilization of the rectum from the pelvic floor is difficult to achieve because of insufficient rectal exposure and ineffective retraction. Especially, hand-assisted laparoscopic proctectomy (HALP), the non-dominant hand in the pelvis is believed to be the major obstacle and may be the cause of difficulties and longer operative time. With appropriate technique, HALP can come across these problems. This presentation shows that HALP can be performed as the standard exploration.

Methods: Low-thigh lithotomy is the preferred position. GelportTM is placed between the umbilicus and the pubic symphysis. Camera port stays 2-3 cm. above the umbilicus and the two working ports are located between anterior superior iliac spine and umbilicus, on both sides of the lower abdomen. The operation starts with the whole left colon mobilization in an avascular-embryological plane. The inferior mesenteric vessels are then ligated to lengthen the bowel for low rectal anastomosis. After that, TME is performed with precise dissection to the pelvic floor. Finally, low rectal anastomosis can be created using double-stapled technique. From the retrospective review of the data collected from October 2007 to April 2008, 15 patients who underwent low anterior resection were studied for the peri-operative outcomes.

Results: Conversion was unavoidable in one case. Mean operative time was 282 minutes and mean duration of first bowel movement was 2.6 days. There was no mortality in this report.

Conclusion: HALP can be safely performed with acceptable peri-operative outcomes.

ANAL PAIN POST STAPLED HEMORRHOIDOPEXY

Navara Dusitanond, MD, Jirawat Pattana-arun, MD, Arun Rojanasakul, MD

Colorectal Division, Department of Surgery, Chulalongkorn University, Thai Red Cross Society, Bangkok, Thailand

Introduction: Stapled hemorrhoidopexy is becoming the procedure of choice for some surgeons in the treatment of hemorrhoid. This procedure presents a number of complications which differ from those of traditional hemorrhoidectomy. Severe chronic pain is one of these complications which cause suffering to both patients and surgeons.

Case Report: We present a case of Thai female aged 32 who had stapled hemorrhoidopexy in a private hospital 2 years previously. Digital rectal examination revealed smooth ring scar with tenderness at right lateral direction. Endoanal ultrasonography was used to confirm the diagnosis which demonstrated metallic staples embedded in the submucosa and internal anal sphincter. Because the staples were deep under the mucosa and the scar, it was impossible to identify and remove staples without endoanal ultrasonography. The presentation shows the findings of endoanal ultrasonography and how to remove the staples with ultrasonography guidance. After one week, the symptom disappeared and the continence function was not different from preoperative period. When this complication occurs, the staple removal under endoanal ultrasonography guidance may be the treatment of choice.

HAND-ASSISTED LAPAROSCOPIC SURGERY FOR RIGHT HEMICOLECTOMY

Navara Dusitanond, MD, Jirawat Pattana-arun, MD, Arun Rojanasakul, MD

Colorectal Division, Department of Surgery, Chulalongkorn University, Thai Red Cross Society, Bangkok, Thailand

In the era of minimal invasive surgery, various surgical procedures have been introduced to the society. Hand-assisted laparoscopic surgery (HALS) is one of these procedures and has been proposed as an alternative procedure of laparoscopic surgery which gains some benefits in shortening the learning curve and operative time, but requires a larger incision. This audio-visual presentation shows HALS technique for right hemicolectomy including the position of port placement, the exposure for dissecting plane and clean dissection, step by step. In the future, minimal invasive surgery may be the standard procedure in some operations and colorectal surgeons interested in HALS may practice with short learning curve.

HAND-ASSISTED LAPAROSCOPIC SIGMOIDECTOMY

Pornthep Pratanvanich, MD, Jirawat Pattana-arun, MD, Arun Rojanasakul, MD

Colorectal Division, Department of Surgery, Chulalongkorn University, Thai Red Cross Society, Bangkok, Thailand

Introduction: Hand-assisted laparoscopic colectomy

(HALC) has been accepted as an alternative to Laparoscopic-assisted colectomy (LAC). HALC is superior to LAC in terms of shortening the learning curve and the operative time. However, HALC has not been approved as the standard procedure for colectomy.

Purpose: This VDO presentation shows hand-assisted laparoscopic sigmoidectomy, step by step, with the same standard as exploration.

Methods: Gelport, our preferred hand-port device, is placed between umbilicus and pubic symphysis in low midline or Pfannenstiel's fashion. Camera port is situated at 2-3 cm. above the umbilicus and another 12 mm. working ports is placed between left anterior superior iliac spine and umbilicus. Lithotomy position, with left side up and head down, is the best position for this operation. Surgiwand is our preference dissector and coagulator. The procedure starts with descending colon mobilization, and then taking down splenic flexure and full sigmoid colon mobilization to upper rectum. With adequate traction from HAL, dissection into the embryological plane is easy to achieve. After that, extracorporeal anastomosis is performed.

Results: HAL sigmoidectomy can be performed as the same standard as exploraion.

Conclusion: Hand-assisted laparoscopic sigmoidectomy may be a good alternative to LAP or exploratory laparotomy sigmoidectomy.

LAPAROSCOPIC ABDOMINAL TRANSANAL PROCTOSIGMOIDECTOMY WITH COLO-ANAL ANASTOMOSIS (LATA), A NOVEL APPROACH IN LOW RECTAL CANCER: LESSONS LEARNED FROM SOUTH KOREA

Siripong Chewatanakornkul, MD,
Teeranut Boonpipatanapong, MD
Department of Surgery, Prince of Songkla University, Hat Yai, Songkla, Thailand

Introduction: Nowadays laparoscopic colorectal surgery has been adopted nationwide. However, there has been no standard technical aspect or surgical step. To overcome learning curve and technical challenges is time-consuming. The authors would like to share technical aspects of laparoscopic colorectal surgery that have been learned from South Korea and which are easily reproducible. Methods: This video presentation demonstrates a novel approach of laparoscopic colorectal surgery in a Korean fashion, Laparoscopic abdominal transanal proctosigmoidectomy with colo-anal anastomosis (LATA). This operation is a sphincter saving procedure designated for patient with low rectal cancer. The tumor should not be fixed to pelvic wall on digital examination. It should be located within 7 cm from anal verge and should be at least 1 cm above dentate line. In the beginning, this video shows patient's position, trocar localization and operative instruments, followed with 6 surgical steps: 1) dissection of the mesocolon and high ligation of the IMA, 2) mobilization of the left colon including splenic flexure, 3) transection of the mesocolon, 4) total mesorectal excision, 5) transection of rectum, drawing down the specimen, colo-anal anastomosis and 6) insertion of drain and diverting ileostomy.

Conclusion: This video demonstrates the surgical approach, steps and technical tips of LATA resection in a summarized topic.

