

Abstracts of the 36th Annual Scientific Meeting of the Royal College of Surgeons of Thailand, 14-16 July 2011, Ambassador City Jomtien Hotel, Jomtien, Pattaya, Chonburi, Thailand (Part 1)

BREAST SURGERY

TUMOR CHARACTERISTICS AND ADJUVANT TREATMENTS OF PRIMARY BREAST CANCERS WHICH DEVELOPED RECURRENCE: A REVIEW OF 66 PATIENTS ADMITTED AT VICENTE SOTTO MEMORIAL MEDICAL CENTER FROM JANUARY 2000 TO DECEMBER 2007

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Background: Breast cancer is the most common cause of cancer-related death among women around the world. Each year, breast cancer is newly diagnosed in more than 1.1 million women, and these cases represent more than 10% of all new cancer cases. Breast cancer accounts for more than 1.6% of all female deaths worldwide. Despite advances in the treatment of breast cancer, up to 7 percent of patients will have recurrence. Early recognition and diagnosis of breast cancers may lead to early treatment. However, because of diverse biologic nature of breast cancer, predicting the patterns of recurrence remains a clinical problem.

Objective: The objective of this study is to determine the factors of breast cancer recurrence in terms of tumor characteristics and adjuvant treatment of patients with primary breast cancer.

Methods: Study population included all breast cancer patients registered at VSMC Breast Center from January 2000 to December 2007. The following tumor characteristics: stage, involvement whether unilateral or bilateral, histologic type, nuclear grade, residual status of margin of resection, and number of lymph nodes were recorded. In addition, type of adjuvant treatment, adjuvant status (non-compliant, partial, complete), disease-free interval and site

of recurrence were also noted. These factors were correlated with the occurrence of the recurrence of breast cancer. Data were entered with Microsoft Excel Spreadsheet and analyzed with SPSS version 16.0.

Results: Only 370 (91.6%) patient records were available for review. Breast cancer recurrence was relatively more common among patients with positive lymph nodes than among patients without positive lymph nodes. The difference was statistically significant ($p = 0.007$). There was a significant difference between the group of patients with breast cancer recurrence and those without breast cancer recurrence based on type of adjuvant therapy. Fewer patients developed recurrence among those who underwent hormonal therapy than patients who underwent either chemotherapy or radiotherapy ($p = 0.013$).

Conclusion: In this study, breast cancer patients having positive lymph nodes is significantly related to breast cancer recurrence compared to those with negative lymph nodes. Those patients which had adjuvant hormonal therapy have significant less cancer recurrence compared to other adjuvant treatment.

EARLY DISCHARGE AFTER MASTECTOMY: A SAFE ALTERNATIVE TO THE STANDARD DURATION OF POSTOPERATIVE HOSPITAL CONFINEMENT

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Background: After mastectomy for breast cancer, there are three things that need to be monitored: adequate pain relief, sign of surgical site infection and rubber bulb

drainage. While postoperative pain may be readily controlled, the standard hospital stay after mastectomy is about a week until the rubber bulb drains with catheters positioned under the skin flaps are removed. This practice obliges the patient to remain within the unfamiliar hospital environment and this further translates into more financial burden related to hospital stay. If the patient can only be safely sent home earlier, she will not only recuperate faster within a home environment, but also incur less expense.

Objectives: To determine if early discharge after mastectomy is a safe alternative to the standard duration of postoperative hospital confinement.

Methods: This is a review of breast cancer patients who were discharged early (within 3 days after mastectomy) consulting at the breast specialty clinic at Cebu Velez General Hospital and the breast center at the Vicente Sotto Memorial Medical Center from May 2007-May 2010. The following variables were recorded: date of surgery, date of discharge, presence of surgical site morbidities such as infection, dehiscence, necrosis and significant pain, date of 1st drain removal, date of 2nd drain removal, presence of seroma, application of elastic bandage.

Results: Of the 60 patients: 43 (71.7%) were from CVGH Breast Specialty Clinic and 17 (28.3%) from VSMC Breast Center. There were 9 patients (15%) who developed surgical site morbidities, namely: infection-3 (5.0%), minimal partial wound dehiscence-4 (6.7%), superficial skin necrosis-2 (3.3%). No patient complained of significant pain on follow-up. The first drain was removed within a mean of 6 days. The second drain was removed a mean of 7 days. Fifteen patients (25%) developed seroma. The overall morbidity rate was 15%. There was no readmission due to morbidities.

Conclusion: Early discharge after mastectomy is a safe alternative to the standard duration of postoperative hospital confinement.

IMPLEMENTING AN URBAN MODEL OF A COMMUNITY-BASED BREAST CANCER CONTROL PROGRAM

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Background: The Philippines has the highest incidence rate of breast cancer in Asia, and the 9th highest incidence rate in the world. Breast cancer in the Philippines has a very high 40% mortality rate. Advanced breast cancer which include stage IIIB and stage IV constitute 21% of

clinically diagnosed breast cancer in the Philippines. Implementing a Community-based breast cancer control program (CBBCCP) - Urban model in a government center like the Vicente Sotto Memorial Medical center (VSMC) here in CEBU would be of great help in detecting early breast cancer in our community and hopefully would improve survival rate among these patients.

Objectives: The specific objectives of Community-based Breast Cancer Control Program (CBCCP) are to: 1) To describe the activities related to its implementation; 2) increase the number of breast consultations; 3) increase the proportion of early stages of breast cancer (diagnosed and treated); and 4) increase the survival of breast cancer patients.

Methods: This is a retrospective descriptive study of all patients who participated in the implementation of an urban model of CBBCCP at Vicente Sotto Memorial Medical Center (VSMC) from April 1, 2001 to March 31, 2010. All clinical and educational activities related to the program were documented. Patients' data to include statistics on consultations, cancer stages and follow-ups were extracted from the breast center database, reviewed and analyzed.

Results: Over a span of 10 years, myriads of clinical as well as educational activities (public & professional) were documented. Regarding patient data, 828 patients (baseline number of consultation per year) were seen in the year 2002. Increased percentages of consults were documented ranging from 12%-31% per year with a mean of 18.6%. A total of 467 patients were diagnosed to have breast cancer from 2001 to 2010. Sixty seven percent were in the early stages while 33% were in the advanced stages which were reversed to the data of EJACC breast cancer incidence & mortality report 1998-2000 wherein early stages comprised only 146 (40%) out of 362 patients and 60% were in advanced stages. A baseline survival rate among 45 breast cancer patients (January 2006 to March 2008) was established at 73% (33/45).

Conclusion: Community-based breast cancer control program can increase the number of breast consultations, attain reversal of early to advanced stage proportion and establish survival rate.

ONE-SITE, ONE-STOP OUTPATIENT BREAST SERVICE IN A GOVERNMENT HOSPITAL

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Background: Over the years, the demand for prompt

and reliable treatment for breast cancer rapidly grew. It is viewed that a one-stop clinic allows optimum patient management, minimizes anxiety associated with symptomatic breast disease, and maximizes utilization of hospital outpatient resources. The ideal setting is that within one day, the patient will meet her surgeon, radiologist, pathologist, radiation oncologist, nurse, and social worker. Having a breast center that is composed of a multi-disciplinary team is the best solution. However, before this scenario happens, the patient needs to be evaluated or assessed. In a government hospital like Vicente Sotto Memorial Medical Center (VSMMC), a one-site, one-stop outpatient breast service at the Breast Center was implemented to facilitate a clinical breast examination, an ultrasound, and a biopsy (triple assessment) all in one visit.

Objective: To determine the feasibility of one-site, one-stop outpatient breast service in a government medical center

Method: A review of all patients consulting at the Breast Center of Vicente Sotto Memorial Medical Center (VSMMC) from June 2006 to November 2010 was done to assess the feasibility of this kind of service. For a benign condition, one-site, one-stop service will be any combination of the following: consultation, breast ultrasound, aspiration or excision. For a clinically malignant diagnosis, any combination of the following: consultation, breast ultrasound, biopsy (Fine Needle Aspiration Biopsy-FNAB, Core Needle Biopsy-CNB, Punch Biopsy and Open Biopsy).

Results: There were a total of 8963 consultations of which 4339 (48.4%) comprised the new consults at the Breast Center. On-site breast ultrasound was performed in 1198 (27.6%) of the new consults. A total of 3618 (83.4%) of these patients were diagnosed with clinically benign breast masses while 721 (16.6%) were clinically malignant. Among the new consults, 1106 (25.5%) availed of the one-site, one-stop outpatient breast services. Six hundred twenty seven (comprising 17.3%) of those diagnosed to have a clinically benign breast condition) benefited from

the one-site, one-stop service. Among the patients diagnosed to have clinically malignant breast masses, 479 (66.4%) patients availed of the one-site, one-stop service. Though just recently made available, of the 152 patients who underwent FNAB, 2% had their results within the same visit.

Conclusion: A one-site, one-stop outpatient breast service is feasible even in a government hospital.

ULTRASOUND GUIDED HARMONIC SCALPEL ASSISTED REMOVAL OF BENIGN BREAST TUMOURS. A SIRIRAJ EXPERIENCE

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Background: This study aimed to report results of ultrasound guided Harmonic Scalpel assisted removal of benign breast tumors in our department.

Methods: Through a small circum-areolar incision, surgical removal of 31 lesions in 22 patients was performed using the Harmonic scalpel under ultrasound guidance. The breast lesions were categorized as categories 4a on sonogram under Breast Imaging Reporting and Data System and confirmed as benign lesion by prior needle biopsies.

Results: All 31 lesions of benign breast tumors range from non palpable nodule to giant fibroadenoma (range 6.9-40 mm) were successfully excised. All 31 lesions were confirmed as benign by pathological examination. None of the patient has problem of bleeding or hematoma.

Conclusion: Ultrasound guided Harmonic Scalpel Assisted Removal of benign breast lesions could be an alternative method for non palpable lesion, multiple masses and giant fibroadenoma.

COLORECTAL AND ANAL SURGERY

COST REDUCTION IN COLONOSCOPY BY USING OLIVE OIL AS A LUBRICANT

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Colonoscopy is a standard tool for colorectal cancer screening. This procedure needs the skill and experience

to achieve the good quality of procedure. With these limitation and price of the equipment made the cost of the procedure higher than other screening tools. Lubricant is one of the essential accessory which cost more than a hundred bath in each procedure. Most of the lubricant that we use is gel based agent and we observed the substitution by oil in some international institute. This should be great if we can reduced the cost of lubricant by

using the oil which is cheaper but do not be different in the efficiency. We start using olive oil in our institute since June 2009. The olive oil provided the better lubrication than standard lubricant. We calculated the cost of lubricant compare between standard lubricant and olive oil in each procedure. The cost of lubricant was reduced by using olive oil. Cost of colonoscopy can reduced by using olive oil as a lubricant. The efficiency of lubricant was not compromised when compared with the standard lubricant in the market.

NORMATIVE ANORECTAL MANOMETRIC PARAMETERS USING CUSTOMIZED WATERPERFUSION CATHETER

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Background: Anorectal manometry is a useful test for assessment of anorectal disorders. Although the solid state probe with microtransducer is the most accurate system, it is expensive and fragile. Water-perfusion catheter system is a more durable and cheaper alternative. Drawbacks are leakage of perfusate and pull-through technique may introduce artificial contraction and limit the position of the test. Further, 2 persons are needed to perform the procedure. We introduced a customized catheter designed for stationary measurement.

Objective: To assess the feasibility of a customized catheter in an examination of anorectal function in healthy subjects.

Materials and Methods: Eight-channel PVC catheter was designed according to a standard solid-state catheter¹. Small diameters (3.9 mm) and non-latex balloon (maximum volume of 400 ml) were used to minimize discomfort. Healthy subject were placed in left lateral position. The catheter was inserted trans-anally until the lowest channel was situated at 5 mm above anal verge. It was fixed in place throughout the procedure. Anal sphincter pressures, rectal sensation and reflexes were assessed using previously described techniques¹.

Results: Forty-six subjects (M:F 15:31, mean age 46.5 ± 3.7 years) without bowel symptoms, neurological disease or previous history of abdominal/pelvic surgery or spinal cord injury were enrolled. Manometric data were presented in mean \pm 95% confidence interval (table). All subjects tolerated the procedure well without complication. Only one personnel was needed to perform the procedure.

	Male	Female	Total
HPZ rest (cm)	2.4 \pm 0.4	2.2 \pm 0.2	2.3 \pm 0.2
HPZ squeeze (cm)	2.9 \pm 0.4	2.8 \pm 0.3	2.9 \pm 0.3
Mean resting sphincter pressure (mmHg)	65.3 \pm 15.2	58.5 \pm 8.3	64.3 \pm 8.3
Mean maximal squeeze pressure (mmHg)	205.8 \pm 43.2	169.1 \pm 19.1	203.5 \pm 23.1
Mean sustained squeeze pressure (mmHg)	126.9 \pm 25.3	102.8 \pm 10.3	121.3 \pm 14.0
Mean duration of squeeze (seconds)	31.8 \pm 3.6	29.4 \pm 3.1	31.1 \pm 2.3
Mean first sensation (ml)	15.0 \pm 4.3	13.9 \pm 3.1	15.1 \pm 2.7
Mean desire to defecate (ml)	35.8 \pm 9.57	36.5 \pm 6.0	38.7 \pm 5.7
Mean urge to defecate (mo)	61.7 \pm 13.8	60.0 \pm 8.0	63.8 \pm 8.0
Mean maximal toleration (ml)	120.0 \pm 34.1	103.2 \pm 16.4	119.1 \pm 19.7

Conclusion: With the customized catheter, anorectal function was able to be assessed by one personnel. This normative data will be used as a standard in our laboratory.