LIFT TECHNIQUE, STEP BY STEP OF A SPHINCTER PRESERVATION PROCEDURE FOR FISTULA IN ANO

S Khomvilai, MD, A Rojanasakul, MD, J Pattana-arun, MD
Colorectal Division, King Chulalongkorn Memorial Hospital, Bangkok, Thailand

For fistula in ano, one of the most common anorectal diseases worldwide, standard treatments are different in any institutes but the purpose of them is the same. To get rid of the cryptoglandular infection while preserving the sphincter complex is the mainstay of treatment. Our division introduces an alternative sphincter saving procedure, LIFT technique, for fistula surgery. The results of this procedure have been presented previously with impressive outcome. This VDO file shows step by step the LIFT technique starting from skin incision, identifying and ligation of intersphincteric fistula tract then cutting and closure of the incision. After watching this VDO file, it will be easier to understand this procedure in detail and you can practice without difficulties.

NEW TME RETRACTOR

Arun Rojanasakul, MD
Chulalongkorn University, Thai Red Cross Society, Bangkok, Thailand

Background: At present, the standard technique for rectal cancer operation is total mesorectal excision (TME) popularized by RJ Heald since 1979. The concept of this technique is the avoidance of breaching the fascia propria of the rectum, which can be achieved by sharp dissection under direct vision deep down to the pelvic floor. The available retractors for rectal operation were invented before TME period. They were good enough for the combination of sharp and blunt rectal mobilization technique practiced in the old day, but their shapes and dimensions are not good enough for TME work of the

present day.

Purpose: Invention of a retractor specific for TME procedure.

Material and Methods:

A. Invention: The desired features of the retractor are:

1. Applicable to all planes of dissection around the rectum deep down to the pelvic floor
2. Made from medical-grade material
3. Proper shape and dimensions
4. Easy for handling and sterilization

B. Field test: Evaluate the usage of the retractor by surgeons in a colorectal unit.

Results: The retractor is made of medical grade stainless steel. It has two-functioned ends, which are differently curved to match the shape of the pelvis and rectum. One end is used for anterior and lateral planes of rectal dissection. The other end is used for posterior plane between mesorectum and presacral fascia. The retractors were tested in 80 rectal cancer patients during January 2007 and May 2008 by 8 surgeons in our colorectal division, and all were impressed with the plane created by this device.

Conclusions: The retractor aimed to facilitate TME technique is invented and tested to meet the desired properties. We hope to obtain a patent and to distribute this device in the near future.

ENDOSCOPIC PUDENDAL NERVE DECOMPRESSION IN PUDENDAL NEURALGIA: A CASE REPORT

P Rattanarpichart, MD, J Pattana-arun, MD, S Udomsawaengsup, MD, A Rojanasakul, MD

Division of Colorectal Surgery, King Chulalongkorn Memorial Hospital, Bangkok, Thailand

Background: Pudendal neuralgia is a rare condition seldom diagnosed correctly in a short period of time, and mostly present with chronic perineal pain. Bilateral involvement may cause urinary and fecal incontinence. The most common cause is pudendal nerve entrapment. There are two points of entrapment, the first is at ischial spine between sacro-spinous and sacro-tuberous ligament and the second is along the Alcock's canal. The typical perineal pain is usually intolerate in sitting position. Pain is least in the morning and increases gradually during the day with pain-free sleep at night. Physical finding is characterized by pain along the pudendal nerve distribution. Useful investigations include EMG and PNTML but the diagnostic tool is an immediate response to pudendal nerve block. Role of nerve decompressive surgery is reserved for patients who fail conservative therapy. Few surgical approaches were reported in the literatures. In 1997, Shafik reported successful endoscopic pudendal nerve decompression at Alcock's canal in 7/9 patients.

Case Report: We report a 66-year-old woman who had been suffering from perineal pain for 12 years after an AP repair which became worse despite maximum dosage of analgesic drugs. Her symptoms and signs were typical of pudendal nerve entrapment syndrome. Other organic diseases were excluded with barium enema, pelvic ultrasound, lumbo-sacral spine MRI and functional causes were also investigated. EMG showed evidences of nerve regeneration and complete response to pudendal nerve block. Endoscopic pudendal nerve decompression was performed at both ischial spine and Alcock's canal on the right side.

Procedure: The patient was placed on prone jack-knife position under spinal anesthesia. The points of ischial tuberosity and coccyx were marked. Camera port was placed just medial to ischial tuberosity and then working space was created in ischiorectal fossa with CO_2 insufflation. Two working ports were placed above camera port, one on the medial and another on the lateral side. Pudendal nerve was identified from anatomical landmarks and the point of ligament clamp was released by sacro-spinous ligament cut. The Alcock's canal was then approached and split opened, releasing the pudendal nerve into ischiorectal fossa.

Results: The patient experienced relief of pain (VAS reduced from 9 to 3) for at least 9 months of follow-up period.

Conclusion: Endoscopic pudendal nerve decompression is an effective alternative approach in the surgical treatment of pudendal neuralgia.

SUBTOTAL S1 SACRECTOMY FOR EN-BLOC RESECTION OF SACRAL CHORDOMA: SURGICAL TECHNIQUES AND CASE SERIES

P Atittharnsakul, MD, A Rojanasakul, MD, C Sahakijrungrueng, MD

Colorectal Division, King Chulalongkorn Memorial Hospital, Bangkok, Thailand

Chordoma is the most common retrorectal tumor. Its slow growing behavior leads to delay in diagnosis, thus, most of the patients present with huge mass and high level of sacral invasion. If untreated or improper resection is undertaken, metastasis and tumor recurrence surely present, with miserable outcomes such as severe pain, loss of neural control for bowel and bladder function and dismal death. The goal of the curative treatment is to perform en-bloc tumor resection with adequate resection

margin and intact capsule.

High level of sacral resection is one of the most extensive operations that may cause numerous adverse events such as massive bleeding and disability from neurological deficit. Multidisciplinary approach by colorectal surgeons and spine surgeons is needed for good outcome and abdominosacral approach is the procedure of choice.

Lithotomy is the preferred position with long midline incision. Meticulous exploration is exercised to rule out metastasis. The sigmoid colon and rectum are mobilized to presacral space until the upper border of the tumor is reached. Before the construction of the end sigmoid colostomy, superior rectal vessels must be preserved, so the rectum can be kept in place for tissue coverage to prevent sacral hernia. To avoid exsanguination, all vessels that communicate to both external iliac artery and veins are ligated until both external iliac vessels are free from iliac bone, along common iliac vessels to inguinal ligament. After that, presacral tissue is dissected and anterior osteotomy at body of S1 is performed. The S1 root must be preserved. Suprapubic cystostomy is performed before abdominal wall closure.

The patient is then posted in prone position. The incision was made in Mercedes fashion for adequate exposure, muscle dissection and flap coverage. Before sacrectomy, all of the muscles attached to sacrum must be dissected away. Beware of injuries to both sciatic nerves. Then posterior laminectomy at the level of the resection with division of cauda equina is performed. After these steps complete posterior osteotomy at the same level of previous anterior osteotomy can be performed safely. The tumor can be dissected from rectum in en-bloc fashion with adequate margin and intact capsule at this part. Close suction drainage is applied. The incision is closed layer by layer.