Reference

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SIMPLIFIED SALINE CONTINENCE TEST FOR EVALUATION OF ANORECTAL CAPACITY: TECHNIQUE AND NORMATIVE DATA

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Background: Saline continence test (SCT) is a comprehensive test of rectal and anal sphincter function in retention of liquid stool. By using automatic peristaltic pump, constant rate of infusion is achieved. However, the pump is expensive and sophisticated. We described a simple technique.

Materials and Methods: Simplified SCT set is comprised of an 8-Fr feeding tube, an infusion set (20 drops/ml) connected to a bottle containing 750 ml of 0.9% NaCl and a stopwatch. Healthy subjects were enrolled. With the feeding tube inserted 10 cm up into the subject's rectum and sitting on the commode, the infusion set was connected and saline infusion at an estimated rate of 60 ml/min (750 ml in 12 minutes) was started. The subject was asked to retain fluid as long as possible. Fluid leakage was collected in a graduated jar. Volume of saline infused at the onset of first leak, total volume retained (V retained) and percentage of saline retained (V retained/V infused x 100) were recorded. Student's t-test was used to compare gender differences. Correlation coefficients[®] between total volume retained versus age, body weight, height and body surface area were analyzed.

Results All subjects cooperated well without complication. Thirteen subjects (28.3%) had leakage.

Data is shown in table (mean \pm 95% confidence interval). Total retained volumes was not different between genders ($p = 0.55$). Moderate but significant ($p < 0.05$) correlations was found between total volume retained and age (0.41), body weight (0.36) and body surface area (0.34). However, the correlation with height was small (0.23).

	Male (n = 15)	Female (n = 31)	Total (n = 46)	Correlation coefficient (r)
Age (years)	45.1 \pm 0.0	47.4 \pm 4.4	46.5 \pm 3.7	0.41*
Body weight (kg)	61.0 \pm 5.9	56.3 \pm 3.7	59.8 \pm 3.3	0.36*
Height (cm)	158.9 \pm 4.7	154.5 \pm 2.6	158.1 \pm 2.5	0.23
Body surface area (m ²)	1.55 \pm 0.06	1.74 \pm 0.07	1.61 \pm 0.05	0.34*
Total saline used (ml)	725.0 \pm 37.0	721.0 \pm 27.6	713.3 \pm 25.3	
Saline volume retained (ml)	655.8 \pm 72.6	633.2 \pm 56.7	638.0 \pm 46.0	
% volume retained (ml)	90.8 \pm 9.3	88.3 \pm 7.4	90.0 \pm 5.9	
Volume at first leak (ml)	313.0 \pm 76.4	263.6 \pm 52.3	283.1 \pm 43.5	

* $p < 0.05$ r < 0 - no correlation; 0.1 < r < 0.3 - weak correlation; 0.3 < r < 0.5 - moderate correlation; 0.5 < r < 1; high correlation

Conclusion: Simplified saline continence test is an easy-to perform and well-tolerate test to assess anorectal function.

TOTAL MESORECTAL EXCISION: TIPS AND TECHNIQUES

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Background: Total mesorectal excision (TME) has been a gold standard for rectal cancer surgery since 1990s. The principle is complete excision of mesorectal tissue within the intact envelop of fascia propria of the rectum. Also, preservation of autonomic nerve is warranted to avoid genitourinary complication and sexual dysfunction. We presented a stepwise TME technique with emphasis on critical points.

Methods: A 40-year-old Thai male with active sexual life was diagnosed with well differentiated adenocarcinoma of lower rectum. Low anterior resection was planned. Lithotomy position was used with special precaution on pressure free of peroneal nerve and bony prominent. Lower midline incision was performed. Careful small bowel packing provided a good exposure and minimized post-operative ileus. Left-sided colon was mobilized by lateral to medial approach, begin at 2 mm anterior to the white line of Toldt. The left side colon was mobilized by lateral to medial approach, begin at 2 mm. above the white line of Toldt. By extending this plane upwardly, the splenic flexure was mobilized as in laparoscopic surgery. Mesocolic dissection began just below superior rectal artery and

extended laterally to join the previously dissected plane from the lateral. High ligation of inferior mesenteric artery and ligation of inferior mesenteric vein at the same level was performed. Sharp dissection under direct vision along avascular plane between fascia propria of the rectum and parietal pelvic fascia started at the sacral promontory downwards in the same plane as colonic mobilization. Retraction of the rectum anteriorly facilitated the posterior dissection which was carried on as far as the pelvic floor. Care should be taken on identification and preservation of hypogastric nerves. Then, the dissection extended laterally on both sides with identification of pelvic plexus and hypogastric vessels. Anterior dissection started by transverse division of peritoneal reflexion and went further down in the plane behind the seminal vesicle and anterior to anterior mesorectal fascia. Surgeon's hand and St. Mark's retractor provided a good exposure in the pelvic cavity. Circumferential dissection ended at the pelvic floor where the mesorectum ended. After rectal resection, tension-free coloanal anastomosis was performed by stapling devices.

Results: TME technique was showed. The patient returned to normal bowel function within 2 days without immediate complications. Pathological report confirmed free circumferential margin.

Conclusion: Understanding the correct surgical plane is a key for good TME which will and will result in a better oncologic outcome and low complication.

LOW GRADE APPENDICEAL MUCINOUS NEOPLASM WITH RUPTURE

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Appendiceal mucinous tumor is seldom found in clinical practice. Classification of mucinous appendix is controversial. Benign mucinous tumor of appendix can be classified as mucocele, mucinous cystadenoma, mucinous tumor of uncertain malignant potential and low grade of appendiceal tumor depending on the pathologist and cell types of appendix. When mucinous tumor of appendix ruptures, mucin content can spread into abdominal cavity and develop syndrome called pseudomyxoma peritonei (PP). PP syndrome did not develop only from malignant tumor in abdominal cavity such as ovarian tumor or invasive carcinoma of appendix. We reported a case of 50-year-old man presented with abdominal discomfort and diagnosis of benign mucinous tumor of appendix with rupture and mucinous content deposited into abdominal organ.

Exploratory laparotomy for debulking tumor and appendectomy was done. Pathological report showed benign mucinous tumor of appendix. This was an example of benign mucinous tumor of appendix with rupture and developed into pseudomyxoma peritonei.

ABDOMINO-PERINEAL RESECTION (APR) WITH VERTICAL RECTUS ABDOMINIS MYOCUTANEOUS (VRAM) FLAP

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Introduction: A case of locally advanced anal and lower rectal cancer was treated with neoadjuvant chemoradiotherapy followed by APR. There is a risk of perineal wound complications, including abscess, unhealed perineal wound. These complications can be prevented by filling the pelvic and the perineal skin defects with well-vascularized tissue; the pedicle flap is the choice. Among the variety of flaps, vertical rectus abdominis myocutaneous (VRAM) flap is the popular technique which often used for reducing the complications by obliterating the noncollapsible dead space with vascularized tissue.

Methods: In this presentation, we performed APR followed with VRAM flap on this patient. For perineum, an elliptical-shaped skin paddle was marked while the patient was in the lithotomy position with legs adducted to prevent flap skin paddle redundancy, postoperatively. At the abdominal wall, a wide skin paddle was designed vertically above the right rectus abdominis muscle. The flap includes skin, subcutaneous fat, cuff of anterior rectus sheath fascia. Anterior rectus sheath was divided vertically from rectus abdominis muscle to the pubic symphysis. Dissected the flap including rectus abdominis muscle from posterior rectus sheath, downwardly to the origin of the inferior epigastric vessel. The inferior epigastric pedicle was mobilized to its origin and separated from all surrounding tissue. The flap was rotated medially and transposed into the perineal defect to obliterate the dead space, prevent tension and compression of the flap and vascular pedicle. Closed-suction drainage catheters were placed to drain the pelvic space. The flap skin paddle was then inserted into the skin defect edges and sutured to the perineal skin defect. The abdominal donor site was subsequently closed. The ipsilateral skin was undermined lateral to the donor site, advanced anterior rectus abdominal sheath medially and then sutured, interrupted polypropylene, with posterior rectus abdominal sheath. Then a closed-suction drain were placed.

Results: The wound was completely healed with no postoperative wound complication, pelvic or deep perineal abscess. The patient was discharged at the postoperative 10th day.

Conclusion: This video showed creation of the VRAM flap which should be given to patients who underwent the immediate flap reconstruction after chemoradiation and APR.

ABDOMINAL ACCESS TECHNIQUES USED IN LAPAROSCOPIC SURGERY

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Background: Laparoscopic technique have revolutionized the field of surgery with benefits that include decrease post operative pain, earlier return to normal activities following surgery. However, approximately 20 percent of laparoscopic complications are caused at time of initial access. Inadvertent bowel injury or major vascular injury is uncommon, but both are potentially life-threatening complications that are most likely to occur during initial access. Developing access skill is one of the important achievements for the surgeon practicing minimal invasive surgery.

Objective: The propose of this video presentation was to teach about the various technically use to access the abdomen.

Methods: To review the method of various technically use and advantage situation for individual technique by video presentation.

Conclusion: This video presentation will also provide the Participants with a better understanding of the technique for access to the abdomen, choice of access. In addition to improving clinical decision making and skill for individual technique.

TRANSACRAL RECTAL RESECTION FOR BENIGN RECTAL STRICTURE

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Background: Trans-sacral approach is an optional approach for lesion in mid-to-lower rectum, especially for benign lesion such as rectal stricture and retrorectal tumors.

The main advantage is avoidance of laparotomy in the patients with high risk for laparotomy. For example, patients with hostile abdomen and multiple or severe comorbidities. It has lower surgical risk and less hospital stay compares to trans-abdominal approach. We presented a case of transsacral rectal resection for benign rectal stricture.

Methods: A 42-year-old Thai male with positive anti-HIV serology presented with long history of difficult defecation and frequent self-evacuation. Contrast enema together with colonoscopy and biopsy confirmed the diagnosis of colitis cystica profunda causing rectal stricture at 6 cm above anal verge. Mechanical bowel preparation with electrolyte solution was performed on a day before operation. The patient was placed in prone jackknife position. Skin incision was made along the lower boarder of gluteus maximus muscles and lateral boarder of sacral bone, on the right side. Gluteus maximus muscle was dissected from the sacral bone. Coccyx was identified and removed along with the anococcygeal ligament. Levator ani muscles were divided in the midline. Perirectal fat was identified and entered in the midline towards the posterior rectal wall. Dissection was made in the loose avascular plane just outside of the rectal wall circumferentially on both sides to meet anteriorly in front of the rectum. The rectum was encircled and the strictured segment was resected. Stapled anastomosis was performed. Closed suction drain was placed. Perirectal fat, levator ani muscles, subcutaneous tissue and skin were approximated layer by layer.

Results: Total operative time was 90 minutes without immediate complication. Normal bowel function returned within 1 day. The patient was discharged on postoperative day 3.

Conclusion: Trans-sacral approach is feasible for benign rectal stricture in mid-to-lower rectum with low morbidity.

STES (SINGLE-PORT ACCESS TRANSANAL ENDOSCOPIC SURGERY)

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Background: Transanal endoscopic microsurgery (TEM) was described by Gerhard Buess since 1991. At first this technique is preserved for high-lying early rectal cancer, in which transanal excision (TE) does not reach the lesion. Later, the indication has been extended to mid-to-low lesion and showed benefits above TE in terms of free resected margin and lower recurrence. However, TEM is

not popular in our country because of the expensive instruments and the rare fulfill conditions. Fortunately, Khoo1 in 2010 showed the alternative technique of TEM by using single access laparoscopic port and other laparoscopic equipments in the multimedia article, but not enough detail for reproducibility. To overcome these problems, we had practiced this technique in soft cadaver till we got the conclusive steps. This multimedia article would like to share our tips and techniques for succeeding in this procedure to all surgeons who don't have TEM in their hospitals.

Objectives: 1. To introduce a new modified technique of transanal endoscopic surgery; 2. To apply this technique for limited resource hospital; 3. To demonstrate tip and technique of this modified technique in the patient.

Methods: The 46-year-old lady had a malignant polyp in mid rectum. Endorectal ultrasound and CT scan showed no submucosal invasion or metastasis. Patient was placed in the position that the lesion situated at 6 o'clock. The setting was the same as single incision laparoscopic surgery (SILS) technique. Flexible tip camera was our choice to minimize hand crossing, chopstick effect and providing unlimited view. We chose Ultrashear (Covidien™) for dissection and V-lock suture for approximation. The most important tip is rectal occlusion, with microfiber towel, helps to decrease the volume of insufflated gas and minimizes subcutaneous emphysema. Gas was insufflated intermittently to create operating space. The whole-layer dissection was performed with Ultrashear (Covidien™). After complete excision, irrigation with sterile water was applied, after that approximation was completely done with V-lock suture, continuously.

Results: Patient was discharged two days after the operation. Flexible sigmoidoscopy was performed at two weeks, and showed no wound disruption.