PERI-OPERATIVE AND ONCOLOGIC OUTCOMES OF HAND-ASSISTED LAPAROSCOPIC LOW ANTERIOR RESECTION FOR RECTAL CANCER

Pornthep Pratanvanich, MD, J Pattana-arun, MD, P Atithansakul, MD, C Sahakitrungrueng, MD, A Rojanasakul, MD

Department of Surgery, King Chlalongkorn Memorial Hospital, Chulalongkorn University, Bangkok, Thailand

Purpose: To define the peri-operative and oncologic outcomes of hand-assisted laparoscopic low anterior resection (HAL-LAR).

Methods: All lower rectal cancer patients who underwent HAL-LAR from prospective laparoscopic database were retrieved and analyzed.

Results: From October 2007 to March 2008, 17 patients (7 LAR, 6 CAA, 1 LAR with intersphincteric dissection and 3 APR) were recruited. Mean age was 65 (range 32-82 years) years. Mean BMI was 21.63 (17.85-25.39). Mean lower border distance from the anal verge was 5 (range 2-7 cm) cm. Mean operative time and blood loss were 276 (range 140-400 minutes) minutes and 178 (range 50-1200 ml) ml, respectively. The TNM stage distribution was stage 0 (3 cases), IIA (7 cases), IIIA (1 case), IIIB (5 cases) and IIIC (1 case). Mean tumor size was 3.9 (1.2-8 cm) cm. Mean distal margin was 2.7 (1-4 cm) cm. 98% of all patients had circumferential margin more than 2 mm. R0 resection was achieved in all cases. The mean number of harvested lymph nodes was 16 (6-34 nodes) nodes. No intra-operative complications (bowel injury, ureteric injury or tumor spillage) occurred. Mean first bowel movement was 1.88 (1-3 days) days. Perioperative complications included wound seroma (1) and pulmonary edema (2). There was no perioperative mortality.

Conclusion: HAL-LAR is safe and provides adequate oncologic outcomes.

EXPRESSION OF BETA-CATENIN PREDICTS CLINICAL OUTCOMES IN COLORECTAL CANCERS

Worawit Wanitsuwan, MD,[1] Samornmas Kangurn, MD,[2] Teeranut Boonpipattanapong, MD,[1] Rasamee Sangthong, MD,[3] Surasak Sangkhathat, MD[1]

[1]Department of Surgery, [2]Department of Pathology, [3]Epidemiology Unit, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkla, Thailand

Background/Objectives: Nuclear accumulation of beta-catenin is suspected to be correlated with unfavorable outcomes in CRC. In this study, we examined the expression and localization of beta-catenin in these tumors and looked for the association with other clinical parameters and prognostication correlation.

Methods: Tumor samples from 163 cases of CRC patients who had undergone primary colectomy between May 1998 and November 2002 with complete follow-up data for either 5 years or until death were recruited for beta-catenin immunohistochemical study. The percentage of immunoreacted tumor cells was defined as overall staining density (OSD) and percentage of cells having nuclear localization was counted as nuclear staining density (NSD). Univariate exploration used log-rank test and multivariate survival analysis used Cox's hazard regression model. A p-value of less than 0.05 was considered statistically significant.

Results: Beta-catenin immunoreactivity was detected in 161 samples (98.8%), of which 131 cases had nuclear staining. High OSD (>75%), detected in 123 cases (75.5%), was significantly associated with earlier AJCC staging, lower nodal status, non-metastatic status, better differentiation and higher staining intensity. By multivariate analysis, high OSD was found to be independently associated with better survival. Although high NSD (>75%) was correlated with pre-operative serum CEA, differentiation, and staining intensity, the parameter was not significantly associated with survival. However, if OSD was excluded from the model, the hazard analysis showed that high NSD had a relative hazard ratio of 2.04 (95% CI 1.0 - 4.2) when compared with NSD less than 50 and adjusted for tumor stage, differentiation, nodal and metastatic status.

Conclusions: Unlike previous reports, the study did not find a predictive value of nuclear beta-catenin in CRC. Above all, the overall expression of beta-catenin in CRC showed an association with better differentiation and earlier staging. The parameter also independently predicted superior survival.

DOES METABOLIC SYNDROME AFFECT THE OUTCOMES OF COLORECTAL CANCER SURGERY?

Watchara Pongsanguansuk, MD, Varut Lohsiriwat, MD, Narong Lertakyamanee, MD, Darin Lohsiriwat MD

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

Background and Aim: Complications following colorectal cancer (CRC) surgery are important problems. Metabolic syndrome (MS) has been described as a risk factor for poor outcomes in many surgical procedures. However, there is no report regarding effects of MS on surgical outcomes of CRC surgery. This study aimed to investigate the impact of metabolic syndrome on the outcomes of colorectal cancer surgery.

Materials and Methods: A prospective, observational study of 62 CRC patients who underwent elective oncological resection of the tumor at Siriraj Hospital from July 2007 to February 2008 was carried out. Status of MS in each patient was assessed preoperatively using the criteria of American Heart Association (AHA) and the National Heart, Lung, and Blood Institute (NHLBI). Patient's characteristics and surgical outcomes (mortality and morbidity) were collected. Factors affecting the outcomes were analyzed with multivariate analysis.

Results: Twenty-three patients (37%) had MS. Characteristics of the patients with or without MS were not significantly different, except for greater BMI and higher ASA status in MS group. There was no 30-day postoperative mortality in this study. Twelve patients (19%) had postoperative complications. ASA III, MS and age over 60 were 3 risk factors for developing postoperative complications in univariate analysis. However, in multivariate analysis, only MS and age over 60 were independent factors for the complications.

Conclusions: Metabolic syndrome, as well as advanced age, is an independent risk factor for developing post-operative complications after elective colorectal cancer surgery.

INCIDENCE AND MANAGEMENT OF ENDOSCOPIC COLONIC PERFORATION: SIRIRAJ GI CENTER'S EXPERIENCE

*Sasithorn Sujarittanakarn, MD, Varut Lohsiriwat, MD, Sirirat Khawsa-ard, BBA, Thawatchai Akaraviputh, MD, Narong Lertakyamanee, MD, Darin Lohsiriwat, MD, Udom Kachinthorn, MD**

Siriraj GI Endoscopy Center, Department of Surgery, *Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

Background and Aim: Colonoscopic perforation (CP) is a rare, but serious complication of colonoscopy. Increasing use of colonoscopy could lead to a high number of endoscopic colonic perforations. The aim of the study was to assess the incidence and management of endoscopic colonic perforation at Siriraj GI Center.

Materials and Methods: All patients undergoing either colonoscopy or flexible sigmoidoscopy at the Faculty of Medicine Siriraj Hospital, Bangkok, Thailand, between January 1999 and December 2007 were reviewed. Medical records of all patients diagnosed with colonoscopic perforation were also analyzed.

Results: In a 9-year period (1999-2007), 17,357 endoscopic procedures of the colon resulted in 15 (0.09%) colonoscopic perforations: 14 (0.1%) following colonoscopy and 1 (0.03%) following flexible sigmoidoscopy. Incidence of CP from colonoscopy was slightly higher than that from sigmoidoscopy (0.1% vs 0.03%; p=0.22), with a relative risk ratio of 3.7 (95%CI=0.5-28.4). Sites of the perforation included sigmoid colon (80%), transverse colon (13%) and ascending colon (7%). Mechanisms of perforation included injuries from shaft of scope (47%), tip of scope (33%) and post-polypectomy (20%). All patients with CP underwent primary suture of the perforation in 4 patients (27%), resection with primary anastomosis in 4 patients (27%) and resection without anastomosis in 7 patients (47%).

Conclusions: The incidence of colonoscopic perforation at Siriraj GI Center was 0.09%. Operative management remains the mainstay treatment of colonoscopic perforation at Siriraj Hospital.

CHARACTERISTIC OF MIXED HYPERPLASTIC-ADENOMATOUS POLYPS AT RAMATHIBODI HOSPITAL

Pongsakorn Srichan, MD,[1] Yodying Wasutit, MD,[1] Weerapat Suwanthanma, MD,[1] Chakrapan Euanorasetr, MD,[1] Pattana Sornmayura, MD,[2] Onchuma Puanfoong, BNS,[3] Chaowalitr Tinkornrusmee, PN[3]

[1]Department of Surgery, [2]Department of Pathology, [3]Department of Nursing, Faculty of Medicine, Ramathibodi, Hospital, Bangkok, Thailand

Objective: Mixed hyperplastic-adenomatous polyps contain foci of hyperplastic change with dysplastic adenomatous change. These polyps are likely to be heterogeneous at molecular level and may predispose to sporadic colorectal cancer through a distinct pathway. The aim of this study was to describe characteristics of mixed hyperplastic-adenomatous polyps in Thai patients.

Methods: A retrospective study included 272 polyps from 201 patients detected by colonoscopy in the general surgery unit at Ramathibodi Hospital from January to December 2007.

Results: There were 141 mixed hyperplastic-adenomatous polyps from 104 patients. There were 63 (60.5%) male and 41 (39.5%) female. The mean age was 62 (21-87 years) years. Most adenomas (63.8%) were in the left colon especially sigmoid colon (29.2%). Size of polyps was <0.5 cm in 69%, 0.6-1 cm in 23.8%, 1.1-2.0 cm in 4.7% and >2 cm in 2.4%. Morphology of polyps included sessile polyp in 56.8%, pedunculated polyp in 34% and others in 9.2% including flat polyps. All detected polyps were endoscopically removed except for a technical failure in 1 patient. Polypectomy (53.3%) was performed in medium and large size polyps. Hot biopsy (39%) was the main treatment in small polyps. Of 141 polyps identified, 54.8% were serrated adenoma. There were severe dysplasia in 5.7% and carcinoma in situ in 1.4%. Only 0.7% of removed polyps contain adenocarcinoma.

Conclusions: Majority of colorectal polyps at our hospital were small size sessile mixed hyperplastic-adenomatous polyps mainly located in left-sided colon. These polyps should be recognized and endoscopically removed to decrease risk of subsequent colorectal cancer.

APPENDIX

FACTORS ASSOCIATED WITH COMPLICATED APPENDICITIS

Chanchai Wanarit, MD, Thanawadee Phoophuang, BSc, Ubal Nantamit, B.N.S.

Department of General Surgery, Lamphun General Hospital, Lamphun, Thailand

Objective: Complicated appendicitis may result in significant morbidity such as severe life-threatening infection or even death. Also the recovery of the patient after treatment is usually prolonged and hospital cost is higher. The aim of this study was to determine the incidence and described the factors associated with complicated appendicitis.

Methods: A retrospective study was conducted in all patients with the diagnosis of acute appendicitis (ICD 10:K35) who received surgery treatment between January to December 2006. Demographic data, clinical signs and symptoms, operation, pathologic finding, antibiotic treatment, length of hospital stay and hospital cost were collected. Study group was divided into 2 pathological subgroups, complicated (acute gangrenous, ruptured and abscess) and non-complicated appendicitis (acute focal and acute suppurative). Data was analyzed by using frequency, percent, mean and standard deviation. Differences between complicated and non-complicated appendicitis were compared using chi-square test and t-test.

Results: 757 cases were reviewed, 23 cases were excluded (normal appendix in 21 cases and chronic appendicitis in 2 cases). The remaining (n = 734) included 332 male and 404 female, with male to female ratio of 1:1.2. The means age was 32 years. 574 (78.2%) had non-complicated appendicitis, 160 (21.8%) had complicated appendicitis and 84 (52.5%) of complicated subgroup had ruptured appendicitis. Factors associated with complicated appendicitis included male gender (p = 0.023), younger than 60 yrs (p = 0.013), with underlying disease, children (2 yrs and old age (p = 0.010) and American Society of Anesthesiologist Classification (ASA score) >1 (p = 0.001). For patients who waited over 12 hours, the rate of rupture rose to 15.7% compared with those waiting between 6-12 hours (10.4%) and those under 6 hours (11.0%). However, there were no statistically significant differences in ruptured

rate (p = 0.458). Length of hospital stay after surgery in complicated subgroup was longer than in non-complicated subgroup with mean 1.5 days or 1.6 folds and the hospital cost rose to 3,385 baht or 1.3 folds more than in non-complicated subgroup.

Conclusions: Factors associated with complicated appendicitis included male gender, age 2 yrs and (60 yrs, underlying disease and ASA score >1. Surveillance should focus on these patients and the patients should be operated as soon as possible.

A RANDOMIZED CONTROLLED TRIAL COMPARING INCISION WOUND CLOSURE IN APPENDECTOMY BETWEEN SUTURING AND SKIN STAPLING

Santi Lertvanavit, MD, Suphakarn Techapongsatorn, MD, Anan Manomaipiboon, MD

Department of Surgery, BMA Medical College and Vajira Hospital, Bangkok, Thailand

Introduction: Appendectomy is the most common major operation in general surgery. The overall incidences of SSI in appendectomy incision for acute appendicitis without rupture and with rupture are about 2.1-9.5% and 3.4-13.2%, respectively. There are many methods to close the skin incision such as the use of skin suture, skin stapling, adhesive tape and glue. At Vajira Hospital, nylon suture and skin staple for wound closure were used in non-rupture appendicitis. However, there was no result of the closure between these two methods.

Research design: Randomized double blind controlled trial

Methods: 84 acute appendicitis patients who underwent appendectomy by surgical residents and staff were randomized to have skin incision closed by nylon suture or skin stapling. There were 43 patients in nylon group and 41 patients in skin stapling group. The surgeons did not know the type of material to be used until the time of skin closure. The demographic data, surgical site infection, wound approximation and wound edge were compared between both groups.

Results: The demographic data between both groups were not different in terms of BMI, age, time from onset to operation, but wound closure time in skin stapling group was shorter than in nylon suture group (43.4 ± 2.2 seconds vs 93.9 ± 7.0 seconds, p-value ≤0.001). The surgical site infection in nylon suture and skin stapling group were 11.6% and 7.3% (p-value=0.05). The wound epithelialization score in nylon suture and skin stapling group was 8.5 ± 1.9 and 7.7 ± 1.6 (p-value = 0.02).