Conclusion: STES is the new modified technique of transanal endoscopic surgery that may replace the need of TEM in clinical practice.

ONE STAGE TOTAL SACRECTOMY FOR LARGE GIANT CELL TUMOR OF THE SACRUM

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Background: Total sacrectomy is an aggressive operation can caused exsanguination and high morbidities. Aim of this VDO is to show techniques for total sacrectomy.

Methods: A 35-year-old female patient presented with progressive difficult defecation and proctalgia. Physical

examination and CT scan show large sacral bone tumor involve S1 body. Core needle biopsy report of giant cell tumor. Total sacrectomy was consented with the patient.

Surgical techniques: Multidisciplinary team approach with abdominosacral approach was planned. Important steps were as follows: 1. all branches that connected to common and external iliac vessels were divided until they freely floated from the sacrum, 2. anterior dissection and osteotomy at L5-S1 level with L5 nerve root preservations were performed, 3. suprapubic cystostomy, end sigmoid colostomy and rectal flap were constructed, 4. the patient was turned to a prone position, 5. large benz's incision with gluteus muscle flap was done, 6. posterior laminectomy at L5-S1 level followed with posterior osteotomy, 7. complete en bloc tumor resection was done, 8. sacral defect was reconstructed by rectum and gluteus muscle flap, 9. skin was closed with close suction drain.

Results: Operative time was 21 hours with 5500 cc blood loss. The patient received 12 units of PRC. Complication was minor wound infection which was successfully treated with wound dressing.

Conclusion: One stage total sacrectomy can be performed safely with proper techniques and multidisciplinary team approach.

LAPAROSCOPIC CYLINDRICAL ABDOMINOPERINEAL RESECTION WITH EN BLOC VAGINECTOMY AND SACRECTOMY WITH PERINEAL AND NEOVAGINAL RECONSTRUCTION USING THE SIGMOID FLAP

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Background: En bloc resection is the ultimate goal for cure of locally advanced rectal cancer. For the cancer with invasion to the perineum and vagina, abdominoperineal resection (APR) with vaginectomy en bloc is required. Thus a residual complicated perineal defect that needed a complex reconstruction. The objective was to demonstrate the laparoscopic-assisted technique for this procedure.

Methods: A 52-year-old woman with locally advanced rectal cancer involving the perineum and vagina causing malignant rectovaginal fistula was presented. She underwent preoperative chemoradiation followed by surgery. The surgery consisted of three parts: harvesting of the sigmoid flap, resection of the tumor, and perineal reconstruction. The first part involved laparoscopic mobilization of the sigmoid colon and rectum, low ligation

of the inferior mesenteric artery with preservation of the left colic artery, harvesting of the sigmoid flap, and construction of an end colostomy. The resection part involved a cylindrical APR with perineal body resection, posterior wall vaginectomy, and S3-S4 sacrectomy en bloc using prone position. The reconstruction part involved bringing the sigmoid flap down to the perineal defect. The flap was spatulated and sutured to the anterior vagina wall for construction of the neovagina followed by perineal wound closure.

Results: En bloc resection was accomplished with no significant complications. Recovery was uneventful and at 4 months post procedure the patient remained functional with no disease recurrence.

Conclusion: A laparoscopic approach for this complex situation is feasible. Perineal and neovaginal reconstruction using colonic flap provides a good outcome. Further evaluation of this procedure is warranted.

SINGLE-PORT LAPAROSCOPIC ANTERIOR RESECTION FOR RECTAL CANCER

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Background: Laparoscopic colorectal surgery has become popular option for colon and rectal cancer. Advance development in instruments and techniques make an intra-abdominal approach via a single incision possible. We presented a case of anterior resection of rectal cancer via a single-port site in a stepwise manner.

Method: A 51-year-old female patient was found to have a 1.5 cm. sessile polyp at sigmoid colon during screening colonoscopy. Narrow band imaging showed Sano type 3 vascular pattern. The biopsy reported as well-differentiated adenocarcinoma. Elective surgery was performed in lithotomy position with the surgeon on the left sided and the assistant on the right. A 2.5-cm umbilical incision was created and the abdomen was entered by open technique. Gel port was inserted through the incision to serve as a working platform. Flexible tipped camera (10 mm), a grasper (5 mm) and a suction-dissection instrument (5 mm, Surgivan[®]) were inserted via the Gel port. Mobilization of the left-sided of the colon was performed by medial to lateral approach. Ligation of the inferior mesenteric artery and vein was done, individually. Dissection of mesosigmoid and resection of the sigmoid colon was performed as conventional laparoscopic surgery. Stapled colorectal anastomosis was done.

Result: Total operative time was 75 min. with an

estimated blood loss of 100 ml. There was no immediate complication. Normal bowel function returned on postoperative day 1 and the patient was discharged on postoperative day 3 after resume of soft diet. The patient has been followed up for 18 months. The wound showed good cosmesis with T2 N0 M0.

Conclusion: The single port laparoscopic technique is feasible for sigmoid cancer resection with satisfactory cosmetic result and acceptable oncologic outcome.

MUCOSECTOMIZED SIGMOID FLAP: A NOVEL TECHNIQUE FOR PELVIC RECONSTRUCTION AFTER EXENTERATION FOR ADVANCED PELVIC MALIGNANCY

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Introduction: Immediate reconstruction after pelvic exenteration is challenging. Several flap techniques, such as VRAM and gracilis, have been reported. However, flap-specific complications have been documented. Instead of harvesting myocutaneous flap from the abdomen or leg, our group has proposed colonic flap for neovaginal reconstruction especially for rectal cancer with vaginal invasion. Nevertheless, the application of colonic flap for individuals who need only vascularized tissue to empty the dead space, not mucosa for reconstruction, is problematic. The aim was to demonstrate this novel technique.

Methods: There were six patients: four rectal cancers, one gastrointestinal stromal tumor (GIST), and one recurrent cervical cancer. All patients except one with GIST underwent preoperative radiation. The operation included one anterior pelvic exenteration, two total pelvic exenterations, and three total pelvic exenterations with S3-sacrectomy. Mucosectomized colonic flap was used for immediate pelvic reconstruction in all patients. The detail involved harvesting of the sigmoid colon segment with low ligation of IMA, spatulation of the antimesenteric side of the flap, and mucosectomy. The flap was sutured to the pelvic sidewall with mucosectomized surface facing toward the pelvic defect.

Results: There were no intraoperative complications and free surgical margins were achieved. One patient developed small bowel obstruction requiring re-exploration and two patients developed pelvic collection, which was successfully treated with percutaneous drainage. Perineal wound complications were not found. None of the patients developed incisional hernias or perineal hernias at the follow up.

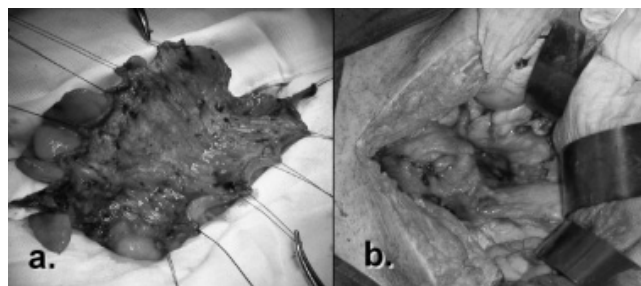


Figure 1. a The “mucosectomized” sigmoid flap.
b Pelvic defect reconstruction with the flap.

Conclusions: Immediate pelvic reconstruction with mucosectomised colonic flap is technically feasible and easy. This technique provides good outcomes.

PELVIC EXENTERATION, TOTAL PENECTOMY, BILATERAL ORCHIECTOMY WITH SUBTOTAL SACRECTOMY, SUBTOTAL PELVECTOMY EN BLOC FOR AGGRESSIVE PELVIC LIPOSARCOMA

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Background: Complete resection is the ultimate goal for cure for pelvic sarcomas. However, a large pelvic tumor is challenging due to the complexity of surgery and subsequent morbidities.

Objective: This report illustrated the usefulness of the cadaveric dissection, description of the surgical technique, and evaluation of the result.

Methods: A 54-year-old man with a large, dumbbell-like, liposarcoma was reported. The CT and MRI showed a large pelvic tumor involving the rectum, prostate gland, pelvic sidewall, right pelvic bone, and extra-pelvic tumor expansion at right buttock via the sciatic notch. Several cadaveric dissections were carried out prior to surgery for planning purposes. The patient underwent pelvic exenteration, total penectomy, bilateral orchiectomy with subtotal sacrectomy, and subtotal right pelvectomy en bloc. The isolation of the external iliac vessels technique was used for bleeding control. Permanent colostomy and ileal conduit were made. The large sacral defect was closed using an anterior thigh myocutaneous flap.

Results: Operative time was 24 hours. Blood transfusion was 13 units. There were neither intraoperative nor postoperative complications. The histopathology was consistent with myxoid/round cell liposarcoma with free margins. The patient was able to ambulate to chair in 2 week and was able to walk with the use of walking aid in 3 weeks. No recurrence was found at a 2-year follow-up.

Conclusion: The cadaveric dissection is helpful for making a sophisticated plan of surgery. A modification of pelvic vessels control technique helps prevent massive bleeding and facilitates complete tumor resection. Sequelae are acceptable given the aggressiveness of disease.

SURGICAL OUTCOME OF COLORECTAL CANCER: THE LYMPH NODE NUMBER DOES MATTER

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Introduction: Lymph node metastatic status is a crucial parameter predicting outcome in patients with colorectal carcinoma (CRC). Adequacy of lymph node sampling is fundamental to the accuracy of nodal status (N status) assessment. However, the minimal number of lymph nodes to be examined remains an unsettled question. This study aimed to determine the minimum sampling number and to look for an association between the positive lymph node ratio (LNR) and overall survival (OS).

Methods: Pathological reports of 533 stage I - III CRC patients who underwent curative resection during the period from January 1998 to December 2007 were retrospectively reviewed with regard to the number of lymph nodes obtained (nLN) and number of pathologically positive nodes. To evaluate the minimal nLN required for accurate assessment, plots of N status attribution in cases with nLN below each cut-off value was evaluated. A Receiver Operating Characteristic (ROC) curve method was used to determine the optimum cut-off value of LNR that accurately predicted 5-year OS. Cox proportional hazard analysis was used for multivariate survival analysis.

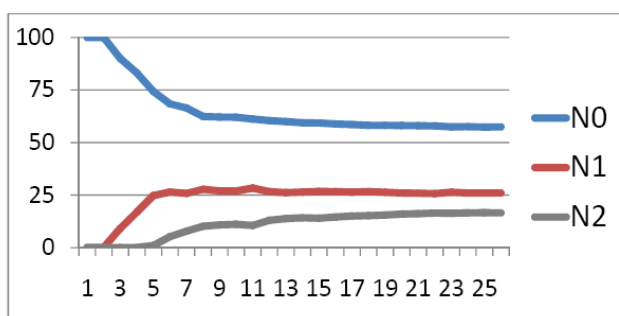


Figure 1. Attribution of N status percentage in CRC with collected lymph node number below each cut-off number from 0-26

Results: The AJCC stage grouping was 79 (14.8%), 227 (42.6%) and 227 (42.6%) for stages I, II and III, consequently. The median nLN was 10 nodes (range 0-175 nodes) and the mean number of positive nodes was 1.7 nodes (0-27 nodes). Nodal status significantly associated with OS probability (p-value <0.01). On the N status plot, the cut-off point where the converging curves turned parallel among each other was at 12 nodes, which was supported by the significant difference in OS between cases with nLN > 12 (5-year OS 73.0%) and those with nLN <12 (5-year OS 62.7%), (p-value <0.01). Multivariate analysis showed that both nLN-12 and LNR were independent factors predicting survival probability in CRC. The 5-year OS in cases with LNR <35, 35-69.9 and >70 were 74.2%, 42.5% and 21.5%, consequently (p-value <0.01).

Conclusion: Our data emphasizes the significance of lymph node harvesting during the surgical resection of colorectal cancers. To interpret the N status accurately, number of examined nodes should not less than 12. In addition, LNR is a strong independent factor associating with survival in CRC.

SPECIAL ANOSCOPY FOR STAPLED HEMORRHOID-OPEXY

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The stapled hemorrhoidopexy is becoming a popular surgical procedure for treatment of hemorrhoids. From several literatures, they had shown that the peri-operative outcome has made the patients have less postoperative pain and result in shorter recovery period. However the complications may also occur and cause a severe morbidity for the patients. The indept knowledge of the surgical techniques and skilled procedure may help to lower unwanted incidents. The available stapled hemorrhoidopexy devices in the market provide the anoscopy which designed for more convenient of the purse-string suturing techniques. The good circumferential suture which located 2-3 centimeters proximally to dentate line is the key for success after firing the stapled device. However, it is very difficult to make perfect purse-sting suture line even with the specifically designed anoscopy therefore it is very hard to get an accurate outcome. Our senior staff in the hospital, Assoc. Prof. Arun Rojanasakul recognized the issue and had designed the special anoscopy for the stapled hemorrhoidopexy procedure in 2007. His device has been in used and it helps to facilitate and ease a good purse-string suture, make it more precise and less time consuming than

the commercial provided anoscopy. With this device, surgeons can perform stapled hemorrhoidopexy faster and safer than ever.