Conclusions: The surgical site infection of appendectomy wound was not different between skin stapling and nylon suture group. However, the wound epithelialization in skin stapling group was significantly better than nylon suture group.

HEPATOBILIARY-PANCREATIC SYSTEM

THE SAFETY OF EARLY PRECUT SPHINCTEROTOMY: AN ANALYSIS OF CONSECUTIVE 1,525 ERCP EXAMINATIONS BY A SINGLE ENDOSCOPIST

Kannikar Laohavichitra, MD, Attaporn Trakarnsanga, MD, Varut Lohsiriwat, MD, Asada Methasate, MD, Wikrom Karnsakul, MD, Thawatchai Akaraviputh, MD*

Department of Surgery, Siriraj GI Endoscopy Center, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand, *Department of Pediatrics, West Virginia University School of Medicine, WV, USA

Introduction: Performing precutting technique is avoided unless deep biliary cannulation by standard technique is unsuccessful.

Aims: Aims of this study were to evaluate the results of early precut sphincterotomy in therapeutic biliary ERCP performed by a single experienced endoscopist, and to determine minimal required number of ERCP to decrease precutting rate.

Methods: From January 2003 to December 2007, 1,525 consecutive ERCP examinations were performed by TA. Of which, 385 with previous endoscopic sphincterotomy and 185 with diagnostic purpose or pancreatic duct sphincterotomy were excluded. Therefore, 955 therapeutic biliary ERCPs were performed and precutting technique was used early after standard technique had failed (not more than 3 times of pancreatic injection or more than a 10 minute attempt by standard technique). 573 ERCPs (60%) were performed by standard technique (Group A) and 382 (40%) by early precutting technique (Group B). Patients' characteristics, success rate of CBD cannulation and post-ERCP complications were analysed in both groups.

Results: The success rate of CBD cannulation in group B was significantly lower than group A (89% VS 99%, p<0.05). However, overall success rate could increase from

59% to 95% at first attempt cannulation. In group B, precutting was performed using the needle knife technique (64%), septotomy technique (28%), Erlangen technique (0.3%) and a combination of these techniques (7.6%). ERCP-related complication was 2% and overall complication rate was 2.3%, which was not different between the two groups. For each 200 consecutive ERCPs, the precutting rate ranged from 40.5%-51% in the first 600 ERCPs and lowered to 28%-30% after that.

Conclusions: For the experienced endoscopist, early precut sphincterotomy should be safe and effective without an increased risk of complications when compared to the standard technique. Over 600 cases have to be performed in order for ERCP to lower the need of precutting rate.

ANTERIOR APPROACH VERSUS CONVENTIONAL APPROACH RIGHT HEPATECTOMY FOR HEPATOCELLULAR CARCINOMA

Anon Chotirosniramit, MD

Department of Surgery, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

Background/Aim: Contrary to the conventional right hepatectomy, in the anterior approach, mobilization of the liver by dividing the triangular ligament is performed after complete hepatic transection. This method may prevent or reduce the chance of iatrogenic rupture of huge tumors and spillage of cancer cells into systemic circulation particularly in hepatocellular carcinoma that has high rich blood supply and high intratumoral pressure. The aim of this study was to evaluate surgical outcomes between both procedures.

Materials and Methods: From May 2001 to April 2008, 105 patients with hepatocellular carcinoma underwent hepatectomy by the author. Of these, 31 right hepatectomies were performed. Since December 2004, the anterior approach hepatectomy has been performed in stead of the conventional approach. There were 16 cases in anterior approach group and 15 cases in conventional group. Clinical data and long-term survival outcomes of both groups were reviewed and analyzed retrospectively.

Results: There was no significant difference in the age, the tumor size, the operative time, the intraoperative blood loss and post-operative hospital stay between both groups. Significantly less patients in the anterior approach group required blood transfusion (12.5% vs 50%, P = 0.04). Significantly less unit of blood transfusion was required in the anterior approach group. (0.2 vs 1.2 units, P = 0.04). Only two patients (13%) in each group had post-operative complications without hospital mortality. The median overall survival of the anterior approach group was 18 months, which was better than that of 11 months in the conventional approach group but not statistically significant (P = 0.33).

Conclusions: The anterior approach hepatectomy is a safe procedure and has theoretical oncological advantage over the conventional hepatectomy. Although the difference of the overall median survival was not statistically significant in this series, the safety of this technique should be considered. Increased number of patients and further prospective randomized study are required to determine the efficacy of this procedure.

LAPAROSCOPIC CHOLEDOCHOJEJUNOSTOMY COMBINDED WITH GASTROJEJUNOSTOMY FOR PALLIATIVE TREATMENT OF PERIAMPULLARY TUMOR: A CASE REPORT

Poschong Suesat, MD

Bhumibol Adulyadej Hospital, Directorate of Medical Service, Royal Thai Air Force, Bangkok, Thailand

Background: Pancreaticoduodenectomy remains the curative surgical treatment for biliary obstruction by periampullary tumors. Nevertheless, locally advanced or metastatic lesions are unresectable at the time of initial diagnosis. Palliation is often required to relieve the obstructive jaundice and gastric outflow obstruction especially in patients with prohibitive risk for resectional therapy. The endoscopic biliary stent is definitely not as durable as the surgical bypass. Recurrent obstruction and cholangitis are more common and result in inferior palliation. Although symptomatic gastroduodenal obstruction is uncommon, up to one third of these patients develop obstructive symptoms prior to death. Prophylactic gastrojejunostomy does not add to the morbidity or mortality for palliative surgery. Previous studies have demonstrated the feasibility of laparoscopic choledochojejunostomy combined with gastrojejunostomy in a porcine model, as well as the individual accomplishment of laparoscopic gastrojejunostomy combined with endoscopic biliary or percutaneous transhepatic stenting. This study reports laparoscopic approaches as a palliative treatment of the malignant obstructive jaundice with gastric outflow obstruction.

Objectives: To report laparoscopic double bypass for palliative treatment in a patient with periampullary carcinoma.

Methods: The diagnosis of duodenal cancer at the periampular region was made in a 79-year-old female with a few month history of abdominal distress, anorexia, nausea and vomiting associated with jaundice. The endoscopic

biliary stenting could not be provided due to ampullary obliteration. Laparoscopic Rou-En-Y choledochojejunostomy combined with gastrojejunostomy were successfully performed. The combination of stapling with running suture closure of the residual defects was performed with totally laparoscopic approaches.

Results: The operating time was 410 minutes. The hospital stay was 9 days. There were no intraoperative complications. The patient recovered completely from the operations. Neither biliary nor anastomotic leakage was found in the postoperative period. Some degree of delayed gastric emptying symptoms occurred on the resumption of diet but disappeared within 3 weeks. The patient was free of symptoms during the early follow-up interval.

Conclusions: Laparoscopic choledochojejunostomy combined with gastrojejunostomy accomplishing biliary drainage and intact intestinal flow can be performed to improve the quality of life similar to open surgery.