AGE OF COLORECTAL CANCER PATIENTS: 10 YEARS ANALYSIS

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Background: Colorectal cancer is one of the most common cancers in Thailand. Causes of disease are not well established but diet and family history are the associated factors. Incidence is increasing every year. Most of the patients aged more than 50 years old but nowadays we found younger patients diagnosed with colorectal cancer at age less than 50 years old.

Methods: We analyzed our colorectal cancer database from January 2005 - December 2010. There were 1357 patients firstly diagnosed of colorectal cancer. The average age at diagnosis was 62 years old. Patients were stratified as an age group less than 50 years old and an age group equal or more than 50 years old.

Results: We found that percentage of the younger patients increase from 11% to 17% in 6 years (2005-2010). In addition, we found that many of patients presented with advanced stages of cancers or complications (obstruction, perforation) at first time of diagnosis.

Conclusion: Trend of colorectal cancer incidence seems to be diagnosed in younger age group. We recommend colorectal cancer screening program for all patients more than 50 years old.

CHANGING THE FECAL ROUTE AFTER EMERGENCY LEFT SIDED MALIGNANT COLONIC OBSTRUCTION, CAN WE MADE THE DIFFERENT WHEN COLONIC STENT IS ONE OF THE OPTIONS

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Background: Left sided colonic obstruction is one of the most common emergency presentations in patients with left sided colon cancers. There are several options for treatment in this situation depending on patient status, tumor pathology and availability of the equipments. Most

of the patients ended up with one type of the ostomy when the operation is finished. The colonic stent can be used as an option in this situation and the final result could be changed. Our own data showed that the ostomy rate after colonic stent placement in patients with left sided malignant obstruction was only 12%.

Methods: We performed the retrospective review data of the patients who presented with left sided malignant colonic obstruction and treated by any procedure without colonic stent.

Results: From January 2009 to December 2010 there were 29 patients who underwent the operation for left sided malignant colonic obstruction without colonic stent placement. The demographic and operative data was reviewed then compare with the stent group. The ostomy rate after surgery was 64% compare to 12% in patients who underwent colonic stent insertion. In non-ostomy patients, subtotal colectomy was performed in 4 patients, total colectomy in 2 patients, sigmoidectomy in 4 patients and anterior resection in 1 patient.

Conclusion: The ostomy can be avoided by placing the colonic stent in the patients who present with left sided malignant colonic obstruction in emergency setting. We recommend the colonic stent as an option for this situation.

INTRAOPERATIVE COLONOSCOPY: IS IT A BETTER WAY FOR DETECTION ANASTOMOSIS LEAKAGE AFTER CIRCULAR STAPLER ANASTOMOSIS?

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Background: Surgery for colorectal cancer can significantly improve survival of patients. Although surgical techniques and equipments have been improved over the last 20 years, anastomotic leakage after colorectal cancer surgery remains an important complication. Multiple comorbidities and mortality after colorectal anastomosis leakage had been described such as permanent colostomy and increased recurrence rate of cancer.

Methods: One of the new techniques for colorectal anastomosis was circular staple auto-suture which could decrease operative time. But there is no standard technique for testing or checking colorectal anastomosis leakage. We aimed to study a technique for detecting colorectal anastomosis leakage after circular staple anastomosis.

Results: We collected data from 34 patients with colorectal cancer who underwent resection of tumors. Eight patients (23%) underwent surgery by open technique, 13 patients (38%) by laparoscopic-assisted technique and

13 patients (38%) by hand-assisted laparoscopic technique. After tumor was resected, the proximal and distal ends of colon and/or rectum were anastomosed by circular stapler. After anastomosis the leak test was done by intraoperative colonoscopy to looking for leakage of air and bleeding from anastomotic site. We compared between intraoperative colonoscopic findings and postoperative clinical evidence of anastomosis leakage. From our study, we found no air leakage from anastomosis from this technique and no evidence of postoperative clinical of leakage.

Conclusion: Detection of anastomosis leakage after circular stapler by intraoperative colonoscopy is an accurate and safe technique for detection of leakage and bleeding.

THREE YEARS FOLLOW-UP AFTER LIGATION OF INTERSPHINCTERIC FISTULA TRACT (LIFT) FOR FISTULA-IN-ANO

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Background: Fistula-in-ano (FIA) is an abnormal connection between the anal canal and the perianal skin characterized by persistent or intermittent drainage of purulent discharge. Treatment of FIA may result in fecal incontinence. The ligation of intersphincteric fistula tract, LIFT technique, was proposed in 2006 by Assoc. Prof. Arun Rojanasakul as a novel sphincter-preserving procedure

with success rate of 94.4%. Here, we presented the three years outcome of the patients.

Objective: To evaluate the long-term outcome of patients who underwent LIFT technique in our institute.

Methods: From January 2006 to December 2007, the patients who underwent LIFT operation in King Chulalongkorn Memorial Hospital were analyzed. Patients with tuberculosis, inflammatory bowel disease and compromised immune system were excluded. Healing was defined as completed epithelialization of the wounds without sign of infection. Continence status was graded as ability to control gas, liquid and gas. Healing time, healing rate and continence status were evaluated.

Results: There were 75 patients included in the study but fifteen were excluded due to inadequate follow-up data. Forty nine patients were males and 11 were females. Mean age was 41.6 years (range 17-70 years). The most common type was low transphincteric in 31 patients. The others were high transphincteric (n = 17), intersphincteric (n = 10), and suprasphincteric (n = 2). In 16 of these, LIFT was a salvage surgery for recurrent fistulae. Median follow-up time was 11 months (range 1-56 months). Ten patients (13%) was unhealed at 12 weeks. Seven patients (17.5%) had recurrence at the median time of 20 months. There was no incontinence reported in any patients.

Conclusion: LIFT technique is the effective sphincter preserved procedure for fistula-in-ano. We recommend this technique to be a procedure of choice in all types of fistula-in-ano. Studies on long-term results are warranted.

CARDIOVASCULAR & THORACIC DISEASES

FIVE YEARS RESULTS OF OFF-PUMP VERSUS ON-PUMP CORONARY ARTERY BYPASS SURGERY: PROSPECTIVE NONRANDOMIZED COMPARISON STUDY

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Background: Coronary artery bypass grafting can be performed with or without cardiopulmonary bypass. Off-Pump coronary artery bypass surgery (OPCAB) is increasingly becoming a widely used and effective technique.

The results of OPCAB should be comparable to the gold standard on-pump procedure.

Objectives: To compare early outcomes, long-term results and determine the differences of OPCAB and conventional coronary artery bypass grafting.

Methods: From October 2002 to December 2004, 170 consecutive coronary artery bypass grafting (CABG) patients were retrospectively reviewed, 99 patients underwent OPCAB and 71 underwent on-pump coronary artery bypass grafting in our institution. Two groups were compared for baseline features and clinical outcomes.

Results: The baseline demographic data and surgical risk factors of two groups were not statistically significant. OPCAB was associated with less blood transfusion, less amount of postoperative bleeding (145 vs 201ml, P < .001),

less incidence of postoperative atrial fibrillation (10% vs 19%, $P = .013$), less postoperative cardiac enzyme levels (difference in the log CK = 0.27, $P = .001$ and difference in the log CKMB = 0.14, $P = 0.009$). The serum creatinine levels were not significantly different, although there was a tendency for the off-pump group to have lower creatinine levels. There were no significant statistical differences between two groups in stroke, renal failure, pulmonary complications, reoperation for bleeding, and duration of intensive care stay. Operative mortality was one in each group. There were no significant differences of long term outcomes between two groups. Long term survival at 60 months of off pump group was 96% and on pump group was 95% ($P = 0.592$).

Conclusions: Our experience showed an early benefit in off-pump surgery. OPCAB decreased postoperative cardiac enzymes, incidence of postoperative atrial fibrillation, amount of blood transfusion, and amount of postoperative bleeding compared to the gold standard CABG. The long term results were similar.

ROLE OF CENTRAL VENOUS OXYGEN SATURATION (SCVO₂) TO PREDICT WEANING SUCCESS CARDIOVASCULAR DISEASE PATIENTS IN SURGICAL ICU

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Objectives: To evaluate predictive capacity of central venous oxygen saturation (ScvO₂) for predict weaning success in cardiovascular patients

Methods: We conducted a prospective observational study between September 2009 and September 2010 in general surgical ICU. All enrolled patients with cardiovascular disease underwent standard weaning spontaneous breathing trial. Arterial blood gas, ScvO₂, hemodynamic and ventilation parameters were recorded before SBT and at the 30 minute after SBT. All patients were followed for 48 hours after intubation and recorded reintubation.

Results: Thirty-six mechanical ventilated cardiovascular patients were included. Twenty-six patients were successful. Ten patients (27.78 %) were reintubation. ScvO₂ at 30 minute after SBT were lower in failed patients. ScvO₂, RR and TV was significant difference between time period (p value = 0.02, 0.08 and <0.01 respectively). Cut off point of ScvO₂, PF ratio and RSBI that mostly accurate in predict weaning outcome were <70, <300 and <50 orderly in our study. Each parameter of ScvO₂, PF ratio and RSBI for reintubation prediction were not different (ROC were 0.65, 0.65 and 0.67 respectively). Combination of ScvO₂(S)

with PF(P) ratio or RSBI(R) slightly increased reintubation prediction (ROC of PR, SP and SR were 0.76, 0.72 and 0.75 respectively). However; combination of all these three parameters had highest prediction probability of failure (ROC were 0.84).

Conclusion: ScvO₂ combine with RSBI and PF ratio could improve predictive capacity of reintubation in surgical ICU cardiovascular patients.

PROSPECTIVE RANDOMIZED CONTROLLED TRIAL OF PATIENTS UNDERGOING CARDIAC SURGERY COMPARING MODIFIED MINI-BYPASS CIRCUIT WITH CONVENTIONAL CARDIOPULMONARY BYPASS

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Background: Cardiac surgery using conventional cardiopulmonary bypass (CCB) initiates a systemic inflammatory response. Mini-bypass circuit should reduce compliment activation, pro-inflammatory cytokines secretion, and leucocyte activation, and may reduce adverse perioperative events and complications.

Objectives: To compare IL (interleukin)-6 level, C-reactive protein (CRP) level, and perioperative clinical results between conventional and mini-bypass techniques.

Methods: From October 2009 to December 2010, 60 consecutive cardiac surgical patients were randomly allocated to two bypass procedures at our institution: 32 patients underwent CCB and 28 underwent mini-bypass. The two groups were compared in terms of baseline characteristics, inflammatory markers and clinical outcomes. A subgroup analysis of 30 patients undergoing only minimally invasive cardiac surgery, of which 14 patients were in mini-bypass group and 16 in the CCB group, was also performed.

Results: The baseline demographic data and surgical risk factors of the two groups were similar. The median IL-6 level at 24 hours was 89.8 pg/ml in the mini-bypass group versus 112.5 pg/ml in the CCB group ($p = 0.014$). The median CRP level at 24 hours was 87.2 mg/l in the mini-bypass group versus 149.6 mg/l in the CCB group ($p < 0.001$). Similar results were obtained for the subgroup of minimally invasive surgery patients. The mini-bypass group was associated with less inflammatory response, less blood transfusion, and less postoperative bleeding. The overall complication rate was low. There were no significant

statistical differences between the two groups in regard to the incidences of stroke, renal failure, pulmonary complications, and reoperation for bleeding. Intubation time and duration of intensive care unit stay were also similar between the two groups.

Conclusion: Adoption of mini-bypass significantly reduced markers of inflammation and bleeding, and showed a tendency toward fewer blood transfusions.

MITRAL REGURGITATION ASSOCIATED WITH SECUNDUM ATRIAL SEPTAL DEFECT

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Background: Mitral regurgitation associated with secundum atrial septal defect is not uncommon. Its etiologies reported in the literatures varied. We presented here our experiences and reviewed its etiologies in the literatures.

Methods: Mitral regurgitation was found in 14.3% (14/98) of all patients with secundum atrial septal defect who were operated during 10-year period at Yala Hospital. The etiologies were as follows: rheumatic valve ($n = 3$), prolapsed anterior leaflet ($n = 3$), congenital abnormality ($n = 3$), specific pathology complex ($n = 4$), and chronic infective endocarditis ($n = 1$). All patients underwent closure secundum atrial septal defect with mitral valve repair.

Results: There was one death and one serious postoperative complication. On follow up, the echocardiograms showed no mitral regurgitation in 10 patients and mild mitral regurgitation in 1 patient.

Conclusion: Mitral regurgitation associated with secundum atrial septal defect could exist as a coexistent lesion or as the result of hemodynamic change occurred in secundum atrial septal defect. Its recognition is important and most of them could be repaired with satisfactory results.

REPORT CASE OF ANGIOSARCOMA OF THE DESCENDING THORACIC AORTA PRESENTING WITH RUPTURED THORACIC ANEURYSM

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Background and Methods: Angiosarcomas are rare and difficult to diagnose preoperatively. We report the case of the angiosarcoma of the descending aortic aorta in a 64-year-old woman.

Results and Conclusion: The patient presented with ruptured descending aortic aneurysm and underwent emergently descending aortic aneurysmectomy with Dacron graft interposition. The patient recovered slowly. This case revealed the histological features of angiosarcoma with high grade poorly differentiated pleomorphism. Immunohistochemically, tumor cells were strongly and diffusely positive for vimentin, negative for MSA, Desmin, SMA.