PANCREATIC DUCT CALCULI SECONDARY TO GENETIC PANCREATITIS SUCCESSFULLY TREATED BY ENDOSCOPIC STENTING

Surasak Sangkhathat, MD,[1,2] Sakda Patrapinyokul, MD,[1] Piyawan Chiengkriwate, MD,[1] Seksit Osatakul, MD,[3] Bancha Ovartlarnporn, MD,[4] Thaworn Dendumrongsup, MD[5]

[1]Pediatric Surgery Unit, [2]Tumor Biology Research Group, [3]Department of Pediatrics, [4]NKC Institute of Gastroenterology and Hepatology, [5]Department of Radiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand

Introduction: Pancreatitis in childhood is less common than adult and mostly occurred without any apparent causes. A number of genetic lesions have recently been identified to be responsible for the development of such idiopathic pancreatitis and made some of them no longer idiopathic. Mutations in cationic trypsinogen gene are early examples of genetic pancreatitis. More recently, mutation in Kazal type 1 serine protease inhibitor (SPINK1) gene has been speculated as disease modifier of chronic pancreatitis. We demonstrated a case of chronic pancreatitis complicated by pancreatic duct stones in a child with germline mutation of SPINK1.

Case report: A fourteen-year-old male patient presented with severe epigastric pain of 2-month period. Serum chemistry showed high amylase (140 U/L), high alkaline phosphatase (279 U/L), normal bilirubin level and normal lipid profiles. Ultrasound revealed pancreatic duct dilatation with multiple stones. Magnetic resonance imaging (MRI) showed two filling defects in the pancreatic duct at the pancreatic body and the pancreatic head, near the ampulla of Vater. The pancreatic duct dilatation was noted, about 1.2-1.5 cm wide, especially in the pancreatic body.

An endoscopic retrograde cholangiopancreatogram (ERCP) was performed, followed by a sphincterotomy and a pancreatic duct stent placement. After the treatment, pain dramatically improved within a few weeks, allowing the patient to resume his school attending. MRI repeated 4 months later showed marked decrease in the pancreatic duct dilatation. Although there remained a small 4-mm residual stone at the junction of body and tail of pancreas, large pancreatic duct calculi were no longer seen.

On molecular genetic analysis, the patient was found to have a germline mutation of SPINK1 gene at the codon 34 (AAT>AGT), supposed to cause an amino acid change from Asparagine to Threonine. Both of his parents were wild-type.

Conclusions: A sporadic case of chronic pancreatitis associated with de novo mutation of SPINK1 was reported. The data suggested that looking into the molecular level may find a cause of chronic abdominal pain in childhood and endoscopic therapy could be the therapeutic of choice.

ENDOSCOPIC ULTRASOUND-GUIDED BILIARY-GASTROENTERIC BYPASS FOR ADVANCED MALIGNANT BILIARY OBSTRUCTION: A CONSIDERABLE PALLIATIVE OPTION?

Sukij Panpimanmas, MD, Thawee Ratanachu-ek, MD

Department of Surgery, Rajavithi Hospital, Bangkok, Thailand

Objectives: There are many palliative treatments for patients with advanced malignant biliary obstructions, e.g. ERCP with stents, PTBD or surgical bypass. We propose an optional technique using endoscopic ultrasound-guided (EUS) and fluoroscopy to perform biliary-gastroenteric bypass for drainage and evaluate the outcome and survival.

Patients and Methods: Between January 2006 and January 2008, we reviewed 8 patients (3 male, 5 female, average age 57 years) with severe jaundice from advanced malignant biliary obstructions. Five patients had Bismuth type 4 hilar cholangiocarcinoma, 2 had pancreatic head carcinoma and one had distal CBD cholangiocarcinoma and all patients failed to be drained by ERCP. An electronic convex curved linear-array echo-endoscope with fluoroscope was used to guide in performing hepaticogastrostomy in 7 patients and choledochoduodenostomy in one patient. All were interposed by covered metallic stents and were performed under general anesthesia. All patients were followed until the end of their lives.

Results: Effective drainage were obtained in 6

patients, total bilirubin was reduced to 9-40 mg/dl after two weeks of follow-up with good quality of life. Two patients had no effective drainage; one was the first case and was due to the malposition of stent, another patient was due to the inward migration and failure to place second stent. There were 3 patients with stent migration into the liver, one needed second session with a wallstent, another needed third session with double pigtail stent inside the third wallstent. Survival period was from 32 days to 194 days, average 123 days or around 4 months. The causes of death were mostly from liver failure and sepsis.

Conclusions: EUS-guided biliary-gastroenteric bypass is safe, but with questionable cost-benefit when compared with PTBD. It can be a good palliative option because of its internal drainage and it is far from the tumor site which promotes good patency of prosthesis.

COMPARISON OF STAGING SYSTEMS OF HEPATOCELLULAR CARCINOMA

Chutwichai Tovikkai, MD, Yongyut Sirivatanauksorn, MD, PhD
Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

Purpose: Many staging systems of hepatocellular carcinoma (HCC) have been established around the world, however there is no consensus on which is proper in predicting prognosis and selecting patients into different treatment planning. This study aimed to evaluate and compare various commonly used staging systems of HCC in Thai patients.

Methods: Patients who were admitted to surgical unit for surgery during 2001-2007 were included. Medical records were reviewed retrospectively. Patients underwent orthotopic liver transplantation or with incomplete data were excluded. All patient data were retrospectively staged using the six staging systems i.e. American Joint Committee on Cancer (AJCC)/Tumor-Node-Metastasis (TNM), Okuda staging, Cancer of the Liver Italian Program (CLIP), Barcelona Clinic Liver Cancer (BCLC), Chinese University Prognostic Index (CUPI), Japan Integrated Staging (JIS). Child-Pugh classification for cirrhosis was also evaluated. The staging systems were compared by mean of overall survival and disease-free survival. Univariate survival analyses of each staging systems were calculated using the Kaplan-Meier method and compared by mean of the log rank test. A stratified Cox proportional hazard regression model was used for multivariate analyses.

Results: A total of 181 patient data was reviewed. There were incomplete data for evaluation in 82 patients. Therefore, only 99 patients were enrolled in the analyses. All of the staging systems except Okuda staging system were significant in determining overall survival in the univariate analyses. In multivariate analyses, TNM staging system and Child-Pugh classification demonstrated better predictive power for overall survival comparing with CLIP, BCLC, CUPI, and JIS systems. In term of disease-free survival, univariate analyses revealed that TNM, CLIP, BCLC, CUPI, JIS staging were significant. In mutilvariate analyses, TNM was the best predictive staging system.

Conclusions: In our study, though there are many new staging systems, TNM and Child-Pugh score are still the best systems in predicting survival of patients with HCC. Moreover, they are practical, easily assessable, and simple in clinical practice.