PREDICTORS OF ACUTE RENAL INSUFFICIENCY AND RENAL DIALYSIS AFTER CORONARY ARTERY BYPASS GRAFTING

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Objective: To identify the predictors of acute renal insufficiency (ARI) and renal dialysis after coronary artery bypass grafting (CABG).

Methods: Between Jan 2001 and April 2011, 1279 consecutive patients who underwent CABG. ARI was defined as increasing of postoperative serum creatinine more than 2.0 mg/dl. Patients with preoperative end-stage renal failure requiring dialysis were excluded. The mean age was 62.4 ± 10.4 years with 1006 male (78.7%). Diabetes, hypertension, and peripheral vascular disease were found in 43.6%, 66.9% and 2.1%, respectively. Heart failure and shock were presented in 18.9% and 5.6%, respectively. Previous CABG was 3%. Left main coronary artery disease was found in 37.8%. Preoperative creatinine was 1.0 ± 0.3 mg/dl. Preoperative left ventricular ejection fraction (LVEF) was $54.0 \pm 14.6\%$. Off-pump CABG was performed in 93.5%. Number of distal anastomoses was 4.3 ± 1.3 . All arterial grafts were used in 66.8%. T graft was used in 26%. The 15 described clinical characteristics were examined as predictors for ARI and renal dialysis in a multivariable logistic regression model.

Results: Postoperative ARI was identified in 4.5% (57/1279) and 2% (25/1279) required renal dialysis. The overall 30-day mortality rate was 2.5% (32/1279). The 30-day mortality rates in those without ARI and those with ARI were 0.9% and 36.8% respectively. ARI was found at 8.4% (7/83) in on-pump CABG and at 4.2% (50/1184) in off-pump CABG. Logistic regression analysis of factors associated with ARI were increased age (OR 1.06, 95%CI 1.03-1.1), shock (OR 4.37, 95%CI 1.91-9.97), increased preoperative serum creatinine (OR 3.12, 95%CI 1.34-7.26) and reduced preoperative LVEF (OR 0.95, 95%CI 0.93-

0.97). Only increased age (OR 1.10, 95%CI 1.04-1.16) and reduced preoperative LVEF (OR 0.93, 95%CI 0.90-0.97) were predictors for postoperative renal dialysis.

Conclusion: ARI was associated with increased 30-days mortality. Increased age, shock, increased preoperative serum creatinine and reduced preoperative LVEF were associated with ARI. Only increased age and reduced preoperative LVEF were predictors for postoperative renal dialysis.

MIDTERM RESULTS OF AORTIC VALVE SPARING OPERATION WITH DAVID PROCEDURE

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Background: We reviewed our experience with aortic valve sparing during last 8 years. This study assessed the durability and clinical outcome of aortic valve sparing root replacement using re-implantation technique (David I).

Methods: Between June 2002 and October 2010, 42 patients underwent aortic valve sparing root replacement with re-implantation technique (David I). Mean age of patients was $46.32 \pm$ years (range, 9 to 73 years), 22 (52.4%) were female, 7 patients (16.7%) had Marfan, 11 patients (26.2%) had aortic dissection type A. Ascending aortic replacement was necessary in 26 patients (62%) and aortic arch replacement were 8 patients (19%). The mean diameter of Dacron graft was 28.47 (range, 26 to 34 mm.). Mean follow was 28.6 ± 25.5 (2-83) months.

Results: Thirty-day mortality was 2.4% (1 patient). Mean of bypass time, aortic cord clamp time, and intensive care unit stay were 179.1 ± 35.5 minutes, 140.4 ± 27.9 minutes, and 29 ± 19.3 hours, respectively. Postoperative complications occurred in 2 patients (4.8%) of renal failure, 2 patients of mediastinal bleeding and only 1 patient (2.4%) of myocardial infarction and paraplegia. During follow-up, there were 2 patients (7.1%) lost to follow-up and 1 patient (2.4%) had cardiac-related late death and the 6-year survival rate was 96.7%. Grade of aortic insufficiency (AI) decreased from 3.7 ± 0.4 preoperatively to 0.8 ± 0.9 postoperatively ($p < 0.001$). One patient required reoperation for AVR (2.4%) and another underwent descending aortic replacement (2.4%).

Conclusions: Short-term and midterm results with David I technique for aortic root aneurysm were excellent in our experience. Complex patients with aortic dissection or bicuspid aortic valve also achieved good results although the number of patients were small. If long-term results

were similar, this technique might be acceptable as the standard procedure.

HYBRID OPERATING ROOM FOR TEMPORARY OCCLUSION OF MAJOR AORTO PULMONARY COLLATERAL ARTIRES (MAPCA) DURING OPEN HEART SURGERY

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Background: Most of significant systemic pulmonary flow must be controlled during a cardiopulmonary bypass to prevent systemic low perfusion and pulmonary flooding.

Objective: To demonstrate beneficial role of hybrid OR for temporary control the major aorto-pulmonary collateral arteries (MAPCAs)

Methods: In March 2011, a 16-year-old woman with isolated levo cardia, univentricular heart, pulmonary atresia with major aorto pulmonary collateral arteries and moderate to severe left atrioventricular valve regurgitation and restrictive atrial septal defect underwent open heart surgery for atrial septectomy and closure of the left atrioventricular valve. The balloon catheter were placed in the MAPCAs and inflated as soon as the patient was placed on cardiopulmonary bypass and deflated after the conclusion of the procedure.

Result: There was uneventful operative surgery.

Conclusion: Hybrid OR has been advocated for high-risk procedure that needs combined intervention and surgery in which seems impossible to control the MAPCAs from the sternotomy approach.

ADDITIONAL SOURCE OF PULMONARY BLOOD FLOW AS DEFINITIVE PALLIATION FOR CYANOTIC BIDIRECTION GLENN SHUNT

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Objective: This study was to demonstrate early and late outcome of additional source of pulmonary blood flow for cyanotic bidirection Glenn patients who were not candidate for Fontan operation.

Methods: From December 2003 to July 2010. Three

patients after bidirectional Glenn shunt underwent additional source of pulmonary blood flow from the ascending aorta to the pulmonary artery circuit. The first patient after bidirectional Glenn shunt underwent central shunt from the ascending aorta to the left pulmonary artery. Seven years later the central shunt was thrombosed. Then the central shunt from the ascending aorta to the bidirectional Glenn circuit was performed. The second case was the central shunt from the aorta to the left pulmonary artery and ligation of the pulmonary bifurcation after bidirectional Glenn. Three years later the central shunt and the left pulmonary artery were thrombosed. The central shunt from the aorta to the innominate vein was performed. The last patient was the central shunt from the ascending aorta to the right Glenn shunt in bilateral Glenn shunt.

Results: There was no operative mortality. The follow-up period was from 10 months to 7 years. The functional class and oxygen saturation were improved without superior vena syndrome.

Conclusion: Additional source of pulmonary blood flow in patients with cyanotic bidirectional Glenn who were not candidates for Fontan operation might offer a good definitive palliation

EPICARDIAL IMPLANTATION, INNOVATIVE TECHNIQUE FOR PLACEMENT OF CARDIOVERTER-DEFIBRILLATOR LEAD IN INFANT AND CHILDREN

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Background: In pediatric population, transvenous implantable cardioverter-defibrillator (ICD) is limited due to patient size, venous or cardiac anatomy. The purpose of this study was to evaluate and describe innovative method of placing implantable cardioverter-defibrillator leads.

Methods: All patients undergoing epicardial AICD implantation using transvenous lead at Siriraj hospital between 2010-2011 were reviewed. Indications for AICD, technique of insertion, complications and follow up results were determined retrospectively.

Results: Three patients (aged 3 days, 3 years, 6 years) underwent intrapericardially AICD lead implantation. Indication for AICD implantation were catecholaminergic polymorphic VT (n = 1) and prolonged QT syndrome (n = 2). There were no immediate complications and successful appropriate AICD discharges were achieved at last follow up.

Conclusions: Epicardial AICD implantation using transvenous lead is possible for neonate, infant and small children with good short term results. The long term outcome is yet unknown and they should be monitored closely.

REDO LUNG VOLUME REDUCTION IN A PATIENT WITH SEVERE EMPHYSEMA: A CASE REPORT

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Lung volume reduction is an accepted surgical treatment for a selected group of patients with severe emphysema. After a successful surgery, lung function may deteriorate due to progression of emphysema. In some patients redo lung volume reduction may be beneficial even with a higher expected morbidity and mortality. A 65-year-old man presented with pneumothorax secondary to emphysema. Right lung volume reduction was done. Six months later left lung volume reduction was done via left thoracotomy. He had improved exercise tolerance and increased FEV1. He was fine for 6 years and felt increasing shortness of breath. Four years later he was severely dyspneic. His chest X ray and CT scan showed predominant emphysema in left upper lung. Left lung volume reduction was done via left thoracotomy. He was extubated on the second postoperative day. There was air leak from left lung for 14 days and stopped spontaneously. He was also complicated by upper GI hemorrhage which was treated successfully with proton pump inhibitors. He was well with much improved exercise capacity.

RECOARCTATION AFTER COARCTATION REPAIR; SIXTEEN YEARS EXPERIENCE

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Background: There were many techniques for coarctation repair. At present, coarctectomy or extended coarctectomy with end to end anastomosis is more preferred technique than subclavian flap in newborn and infant. Sixteen year experience of coarctation repair with long term follow-up in our hospital was analyzed and presented.

Materials and Methods: There were 120 patients presented with coarctation. The ages ranged from 1 day to 40 years. There were 52 of 120 patients presented with coarctation and ventricular septal defect (VSD).

Coarctectomy or extended coarctectomy with end to end anastomosis was performed in 93 patients. Subclavian flap was performed in 12 patients. Pulmonary artery banding was performed in 19 patients with coarctation and VSD. Hospital mortality was 1.67 % (2/120). All survivors were followed-up by echocardiography.

Results: There were 4 patients developed recoarctation; 3 patients underwent coarctectomy or extended coarctectomy with end to end anastomosis and 1 patient underwent subclavian flap. Overall freedom from recoarctation at 5 and 10 years was 97.1% and 92.3 %. The difference in freedom from recoarctation in coarctectomy group and subclavian flap group was not statistically significant. All patients with recoarctation were successfully managed by balloon dilatation.

Conclusions: We recommend coarctectomy or extended coarctectomy with end to end anastomosis for coarctation repair in neonate or infant. Extensive dissection and mobilization is the key for prevent recoarctation.

FENESTRATED AORTIC STENT GRAFT IN THORACOABDOMINAL AORTIC ANEURYSM: LESSON ONE

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A 78-year-old man presented with epigastric discomfort. He had history of suprarenal abdominal aortic aneurysm and underwent open abdominal aortic repair 2 years ago. His follow up CT scan showed thoracoabdominal aortic aneurysm (TAAA), 6.3 cm. in maximal diameter, just

above previous aortic graft. He had fair left ventricular ejection fraction (LVEF = 39%) and had coronary artery bypass 24 years ago with multiple postoperative percutaneous coronary interventions. His abdomen was hostile due to many operations such as open cholecystectomy, sigmoidectomy from colon cancer and previous open aortic repair. His TAAA was indicated for surgery. Because his surgical risk was significant, endovascular surgery was decided. Ultimately, the fenestrated endovascular stent grafting was performed successfully. We report the first fenestrated endograft implantation in a high risk TAAA patient in Thailand. This is the crucial step for surgical team to move forward to the future complicated endovascular procedure.

CONGENITAL HEART BLOCK AT SRINAGARIND HOSPITAL: A CASE REPORT

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Congenital complete heart block (CHB) is a rare anomaly which can cause sudden fetal and infant death syndrome. Congenital heart block may be managed by medication and temporary pacemaker but permanent pacemaker implantation is the long term treatment. We reported a case of infant born to a 23-year-old asymptomatic woman who manifested congenital heart block in utero at 31 week of gestation. During gestation and following birth, no further problems were detected. We implanted permanent pacemaker after birth with infection and exposed generator at follow-up. We reported this case for treatment and discussion of the problem after implantation

ENDOCRINE SURGERY

THE ENDOSCOPIC VEIN DISSECTOR AND ITS ROLE IN ENDOSCOPIC THYROID SURGERY

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Background: Although most thyroid lesions are usually operated via cervical incision, unsightly scars can be avoided by endoscopic surgery. To reach thyroid tissue from remote site, the initial step of endoscopic thyroidec-

tomy is the working space creation in subplatysmal plane. While this space can be rapidly created by blunt technique, both bleeding from tearing small vessels and wrong plane dissection could be inadvertently occurred.

Objectives: To introduce our subplatysmal plane dissection technique during endoscopic thyroidectomy.

Methods: We used the endoscopic vein dissector which was designed for saphenous vein harvesting, for the working space dissection. Using this tool allowed us to perform blunt dissection quickly and also still under direct vision.

Results: Six patients who presented with single thyroid nodules or multinodular goiters underwent endoscopic thyroidectomies using the endoscopic vein dissector for initial dissection (5 lobectomies and 1 subtotal thyroidectomy). Adequate room was gained without difficulty. Neither significant bleeding nor tissue plane missing happened.

Conclusion: For working space creation in endoscopic thyroid surgery, the endoscopic vein dissector is the ideal tool. This technique is safe and feasible in our experience.