TWO-INCISION LAPAROSCOPIC CHOLECYSTECTOMY: SIMPLE TECHNIQUE AND SIMPLE INSTRUMENTS WITH IMPRESSIVE RESULTS

Patpong Navicharern, MD, Warin Wesarachawit, MD, Chadin Taravej, MD, Suthep Udomsawaengsup, MD, Suppa-ut Pungpapong, MD, Sopark Manasanayakorn, MD
Chula Minimally Invasive Surgery Center (CMISC), Department of Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Background: Modifications by using less ports and/or incisions have been introduced to improve the outcome of laparoscopic cholecystectomy. Most of them require additional traction sutures or special tools which make the procedure more complicated. Our team presented the two-incision method with just simple instruments.

Methods: From July 2007 to April 2008, 10 patients have been enrolled for two-incision laparoscopic cholecystectomy by our technique (one 10 mm. incision above umbilicus and one 5 mm. incision at the epigastrium). They were all female. The average age was 55.5 years old (range 41-71 years) with mean BMI of 24.4 (range 17.8-28.9). 70% presented with symptomatic gall stones.

Results: The mean operative time was 34 minutes (range 15-50 minutes). There was no conversion to open surgery and no additional ports required. The mean post-operative pain score at 24 and 48 hours were 3.6 and 0.6, respectively. The mean dosage of narcotic requirement was 0.2 (range 0-1). The mean post operative hospital stay was 2.2 days (range 1-4 days). There were no complications. All patients were satisfied with the post operative results.

Conclusions: Our two-incision technique of laparoscopic cholecystectomy is simple and can be duplicated anywhere. The two wounds in the midline give better cosmetic results and avoid abdominal muscle injuries.

TWO-INCISION NEEDLESCOPIC CHOLECYSTECTOMY: THE TECHNIQUE FOR BEST COSMETIC RESULTS

Patpong Navicharern, MD, Warin Wesarachawit, MD, Chadin Taravej, MD, Suthep Udomsawaengsup, MD, Suppa-ut Pungpapong, MD, Sopark Manasanayakorn, MD
Chula Minimally Invasive Surgery Center (CMISC), Department of Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Background: Needlescopic cholecystectomy was one variation of laparoscopic cholecystectomy aiming for better cosmetic results and less post operative pain. The techniques previously reported were usually performed by one 10 mm. incision and 2 or 3 more incisions for miniports.

Methods: We reported 5 patients, 1 male and 4 female with mean age of 53 years old (range 49-56 years), selected for two-incision needlescopic cholecystectomy. All of them presented with chronic calculous cholecystitis. The incisions included one 10 mm. incision above the umbilicus and one 3 mm. puncture wound at the epigastrium for the miniport. No traction suture was required.

Results: The mean operative time was 39 minutes (range 25-60 minutes). There was no conversion to open surgery and no additional ports were required. The median post-operative pain score at 24 and 48 hours were 0 and 0, respectively. The mean dosage of narcotic requirement was 0.4 (range 0-2). The mean post operative hospital stay was 2.4 days (range 1-4 days). There were no complications. All patients were satisfied with the post operative results.

Conclusions: Our two-incision technique of needlescopic cholecystectomy is feasible. It could be performed in selected cases aiming for perfect cosmetic result.

THE ANTERIOR APPROACH EXTENDED RIGHT HEPATECTOMY WITH PORTAL VEIN TUMOR THROMBECTOMY FOR HEPATOCELLULAR CARCINOMA

Anon Chotirosniramit, MD
Department of Surgery, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

Background/Aim: The anterior approach or non-mobilized hepatectomy may reduce the chance of spillage of cancer cells into systemic circulation particularly in the hypervascular and high intratumoral pressure hepatocellular carcinoma (HCC). The aim of this study was to demonstrate the procedure by DVD presentation.

Materials and Methods: From May 2001 to April 2008, 105 patients with HCC underwent hepatectomy by the author. Of these, 16 anterior approach right hepatectomy were performed. In the case demonstration, a 44 year-old man presented with right upper abdominal pain for 3 weeks. CT scan revealed an 11-cm HCC with tumor thrombus in the right and bifurcation of portal vein. Anterior approach extended right hepatectomy with portal vein tumor thrombectomy was performed. The important steps of the procedure included cholecystectomy, hilar dissection and dividing the right hepatic artery, dissection of the caudate lobe from the IVC as far as possible, hepatic parenchymal transection, dividing the right hepatic duct, portal vein tumor thrombectomy, patching PTFE graft to the portal vein defect, transection the caudate lobe to expose the antero-lateral wall of the IVC, dividing the right hepatic vein, complete separation of the right lobe from the IVC, completely dividing the right triangular and removal of the specimen.

Results: The procedure was performed successfully with intraoperative blood loss of 1000 ml and operative time of 8 hours. Neither Pringle maneuver nor blood transfusion was required. The patient was discharged in post-operative day 8 without any complications.

Conclusion: Anterior approach hepatectomy might avoid tumor spread through hematogenous dissemination during excessive manipulation of the large tumor. Recently this adopted technique has been preferred than the conventional approach hepatectomy for hepatocellular carcinoma.

EFFECT OF TEMPORARY CLIPPING OF COMMON BILE DUCT IN ANIMAL MODEL

Chalurmpon Boonmee, MD
Department of Surgery, Rajavithi Hospital, Bangkok, Thailand

Background: Laparoscopic cholecystectomy is one of common procedures in general surgery. Although the benefits of laparoscopic approach for gallbladder removal over the open approach are well documented, the procedure is associated with increased biliary tree injuries. One of the situations that laparoscopic surgeons often find is the iatrogenic bile duct clipping identified intra-operatively. The purpose of this study was to study the effect of temporary clipping of the common bile duct unintentionally and the removal after proper identification of the structure. The results may hopefully be applied in human.

Study design: Experimental study

Methods: Five healthy dogs were selected to this study. Exploratory laparotomy was performed, then intra-operative cholangiography was obtained. CBD was identified and clipped by metallic clip for one hour. The

clip was then removed and the abdomen was closed. Three months later they were re-explored, intra-operative cholangiography was obtained and CBD was then excised for pathologic examination.

Results: All dogs had no CBD obstruction in the first intra-operative cholangiogram. When metallic clip was removed, none of the dogs was observed to have bile leakage. Cholangiogram obtained 3 months later showed no CBD stricture in all dogs. Pathologic report revealed only minimal fibrotic reaction in the periductal area with normal bile duct wall.

Conclusions: Metallic clipping of the CBD as we see intraoperatively has minor effect. When iatrogenic CBD injury by metallic clipping occurs intraoperatively, we can simply remove it without adjunctive management.

SPLEEN

HAND-ASSISTED LAPAROSCOPIC SPLENECTOMY FOR IDIOPATHIC THROMBOCYTOPENIC PURPURA: A CASE REPORT

Tanes Puapornpong, MD, MBA,[1]
Noppawat Samankatiwat, MD, MSc[2]
[1]Department of Surgery, Vibhavadi Hospital, Bangkok, [2]Department of Surgery, Ratchaburi Hospital, Ratchaburi, Thailand

Background: Idiopathic thrombocytopenic purpura (ITP) is the condition with a low platelet count of unknown cause and appears to be related to antibodies against platelets. Medical treatment is the initial treatment and is successful for most patients. However, in patients who fail medical treatment, splenectomy is indicated. In such cases, laparoscopic splenectomy is the preferred procedure in most centers. Nevertheless, hand-assisted laparoscopic splenectomy has been an alternative technique with increased interest due to the regaining of surgeon's tactile sensation that can facilitate the operative procedure.

Case Report: A 46-year-old woman presented with bleeding per gum and multiple petechiae in May 2007. Her platelet count was 2000/cu.mm. She presented with the same problem 8 and 3 years ago at Tak Hospital but lost follow-up. She was diagnosed with chronic ITP. Initially, she was treated with intravenous steroid and subsequently oral steroid. Platelet count before discharge was 32,000/cu.mm. Three months later, she presented with the same problem again. Despite continuing oral steroid with the side effect from prolonged use of steroid, her platelet count was 3,000/cu.mm. Splenectomy was indicated and was performed by hand-assisted laparoscopic technique.

The operation was undertaken under general anesthesia in April 2008. Four incisions were used. Lap disc was inserted via a 4 cm incision in the upper midline. Additional 3 small incisions for 10 mm ports located at the epigastric area, left subcostal region and lower midline. Operation time was 2 hours 15 minutes. Estimated blood loss was less than 30 ml. There was no intraoperative complication.

In the postoperative period, the patient started sipping water within 24 hours and resumed oral diet within 48 hours after the operation. No opioid analgesics were used for pain control. Length of hospital stay was 8 days. Platelet count increased to 120,000/cu.mm on the 2nd postoperative day and to 276,000/cu.mm at 1 month follow-up while oral steroid dosage was gradually reduced.

Conclusion: Hand-assisted laparoscopic splenectomy is an effective and safe method for splenic removal in ITP.

ABDOMINAL WALL & HERNIA

UNCOMMON PRESENTATION OF INTERNAL HERNIAS LEADING TO BOWEL GANGRENE

M Ashrafi, FRCSEd, DSS, MBBS, MZZ Tun, MBBS,
D Brockwell, FRACS, S Baig, MBBS, MS, M Ahmed, FANZCA
Mersey Community Hospital, Latrobe, Tasmania 7307, Australia

Purpose of study: Internal hernia through a broad ligament defect is a rare condition to cause small bowel gangrene. Review of reported cases of similar description in the common medical databases encouraged us to report this case.

Methods: Last 3 years record of Mersey Community hospital shows we had 16 cases of acute gangrenous intestine being treated in our hospital which covers a catchment area of 100,000 people. Postoperative adhesions, bands or volvulous was the cause in 15. One of them was different.

Case report: A 59 year old lady came with history of mild to moderate degree of abdominal pain, 8 hours after the attack. On examination her findings all had been normal except tenderness in lower abdomen. Ultrasound showed normal findings. She had a past history of uteropexy through abdominal approach for prolapse of the uterus. Her Lactate & CRP was high. At laparotomy, 40 cm of ileum found gangrenous because of herniation through a defect in right broad ligament with a tight ring of 3 cm radius.

Summary of results: Surgical iatrogenic or congenital defect in broad ligament are the biggest etiology of these types of hernias. Most of the available NCBI searched literature reported the condition as ùvery rareû. In 1995, 61 cases have been reported so far having nearly similar history.

Conclusions: Without laparotomy/laparoscopy, it is difficult to ascertain the cause of intestinal gangrene. Broad ligament hernia being very rare carries more diagnostic dilemma than other form of bowel ischaemia. All efforts to reduce the chances of post operative adhesions are mandatory.

COMPONENT SEPARATION TECHNIQUES FOR IMMEDIATE ABDOMINAL WALL CLOSURE IN OPEN ABDOMEN: A COMPARISON STUDY IN HUMAN SOFT CADAVERS

Ajjana Techagumpuch, MD, Rattaplee Pak-art, MD, FACS
Department of Surgery, Chulalongkorn University, Bangkok, Thailand

Background: The component separation technique and open-book technique are methods for abdominal wall reconstruction in patients with large midline defect. The techniques are far superior to any previous options. However, the open-book technique or rectus turnover flap, a variation of component separation, may allow larger defect to be closed. In this study, we demonstrate the distance of musculofacial advancement of both procedures in same cadavers which, to date, has never been demonstrated before.

Objective: The objective of this study was to compare muscle flaps of components separation techniques between Ramirez technique and open-book technique of anterior rectus sheath created for abdominal wall closure.

Methods: Eight human soft cadavers were enrolled in this study. In each cadaver, components separation using Ramirez technique was performed on one side and open-book technique of anterior rectus sheath on the other. Relaxing incision was made in each flap on external oblique aponeurosis beyond the lateral border of rectus muscle. All flaps were carefully dissected by one surgeon. After the dissection, the distance of the flap that projected beyond midline was measured. The length of both types of flaps was assessed by paired student's t-test.

Results: The distance of the part that projected beyond midline for Ramirez technique was 6.86 ± 2.20 cm. (mean ± SD) and open-book technique was 8.84 ± 1.93 cm. The open-book technique provides longer abdominal wall flap than Ramirez technique with statistically significance (p value = 0.011) for each side.

Conclusions: The abdominal wall "components separation" flap using open-book technique of anterior rectus sheath is significantly longer than Ramirez technique which could be applied for large abdominal wall defect in the management of open abdomen.

LAPAROSCOPIC REPAIR OF LARGE TYPE 3 DIAPHRAGMATIC HERNIA

Chadin Tharavej, MD
Department of Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Video presentation: An 80-year-old female presented with acute upper abdominal pain with vomiting. Her chest x-ray and barium swallow were consistent with large paraesophageal hernia (Type 3 diaphragmatic hernia). Esophagogastroscopy also confirmed her large paraesophageal hiatal hernia with intrathoracic stomach. She underwent successful laparoscopic paraesophageal hernia repair. Her large hiatal defect was repaired using dual mesh. Intraoperative esophagoscopy was done to recheck the internal side of hiatal area. She could have liquid diet on the first postoperative day and was discharged on postoperative day 4. To date, approximately 2 years after operation, she is doing fine without abdominal discomfort and without evidence of recurrence.

LAPAROSCOPIC TOTALLY EXTRAPERITONEAL INGUINAL HERNIA REPAIR

Montian Marutkarakul, MD,
Noppawat Samankatiwat, MD, MSc
Department of Surgery, Ratchaburi Hospital, Ratchaburi, Thailand

Inguinal hernia is the second most commonly treated general surgical condition. Laparoscopic hernia repair is a challenging trend in hernia surgery. Various techniques namely transabdominal preperitoneal repair (TAPP), intraperitoneal onlay mesh repair (IPOM) and totally extraperitoneal repair (TEP) have been described. Nowadays, although TEP is the most widely used and

preferred method, there are limited number of surgeons in Thailand with expertise in performing this technique.

This video presentation demonstrates TEP technique for hernia repair used at the Department of Surgery, Ratchaburi Hospital. Surgeons who are not familiar with this technique can easily understand the concept of laparoscopic hernia repair and practice to accomplish TEP technique.