IODINE STATUS AND THE PREVALENCE OF AUTOIMMUNE THYROIDITIS IN SRI LANKA

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Introduction: Main sources of Iodine in humans are diet and drinking water. Perusal of literature indicates 99.4% of Sri Lankan households use Iodized salt. Several studies have shown increased prevalence of AIT with excessive intake of Iodine.

Objective: To assess prevalence of AIT and its relationship to intake of Iodine in Sri Lanka.

Methods: As a part of a descriptive cross-sectional study on the prevalence of goiter, prevalence of AIT was assessed by using 3 parameters (Clinical, Antibodies, Cytology). Country was divided into 6 zones according to geography and rain fall pattern. Blood, urine and drinking water samples were collected from individuals with goiter and field FNAC was performed. Urine samples were collected from randomly chosen 108 individuals as well. Preparations, transportation of samples were performed under standard protocol. Blood samples were tested for thyroid microsomal antibodies. Urine and water were checked for Iodine concentration. Positivity of two out of three parameters was diagnostic of AIT. Urinary Iodine concentration was considered as the indicator of Iodine status.

Results: 5200 participants were assessed (n = 5200) island wide and 426 were detected with goiter. Prevalence of AIT was 33.7%. Mean urinary Iodine concentration was 218.33 micrograms/L and the strength of association (R) with AIT was 0.509. Association of prevalence of AIT and urinary iodine concentration was extremely significant (P = 0.0001).

Conclusion: Increased level of urinary iodine is related to high prevalence of AIT. The long-term effects of this phenomenon require further study.

LAPAROSCOPIC ENUCLEATION OF INSULINOMA: A REPORT OF TWO CASES

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Background: Insulinoma is a rare tumor with an incidence of approximately four cases per million per year. Usually, insulinoma is small in size, insulin secreting, benign tumor of the pancreas which induced fasting hypoglycemia and required surgical treatment. Laparoscopic surgery has gained favor worldwide in the last decade.

Objectives: We described the first two patients with insulinoma treated with a laparoscopic enucleation in our hospital.

Methods: Case report

Results: The first patient was a 77-year-old female who had a 1.5 cm pancreatic insulinoma localized at the neck of the pancreas. The tumor was removed by laparoscopic enucleation in August 2010 without intraoperative complications. The blood loss was 100 ml. The operative time was 235 minutes (including time for cholecystectomy time due to a coincidence of gallstones). The postoperative hospital stay was 15 days. The second patient was a 33-year-old male with a 3-cm pancreatic insulinoma localized at the body of the pancreas. The tumor was removed by laparoscopic enucleation in January 2011 without intraoperative complications. The blood loss was 100 ml. The operative time was 140 minutes. The postoperative hospital stay was 9 days. During a follow-up period, the insulinoma symptoms have disappeared in both patients.

Conclusions: Laparoscopic insulinoma enucleation seems to be a feasible and safe approach at least in selected patients.

FIVE YEARS RETROSPECTIVE STUDY FOR RECURRENT AND PERSISTENT DIFFERENTIATED THYROID CANCER

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Background: This study was to evaluate the outcome of the reoperation for recurrent/persistent differentiated thyroid carcinoma (DTC) and the usefulness of serum thyroglobulin and imaging modalities for diagnosis of recurrent/persistent disease.

Methods: This was a retrospective observational study

in a tertiary referral hospital.

Results: A total of 95 patients, who underwent initial total or near total thyroidectomy and nodal dissection with radioactive iodine remnant ablation, and received reoperation for recurrent/persistent DTC were included in this study. Serum thyroglobulin levels were assessed before reoperation. The remission after first operation and recurrent/persistent disease were evaluated according to clinical presentation, imaging and serum thyroglobulin value.

Results: A total of 253 differentiated thyroid cancer patients were included in the study which consisted of 40 males (15.81%) and 213 females (84.19%). Patients' ages ranged from 9-83 years old and the mean age at surgery was 47.3 years old. There were 95 patients in the group who underwent surgery and categorized to be 90 recurrent disease patients (94.74%) and 5 persistent disease patients (5.26%). There were 126 reoperations totally for these patients.

Conclusion: Surgery is an effective option for managing locally recurrent/persistent DTC and palliation for distant metastasis. Stimulated thyroglobulin is a useful marker for evaluating recurrent/persistent DTC.

FIELD FINE NEEDLE ASPIRATION CYTOLOGY (FNAC); A NEW EXPERIENCE

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Background: FNAC is usually performed by a trained

pathologist. The diagnostic accuracy is high. Perusal of literature survey did not reveal any data on FNAC performed in the field. As a part of an island wide prevalence study FNAC was performed in the field.

Methods: A descriptive cross sectional study on the prevalence of goiter was conducted in 108 Grama Niladhari areas. FNAC was performed in the goiters detected after obtaining an informed written consent. Two passes were performed (one from each lobe) giving yield of four slides. Slides were prepared on the field and air dried enclosed in special containers with 95% alcohol transported within 72 hours. The slides were stained in Hemotoxylin & Eosin and assessed and reported by a single cytopathologist. The investigators who performed field FNAC completed one month of training on FNAC in the department of pathology at university of Kelaniya under direct supervision by a professor of pathology.

Results: 5200 participants were assessed (n = 5200) island wide and 426 was detected with goiters and mean age of occurrence of goiter was at 36.3 (\pm 17.3) years. Of 308 field FNAC performed, 226 (73.36%) were diagnostic and 82 (26.64%) were non diagnostic. The cytology results consisted of autoimmune thyroiditis in 112 (36.36%), normal thyroid tissue in 62 (20.12%), colloid in 32 (10.38%), colloid with thyroiditis in 14 (4.54%) and other conclusions in 6 (1.94%). The only complication was syncope seen in 6 patients.

Conclusion: FNAC is a safe investigation even in a field setting with trained person. Good diagnostic accuracy can be achieved by field FNAC.

HEPATOBIILIARY AND PANCREATIC SURGERY

LOCALIZED FLUID COLLECTION AFTER CARRIER-BOUND FIBRIN SEALANT APPLICATION ON LIVER: COMPLICATION OR PROOF OF EFFICACY? A LONG-TERM CLINICAL OBSERVATIONAL STUDY.

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Background: This prospective observational study was intended to evaluate the incidence and the long-term outcome of fluid collecting between the hepatic resection surface and a fibrinogen- and thrombin-coated collagen patch. To our knowledge, this is the first study to analyze

the long-term effects and the clinical meaning of fluid collection.

Methods: All patients undergoing hepatic resection with patch application from February 2006 to September 2008 were included. Surgical hemostasis was achieved by vascular clips or ligation and sectioning of vessels and methylene blue testing was performed. At follow-up, all patients found to have a collection between the liver surface and the collagen patch underwent a CT scan every three months.

Results: No mortality, biliary leaks or free abdominal fluid collection occurred and the morbidity rate was 10%. At follow-up, the computed tomography findings revealed

fluid between the patch and the liver transection surface in 60% of cases. The collected fluid did not increase in volume and in 66.6% of the cases the fluid spontaneously reabsorbed after a mean of 5.5 ± 1.9 months from the operation.

Conclusion: The high incidence of fluid collection and its lack of symptoms, favorable evolution, and constant stability should be considered a display of patch tightness and adhesive strength rather than a complication.

HEALTH RELATED QUALITY OF LIFE IN PATIENTS WITH HEPATOCELLULAR CARCINOMA

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Background: From the 1990s on, there has been a growing emphasis on assessment of quality of life (QoL) in patients with cancer, an assessment that may be as important as the evaluation of long-time survival. Aim of this work was to compare QoL of patients affected by HCC and submitted to hepatic resection (HR), transarterial chemoembolization (TACE), radiofrequency ablation (RFA), or no treatment (NT).

Methods: Patients affected by HCC and treated with HR, TACE, RFA or NT between 2001 and 2009 were considered for this study. Gender, diabetes, hepatitis status, Child grade, tumor size, recurrence and survival were analyzed. QoL was assessed before treatment and 3, 6, 12, and 24 months after, using a FACT-Hep questionnaire evaluating physical well-being, social/family well-being, emotional well-being, functional well-being and additional concerns. A Newmann-Keuls multiple comparison test was used to compare differences between groups. P value was considered significant if $<0,01$ and highly significant if $<0,001$.

Results: Seventy-four patients were observed for the period of study. Only 51 patients met the inclusion criteria. Fourteen patients (27,45%) were treated with HR, 15 patients (29,41%) underwent TACE, RFA was performed in 9 patients (17,65%), and 13 patients (25,49%) were not treated. Survival was better for patients who underwent HR rather than TACE, RFA or NT. After 24 months patients submitted to HR had better QoL than patients submitted to TACE, RFA or NT. Physical well-being, social/family well-being and emotional well-being 24 months after HR were significantly higher compared to all other treatments, and the differences were highly significant. Functional well-being 24 months after HR was higher compared to other treatments and the difference was significant in comparison

with RFA and highly significant in comparison with TACE and NT. Additional concerns 24 months after HR were in favour of HR and the difference was significant in comparison with RFA and highly significant in comparison with TACE and NT. Survival was longer after HR compared to other treatments.

Conclusions: Hepatic resection represents the treatment of choice since it provides the best QoL at 24 months. RFA, despite the better improvement in QoL after the procedure, provides a worse QoL compared to HR, but it is related to a higher QoL compared to TACE or NT.

ANATOMICAL RESECTION OF SEGMENT 8 FOR LIVER TUMOR: A GLISSONIAN APPROACH

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Background: Anatomical resection of segment 8 is a technically demanding operative procedure and difficult to perform because of the location of segment 8, the relation between segment 8 and the main intrahepatic vessels, and the absence of anatomical landmarks. The aim of this VDO presentation was to describe in detail of a safe technique for an anatomical segment 8 resection.

Methods: We showed the patient with large tumor locating in segment 8 of liver who underwent an anatomical segment 8 resection by using a Glissonian approach.

Results: The technique was performed successfully in eight consecutive patients with liver tumors. The mean operative time was 258 min. Intraoperative blood loss was minimal. No patient required intraoperative blood transfusion. Only one patient developed mild complication. All patients were discharged in good condition. The surgical margin was negative in all patients.

Conclusions: A Glissonian approach for anatomical segment 8 resection is feasible, effective and safe parenchyma-sparing procedure. It may be an alternative to extensive hepatectomy.

MAILGNANT CHOLEDOCHAL CYST: A CASE REPORT AND REVIEW

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Background: Choledochal cysts (CDC) are uncommon biliary lesions with well documented congenital

dilatations of the intra and/or extrahepatic biliary tree that can carry significant morbidity if not recognized and treated early. This case report described the long history of abdominal dyspepsia in a 44-year-old woman who had a cholangiocarcinoma in a choledochal cyst diagnosed with magnetic resonance cholangiopancreatography (MRCP) and subsequently underwent hepatic hilar resection with Whipple operation. It illustrated the need for early diagnosis and complete excision of a choledochal cyst to prevent their complications such as cholangitis and malignant transformation.

Case presentation: A 44-year-old woman was referred to the Phramongkutklo Hospital because of abdominal discomfort and jaundice for one month. She had a history of recurrent dyspepsia for 5- 10 years and received medication from a local hospital. This patient was diagnosed with obstructive jaundice for two weeks which may cause from pancreatic cancer. On physical examination, she had normal vital signs, deep icteric skin and sclera, palpable distended gallbladder at right subcostal area with mild tenderness. Laboratory tests revealed 22.39 mg% total bilirubin and 20.35 mg% direct bilirubin. Abdominal ultrasound and magnetic resonance cholangiopancreatography (MRCP) showed a large heterogeneous mass in dilated common bile duct size about $7 \times 5 \times 11$ cm. with extension of dilatation to intrahepatic duct (Figure 1).

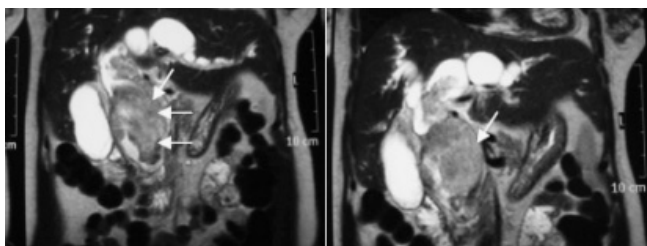


Figure 1. Heterogeneous mass in choledochal cyst (arrows)



Figure 2. Dilated gallbladder (short arrow); cholangiocarcinoma in fusiform dilated CBD (long arrow)

The preoperative diagnosis of choledochal cyst with carcinoma was made and the operation was performed. The whole dilated common bile duct contained tumor extending from distal common bile duct to common hepatic bifurcation and left main hepatic bile duct (Figure 2) and

the frozen section suggested adenocarcinoma. Then cholecystectomy, hepatic hilar resection including standard pancreaticoduodenectomy was performed. This patient recovered uneventfully in 10 days and was discharged 12 days after surgery.

OUTCOME OF LAPAROSCOPIC ASSISTED PANCREATICODUODENECTOMY IN CHULALONGKORN HOSPITAL

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Background: Pancreaticoduodenectomy is the standard treatment of periampullary tumor. In the minimally invasive era, laparoscopic procedure was introduced for diagnosis and definitive treatment of periampullary tumor. The benefit of laparoscopic treatment is less postoperative pain, quicker recovery and return to work. In our hospital laparoscopic assisted pancreaticoduodenectomy has been performed for resectable periampullary tumor since 2007. This study was designed to evaluate outcome of the procedure.

Methods: Twenty two cases of peri-ampullary tumors and pancreatic tumors who underwent laparoscopic assisted pancreaticoduodenectomy from January 2007 to May 2011 were retrospectively analyzed. There were 8 males and 14 females aged from 32 to 82 years old (mean age was 62.7 years). The data collected were operative time, blood loss, conversion rate, pathological outcome, postoperative complication, postoperative pain and hospital stay.

RESULTS: The mean operative time was 285 minutes (range; 240-440 min) and mean operative blood loss was 838 ml (range; 300-2100 ml). Two cases (9%) were converted to open procedure due to tumor adhering to portal vein and SMV and 1 case (4.5%) was re-operated on the first operative day due to postoperative bleeding. Eight cases (36%) did not require perioperative blood transfusion. The mean postoperative pain score at Day 1 was 4.1 points (range; 2-7 point). Postoperative morbidity occurred in 9 cases (40%); 7 cases had pancreatic fistula, 6 cases had wound infection and 1 case had E-limb obstruction, intra-abdominal collection and catheter sepsis but did not require reoperation. One mortality case was due to deep vein thrombosis and pulmonary embolism. The mean hospital stay was 27 days (range; 9-106 days). The pathologies of diseases were CA ampulla 13 cases (59%), CA head of pancreas 3 cases (13.6%), neuroendocrine tumor of

pancreas 2 cases(9%), IPMN of head of pancreas 2 cases, adenocarcinoma of distal CBD 1 case, serous cystadenoma 1 case. Specimen margins were all free and mean removed lymph nodes were 16 nodes (range; 7-38 nodes).

Conclusion: Early experience of laparoscopic assisted pancreaticoduodenectomy in our hospital was successful with satisfactory outcome. Perioperative bleeding was the main cause of conversion and reoperation. Common postoperative complications were pancreatic fistula and wound infection that caused increased postoperative pain and prolonged hospital stay but were managed conservatively. Randomized comparative trials are needed to establish the superiority of laparoscopy versus open surgery.

STRONG EXPRESSION OF CD24 IS ASSOCIATED WITH INCREASED CHOLANGIOCARCINOMA PROGRESSION

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Cholangiocarcinoma is frequently found to invade local tissues and metastasize to distal organs. Here we investigated the expression of CD24 in cholangiocarcinoma samples and its prognostic significance. In addition, the cellular function of CD24 was studied in the RMCCA1 cholangiocarcinoma cell line. High CD24 expression was significantly correlated with lymph node metastasis and positive surgical margins in cholangiocarcinoma patients. Univariate and multivariate analyses further demonstrated that CD24 expression was significantly associated with the overall survival of these patients ($p = 0.007$ and $p = 0.040$, respectively). For in vitro studies, the magnetic activated cell sorting (MACS) system was used to isolate CD24+ and CD24- cell populations from RMCCA1 cells. CD24+ RMCCA1 cells had increased chemoresistance, adhesion ($p = 0.004$), motility ($p < 0.001$), migration ($p < 0.001$) and invasion ($p < 0.001$) capabilities when compared to CD24- cells. The matrix metalloproteinase (MMP) -7 was significantly elevated in CD24+ RMCCA1 cells ($p = 0.01$). Lastly, we found that inhibition of CD24 using siRNA silencing significantly decreased the invasive capacity of RMCCA1 cells. Both clinical and in vitro studies suggest that expression of CD24 is associated with cholangiocarcinoma disease progression. CD24 may thus serve as a new target for directed molecular therapy of cholangiocarcinoma.

DETECTION OF CIRCULATING TUMOR CELLS IN THE PERIPHERAL BLOOD INDEPENDENTLY PREDICT SURVIVAL IN PATIENTS WITH ADVANCED MALIGNANT BILIARY TRACT DISEASES: A NEW GUIDE FOR SELECTION OF STENTS

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Background: To determine the role of circulating tumor cells (CTCs) in prediction of the overall survival of patients diagnosed with advanced malignant biliary tract obstruction diseases.

Methods: We investigated the prognostic value of circulating tumor cells (CTCs) by examining two markers (cytokeratin [CK] 19 and telomerase reverse transcriptase [hTERT] mRNA) in 40 patients diagnosed with advanced malignant biliary tract diseases. Quantitative real-time reverse transcription (RT-PCR) was used to detect CK19 and hTERT mRNA in the peripheral blood of these patients. Overall survival was analyzed using the Kaplan-Meier method and Cox regression modeling.

Results: Positive CK19 and hTERT mRNA expression was detected in 45% and 60%, respectively, of the 40 patients sampled. Univariable analysis indicated that positive CK19 mRNA expression was significantly associated with worse overall survival ($p = 0.009$). Multivariable analysis determined that positive CK19 mRNA expression, patient's age and serum bilirubin were each independently associated with overall survival.

Conclusion: CK19 mRNA expression levels in peripheral blood appear to provide a valuable marker to predict overall survival in patients with advanced malignant biliary tract obstruction

SURGICAL OUTCOMES OF HEPATOCELLULAR CARCINOMA IN KING CHULALONGKORN MEMORIAL HOSPITAL

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Background: Hepatocellular carcinoma (HCC) is the most common hepatic malignancy worldwide, especially in Asia relating to the high incidence of chronic hepatitis B

and C viral infection. Although the liver transplantation offers the good overall result of treatment, the liver resection still has a crucial role in preserved liver function in cirrhotic patients.

Objective: The aim of this study was to identify the overall survival and disease free survival of the 146 HCC patients treated by liver resection in King Chulalongkorn Memorial Hospital.

Methods: All selected 146 HCC patients who underwent liver resection during January 2006 to December 2010 were retrospectively reviewed. The surgical outcomes including overall survival rate, disease free survival rate, morbidity and mortality rate were recorded and analyzed by using Kaplan-Meier method.

Results: During the study period, there were 0.7 % in-hospital mortality rate and 39% morbidity rate. The most common complication was pleural effusion. Overall 5-year survival rate was 45.5% and median survival rate was 17.4 months. The 5-year disease free survival rate was 27.7%. Poor differentiation of tumor and vascular invasion displayed the worse outcome.

Conclusion: According to our low mortality and morbidity rate, liver resection for HCC should be the standard option for well preserved liver function patient.

SURGICAL TREATMENT FOR PERIHILAR CHOLANGIOCARCINOMA AT KING CHULALONGKORN MEMORIAL HOSPITAL

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Objective: The best treatment for peri-hilar cholangiocarcinoma (HCCA) is curative resection. The

radical procedure especially major hepatectomy provides the best chance of survival. Herein we presented the outcomes of surgical resection for HCCA at the King Chulalongkorn Memorial Hospital (KCMH) between May 2004 and October 2009.

Methods: The records of 46 patients with HCCA who underwent curative resection between May 2004 and October 2009 at KCMH were retrospectively reviewed. Demographic data, data of preoperative biliary drainage (PBD), resectability, complications, mortality and survival were analyzed.

Results: Forty six patients underwent surgical resection. PBD was performed in 34 (73.9%) patients. Mean total bilirubin (TB) before PBD was 15.0 mg%. TB before curative resection was 3.57 mg% in PBD group and 5.84 mg% in non-PBD group. Mean duration for PBD was 39.6 days. Portal vein embolization was done in 8 (17.4%) patients. Right hepatectomy was performed in 36 (78.3%) patients, left hepatectomy in 8 (17.4%) patients, parenchymal preserving hepatectomy in 1 (2.2%) patient and bile duct resection alone in 1 (2.2%) patient. For the pathological results, 22 (47.8%) patients achieved free margin (R0) while 24 (52.2%) patients had involved margin (R1/R2). Morbidity and mortality were occurred in 24 (52.2%) and 3 (6.5%) patients respectively. The overall 1-, 3- and 5-year survival rates were 70%, 34% and 24%. The 5-year survival of free margin group was 41% and none survived for 5 years in involved margin group.

Conclusions: HCCA is the aggressive cancer with poor prognosis. Surgical resection is the only chance for cure. Patients who achieved major hepatectomy with free margin had much better 5 year survival than patients who did not. Major hepatectomy with free margin should be the goal of treatment of HCCA for achievement of good outcomes.

MINIMAL INVASIVE SURGERY

THORACOSCOPIC RADICAL ESOPHAGECTOMY FOR CANCER, ACCORDING TO MICROANATOMY

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Background and Methods: Since 1996, Video-assisted thoracoscopic esophagectomy (VATS), according the same surgical principles as the Japanese open surgery, has been

completed in 400 patients with esophageal cancer, aiming at reducing the extensive invasiveness. Our indication for VATS is 1) no extensive pleural adhesion, 2) no contiguous tumor spread, 3) pulmonary function capable of sustaining single-lung ventilation, and 4) anticancer-treatment-naive patients. We used 4 ports around a 5 cm mini-thoracotomy on 5th intercostals space. We laid emphasis on utilizing magnifying effect of video, obtained by positioning the camera at close vicinity to the dissection.

Results: Surgery related hospital death was two

(0.6%). The number of retrieved nodes, blood loss, duration of procedure, and morbidity were 34.4 nodes, 190 g, 186 min, and 32%, respectively, which were not different from those of open surgery. However, examining our learning curve in VATS, the most remarkable difference was found between first 36 cases and the later. The learning reduced blood loss and duration of procedure significantly from 412 g and 270 min to 149 g and 183 min. The learning reduced the incidence of pulmonary complications from 28% to 5%. Multivariate analysis demonstrated that only surgical experience predicted the risk of pulmonary complications. The reduction of vital capacity was 15% after VATS, which was significantly less than 22% after open surgery. The 5-year survival rates of the VATS patients with pT1-2, pT3 lesion and pN0, pN1 were 69%, 60%, and 84%, 44%, respectively, which were not different from open surgery patients. VATS can be performed with safety and efficacy comparable to those of open surgery. Morbidity decreased with the surgeon's experience. After learning, higher quality of lymph node dissection could be performed through VATS, under magnified view, than open surgery. The microanatomy confirmed in our VATS were sympathetic nerves from thoracic and cervical ganglions, pretracheal and esophageal branches of vagus and recurrent nerves, and their epineurium, and fine muscular bands between the trachea and esophagus, and mural structure of thoracic duct, etc..

Conclusion: Our technique of VATS with demonstrating the microanatomy was presented with video.

A CASE OF AMPULLARY TUMOR SUCCESSFULLY MANAGED WITH ENDOSCOPIC AMPULLECTOMY

Editor

Department

Background: Pancreaticoduodenectomy (Whipple's operation) and transduodenal ampullectomy have been the procedure of choice for ampullary tumor. However, for the patients who are unfit for surgical operation, endoscopic ampullectomy may be an alternative treatment.

Methods: Case report.

Results: We reported an 82-year-old man with ampullary tubular adenoma with high-grade dysplasia in which endoscopic ampullectomy was performed successfully. The patient presented with upper urinary tract infection. He had history of old cerebrovascular accident, coronary artery disease, diabetes mellitus, hypertension and chronic kidney disease. He had history of cholecystectomy with choledochoduodenostomy 15 years ago. He had anemic symptoms and his completed blood

count showed hemoglobin 6.4 g/dl. Esophago-gastro-duodenoscopy was performed and revealed cauliflower ampullary tumor sized 3 cm. Biopsy specimens of ampulla showed adenomatous change with focal area of carcinoma in situ. The patient was refused and unfit for surgery. Endoscopic ampullectomy by snare resection technique was performed under intravenous anesthesia (IVA). The pathological reported showed tubular adenoma high-grade dysplasia, no evidence of malignancy change. The patient was discharged from the hospital 14 days after endoscopic ampullectomy without complications such as pancreatitis. The patient has been well without recurrence for the 6 month follow up.

Conclusion: Endoscopic ampullectomy may be considered as an alternative to surgery in patient with ampullary tumor who are unfit for surgery or who prefer endoscopic approach.

EARLY OUTCOME OF LAPAROSCOPIC RADICAL GASTRECTOMY FOR ADVANCED GASTRIC CANCER IN NATIONAL CANCER INSTITUTE

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Background: Laparoscopic surgery has become widely used for the treatment of early gastric cancer in Japan. Despite its increasing prevalence, this modality remains rarely used for treating advanced gastric cancers. Laparoscopic gastrectomy for early gastric cancer is accepted for oncologic control. In recent years, there are a few reports of laparoscopic radical gastrectomy for advanced gastric cancer. Laparoscopic gastrectomy for advanced gastric cancer is still in developmental phase because of the technical difficulty of the procedure. In order to utilize laparoscopic surgery in the treatment of advanced gastric cancers, the laparoscopic D2 dissection according to the JCGC is necessary. We presented 4 cases of laparoscopic gastrectomies for advanced gastric cancer patients. We described the technical aspects and initial results for laparoscopic D2 dissection for advanced gastric cancer located in the middle or lower portion of the stomach.

Methods: Between October 2010 to February 2011, four laparoscopic gastrectomies for gastric carcinoma were performed in two male and two female patients (mean age, 63.2 years). Two D2 total radical gastrectomies and two D2 subtotal distal gastrectomies were performed using a totally

laparoscopic approach and laparoscopic assisted approach. In the reconstruction phase of the procedure, anastomosis was accomplished by the Roux-en-Y method. The short upper midline wounds were used for specimen bag removal in three cases. The specimen bag was retrieved transvaginal opening in one case.

Results: Four patients underwent complete laparoscopic procedures without any intraoperative complications. The operative duration was about 10 hours and amount of blood loss was about 500 ml. The number of lymph nodes retrieved for these laparoscopic procedures was 18-26 lymph nodes, which are comparable to the number of lymph nodes retrieved with the open surgical technique. All patients recovered uneventfully from surgery. Complication presented in one case was gastric stasis after laparoscopic assisted subtotal gastrectomy in a 83-year-old male patient with pT4N1M0 cancer. For oncologic outcome, the pathological report shown more than 18 nodes were removed and free margins in 3 cases. Another case, the malignant cell found in distal margin of specimen which grossly 3 cm far from tumor and 1 cm far from pylorus. This mistake can occur even in open surgery.

Conclusion: Laparoscopic radical gastrectomy for advanced gastric cancers can produce good results in terms of safety and oncologic adequacy.

LAPAROSCOPIC MANAGEMENT OF ESOPHAGEAL LEIOMYOMA

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Background: Benign tumors of the esophagus are rare lesions that constitute less than 1% of esophageal neoplasms. Leiomyomas are the most common benign tumors of the esophagus. The majority of leiomyomas have been discovered incidentally during evaluation for dysphagia or during autopsy. Surgical excision is recommended for symptomatic tumors and those greater than 5 cm. The operation can be performed via thoracoscopic or laparoscopic approach depending on the location of tumor.

Methods: We demonstrated laparoscopic management of leiomyoma of distal esophagus.

Results: A 58-year-old man underwent routine check-up with chest x-ray showing a mass at mediastinum. He did not have dysphagia and CT scan revealed submucosal mass 5 cm in diameter at distal esophagus. Esophagoscopy

showed normal mucosal and bulging at EG junction and endoscopic ultrasonography showed well-circumscribed submucosal mass. We successfully performed laparoscopic enucleation with operative time of 90 minutes. There was no postoperative complication. The pathology revealed leiomyoma 5 cm in diameter.

Conclusion: Laparoscopic enucleation of leiomyoma of distal esophagus is feasible and safe.

LAPAROSCOPIC VENTRAL HERNIA REPAIR

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Background: Ventral hernias represent the defects in the fascial and muscular layers of the abdominal wall which intra-abdominal contents can protrude. Ventral hernias may be congenital or acquired. Epigastric hernias occur from the xyphoid process to the umbilicus, umbilical hernias occur at the umbilicus, and hypogastric hernias are rare spontaneous hernias that occur below the umbilicus in the midline. Acquired hernias typically occur after surgical incisions and are therefore termed incisional hernias. Those hernias may develop through deterioration of the abdominal muscular layers or they may develop from failed healing of an anterior abdominal wall surgical incision. Umbilical hernias present in approximately 10 percent of all newborns and are more common in premature infants. Most congenital umbilical hernias close spontaneously by age 5 years. If closure does not occur by this time, elective surgical repair usually is advised. Adults with small, asymptomatic umbilical hernias may be followed clinically. Surgical treatment is offered if a hernia is observed to enlarge, if it is associated with symptoms, or if incarceration occurs. Surgical treatment may consist of primary sutured repair or placement of prosthetic mesh for larger defects (more than 2 centimeters) using open or laparoscopic methods. Based on the national operative statistics, incisional hernias account for 15% to 20% of all abdominal wall hernias whereas umbilical and epigastric hernias constitute 10% of hernias. Patient-related factors linked to ventral hernia formation include obesity, older age, male gender, sleep apnea, emphysema, and prostatism. It has been proposed that the same factors associated with destruction of the collagen in the lung result in poor wound healing with increased hernia formation. Wound infection has been linked to hernia formation. Few prospective randomized trials have compared laparoscopic and open ventral hernia repairs, the results tend to favor a laparoscopic approach. The incidences of postoperative

complications and recurrence were less in hernias repaired laparoscopically. Several retrospective reports demonstrate similar advantages for a laparoscopic approach. Based on the comparative trials, laparoscopic incisional hernia repair results in fewer postoperative complications, a lower infection rate, and decreased hernia recurrence. Until an appropriately powered prospective randomized trial is performed, the ideal approach will largely be based on surgeon expertise and preference.

Objectives: To present the laparoscopic techniques for management of the ventral hernias and to suggest the extracorporeal transfascial sutures for prevention of the mesh separation in the IPOM approach.

Methods: The preliminary clinical experiences in laparoscopic ventral hernia repair, the procedure was selected by a totally extraperitoneal (TEP) repair or a Transabdominal preperitoneal repair (TAPP) or an intraperitoneal onlay mesh repair (IPOM). With the TEP repair, the preperitoneal space is developed with a balloon inserted between the posterior abdominal wall fascia and the peritoneum. The balloon is then inflated to dissect the peritoneal flap away from the posterior abdominal wall, and the other ports are inserted into this extraperitoneal space without entering the peritoneal cavity. A piece of polypropylene mesh is introduced into the extraperitoneal space. It is positioned over the hernial ring and secured in place with the spiral tacks. The peritoneum is frequently thin and tears easily once dissected, it is sometime necessary to suture the recognized peritoneal lacerations. With the TAPP repair, the peritoneal space is entered by conventional laparoscopy, and the peritoneum overlying the hernia is dissected away as a flap. The peritoneum and hernial sac are dissected free from the abdominal wall so that the fascial ring is circumferentially exposed. A piece of polypropylene mesh is introduced into the abdominal cavity through the canula and proceeds in an identical fashion to the TEP procedure. The peritoneum is then closed with running suture on straight needle by intracorporeal hand suturing technique. The basis of the IPOM repair is to place the prosthesis directly onto the peritoneum. Thus, no preperitoneal dissection is required and the hernia sac is undisturbed. A large piece of absorbable barrier composite mesh is introduced into the peritoneal cavity and secured in place using a combination of spiral tacks and sutures. The extracorporeal transfascial sutures at the corners of the mesh by separated skin incisions are routinely performed to prevent the mesh separation.

Conclusions: The laparoscopic approach is an increasingly used alternative method for repair of ventral hernias. The repair generally is performed intra-abdominally and involves placement of intraperitoneal mesh

prosthesis to cover the hernia defect. Early results show that the technique is safe, simple, and effective, with results that are better than or equivalent to the results of open repair. Length of hospital stays and pain medication requirements are less than with open repair. Use of the laparoscopic technique was associated with statistically fewer wound complications, fewer overall complications and a lower recurrence rate than use of the open technique. The laparoscopic approach may be selected by a totally extraperitoneal (TEP) repair, a transabdominal preperitoneal repair (TAPP) and an intraperitoneal onlay mesh repair (IPOM). The disadvantages of the TEP and TAPP approach are the extensive dissection in the preperitoneal space required to perform and the operation took longer for the processes of mesh fixation and peritoneal approximation. The advantages of the IPOM approach are that there is a large working space and familiar anatomic landmarks are visible. A problem is mesh separation due to inadequate fixation. The extracorporeal transfascial sutures at the corners of the mesh by separated skin incisions combined with spiral tracks fixations are recommended.

COMBINED ENDOSCOPIC AND LAPAROSCOPIC INTRAGASTRIC RESECTION IS MANAGEMENT OPTION FOR SUBMUCOSAL TUMOR OF STOMACH.

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Background: Submucosal tumor of stomach is not a common condition. The most common lesion is leiomyoma or GIST of stomach. The management of submucosal gastric tumor is follow-up or resection. The resection of this lesion is usually an open procedure but nowadays with the development of minimally invasive surgery the resection can be performed via a laparoscopic approach.

Methods: We demonstrated the combined endoscopic and laparoscopic intragastric resection of submucosal tumor of stomach.

Results: A 50-year-old woman presented with dyspepsia. The esophagogastroduodenoscopy showed submucosal mass at the posterior wall of stomach near EG junction. We successfully performed combined endoscopic and laparoscopic intragastric resection. Tumor was removed via endoscopy. The operative time was 90 minutes. The patient was discharged on the 5th postoperative day with no postoperative complication. The pathology revealed gastrointestinal stromal tumor (GIST) of stomach 1.5 cm in diameter.

Conclusion: Combined endoscopic and laparoscopic

intra-gastric resection is a new technique for management of submucosal tumor of stomach. This procedure can be performed safely if surgeons have experience in endoscopic and laparoscopic procedure.

ENDOSCOPIC SUBMUCOSAL DISSECTION OF LATERAL SPREADING TUMOR

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Lateral spreading tumor (LST) is another problem of the endoscopist. Previously, size of the tumor makes the limitation of the treatment to the surgery. With the new technique of endoscopic procedure, we can remove large gastrointestinal lesions through the endoscope without any incision on the abdomen. The Endoscopic Submucosal Dissection, ESD procedure, is now a standard of endoscopic removal of large gastrointestinal lesion in some part of the world. Only a small number of successful cases had been reported outside Japan and Korea especially colorectal lesions due to the complexity of procedure and equipments preparation. The video showed the successful removal of LST lesion by ESD procedure in Thailand.

AUDIOVISUAL DVD COMBINED WITH STANDARD TRADITIONAL INFORMED CONSENT ENHANCES SURGICAL PATIENT SATISFACTION AND COMPREHENSION: A COMPARATIVE TRIAL IN LAPAROSCOPIC CHOLECYSTECTOMY

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Objectives: To study the audiovisual DVD informed consent enhancing satisfaction and comprehension of surgical patient in laparoscopic cholecystectomy.

Methods: A prospective randomized trial was done in patients undergoing laparoscopic cholecystectomy. Before operation, all patients were randomized into 2 groups. Group 1 was informed under standard traditional informed consent and Group 2 was informed under audiovisual DVD combined with standard traditional informed consent. The patients were interviewed by nurse using checklist questionnaire about satisfaction and comprehension on the day of discharge.

Results: Between June 2010-December 2010, 50 patients who underwent laparoscopic cholecystectomy were

recruited with 25 patients in each group. The average satisfaction score in G1 was 3.15 from 5 and G2 was 4.48 from 5 ($P < .001$). The percentage of patients who understood operative information were as follows: 1) Understand >50% of information; G1 was 13.22% and G2 was 69.85% 2) Understand 1-50% of information; G1 was 18.00% and G2 was 26.45% 3) Not understand; G1 was 68.78% and G2 was 3.70%. The subgroup analysis of 7 items of information (operative indication, operative process, operative result, possible complications, wound care, diet care, return to work) were more understood in G2 than G1 ($P < 0.05$).

Conclusions: Audiovisual combined with standard traditional informed consent enhanced satisfaction and comprehension of laparoscopic cholecystectomy patients. This process needs appropriate information of operation and educate the patient by using precise, informative and comprehensive DVD multimedia. The surgeon who will operate on the patient should be a presenter and actor in that DVD. The additional advantage of this intervention DVD is repeatable information for all patients that need the same operation independent of place and time.

ENDOSCOPIC STRAPLER ESOPHAGODIVERTICULOTOMY FOR ZENKER'S DIVERTICULUM: A CASE REPORT AT SAMITVEJ SUKHUMVIT HOSPITAL

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Background: Zenker's Diverticulum is uncommon, 0.01-0.1% of population in USA and much less in the east. It happens mainly in the elderly with peak incidence at 70-90 years of age. This diverticulum has posterior protruding of esophagopharyngeal mucosa between cricopharyngeal muscle and inferior pharyngeal constrictor muscles, forming a pocket between esophagus and vertebral bodies. Patient presents with upper esophageal dysphagia, reflux undigested food and aspiration. Aspiration pneumonia is the most potential risk, so surgical treatment is necessary. Conventional surgical treatment is via opened wound at the neck to remove the diverticulum and relax the spastic cricopharyngeus muscle, with some risks especially in such as postoperative pain, bleeding, leakage, infection and post anesthetic complication, etc. In recent years, the new endoscopic trans-oral division of the diverticulum by cutting and stapling device becomes rapidly preferred and accepted method, because of much less post-operative discomfort

and short recovery.

Methods: A 78-year-old British lady who lived in the north of Thailand presented with symptoms of difficulty in eating and drinking. She developed choking or aspiration. Even when taking tablets or capsules of medicine. Esophagography and upper endoscopy revealed a large Zenker's diverticulum at just above the upper esophageal inlet. She also had chronic maxillary sinusitis with posterior nasal dripping, allergic bronchitis with asthma, hypertension, hypothyroidism and severe thoracolumbar scoliosis which made her stay at upright position all the times, even during sleeping. After careful pre-operative preparation, she underwent operations of FESS, for maxillary sinusitis and trans-oral endoscopic division of the

cricopharyngeal ridge between the pocket of diverticulum esophageal lumen using automatic cutting and stapling device down until the bottom of diverticulum reached. So the pocket was turned to common channel with esophageal lumen. She recovered uneventfully, without pain at her neck and started sipping of water 24 hours after operation. The symptoms of choking on swallowing of food and medicine tablet and capsules disappeared. On follow-up visit, she was well and her nutritional status has improved.

Conclusion: This new operative technique is less invasive, provides better outcome and minimizes risks for treatment of symptomatic Zenker's diverticulum. We recommend this technique as a standard treatment in the future.