Abstracts

Session (1) | Pancreas (1)

Pancreatic pseudocyst dilemma; cumulative multi-centers experience in management using endoscopy, laparoscopy, and open surgery

Mohammed Ahmed Omar

Background: Pancreatic pseudocyst is the commonest cystic lesion of the pancreas. Internal drainage of pancreatic pseudocysts can be accomplished by traditional open or recently by minimally invasive laparoscopic or endoscopic approaches. We aimed to evaluate and compare the clinical outcomes after endoscopic, laparoscopic, and open drainage.
Methods: 71 Patients with pancreatic pseudocyst underwent endoscopic (n=35), laparoscopic (n=4) and open surgical drainage (n=32). The primary outcome was the success rate. The secondary outcomes were the estimated blood loss, operative time, opioid requirement, morbidity and mortality, length of hospital stay, and recurrence rate.
Results: The primary success rate was significantly higher for laparoscopic and open groups than for the endoscopic group, but the overall success rate was equivalent across the groups. There were no significant differences in the morbidity, mortality, requirement of blood transfusion, re-interventions and recurrence rate between the groups. Endoscopic drainage revealed significantly lower blood loss, operative time, opioid requirement and hospital stay in comparison to open and laparoscopic drainage.
Conclusion: Minimally invasive therapeutic techniques, whether endoscopic or laparoscopic for treatment of pancreatic pseudocyst could be considered valuable, competitive and promising alternatives for open surgery. Moreover, it is less invasive with less hospitalization and rapid return to work.

Vascular Reconstruction (SM/PV) in periampullary tumors . . . . . is there a difference??

Taha Yassein Â, Hany Shoreem Â, Eslam Eyoup Â, Sayed EÂ, Jan Schmidt Â

Surgical resection remains the treatment of choice and only hope for long-term survival for patients with pancreatic cancer. Numerous studies have supported the safety and feasibility of combining PD with vascular resection in an attempt to obtain negative margins.
Aim: To evaluate the impact of vascular reconstruction on the early postoperative outcome after resection of periampullary tumors.
Methods: From January 2010 to October 2015,114 patients underwent PD for periampullary tumors in National Liver Institute, Monufia University. Patients who underwent PD with vascular resection (N=18) were compared to patients who underwent standard PD (N=96) as regard: Vascular reconstructions were performed due to: vascular invasion in 14 patients and vascular injury in another 4 patients. Vascular reconstructions were performed with resection of the involved vascular segment with: primary repair (N=12), vein patch (N=4), & interposition grafting in 2 patients.
Results: male 11 (61.1%) and female7 (38.9%) age range (39–72) with the mean 56.pancreatic ducts tent in three patients (16.75), operative time range (4–8 h) with mean±SD 6.1±1.6, blood loss range (350–1300) with mean±SD 581.25±308.1, and blood transfusion occurred in four patients (22.2%) LN involvement in 10 (55.6%), vascular invasion in 7 (38.8%) and surgical margin free in 15 (83.4%). There is no statistically significant difference between the postoperative 6 month's survival in patients with vascular reconstruction and those without vascular reconstruction (P value=0.098).
Conclusion: Perioperative mortality, readmission rates, length of stay, and overall complication rates does not significantly differ between standard PD and PD with VR.

Outcomes of pancreaticoduodenectomy in elderly patients: A Case-Control study

Waleed Askar, Ayman El Nakeeb

Background: Although mortality and morbidity for pancreaticoduodenectomy (PD) have improved significantly over the last years, the concern for elderly undergoing PD still present. This study reviewed the surgical outcome of elderly patients who underwent PD.
Patient and methods: We retrospectively studied all patients who underwent PD in our center between January 1995 and February 2015. Patients were divided into three groups; Group I (patients with age <60 years), Group II (patients with age 60-69 years) and Group III (patients >70 years. The primary outcome was the rate of total postoperative morbidities. Secondary outcomes included total operative time (hours), hospital mortality, length of postoperative stay (days), and survival rate.
Results: 828 patients underwent PD for resection of periampullary tumor in this study. Group I included 579 (69.9%) patients while group II, included 201 (24.3%) patients and group III included 48 (5.8%) patients.

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The overall incidence of complications was higher in elderly group (25.9% in group I, 36.8% in group II, and 37.5% in group III *P*=0.006). Delayed gastric emptying developed significantly in group II than the other two groups. There was no significant difference in the incidence of POPF, biliary leakage, pancreatitis, pulmonary complication and hospital mortality. No significant difference among the groups as regards the median survival and the overall survival 1-,2-,3- year survival

Conclusion: PD can be performed safely in selected elderly patients. Advanced age alone should not a contraindication to do PD. The elderly patients are at risk of postoperative morbidity after PD but with acceptable rate.

Enveloped double purse–string versus conventional pancreatico–gastrostomy during Whipple procedure: Comparative study at sohag University Onco–surgery Program

Ashraf Mohammad El-Badry

Background: Pancreatico-gastrostomy (PG) is widely applied for restoration of connection between the distal pancreatic remnant and digestive tract during Whipple procedure. Comparative studies on the clinical outcome of various PG techniques are scarce.

Methods: Medical records of patients who underwent PG at Sohag University Hospital (November 2012-December 2015) were reviewed. Patients who had PG using Enveloped Double Purse-String sutures (EDPSPG) were compared with control group of conventional transfixing suture PG regarding the postoperative outcome.

Results: Twenty-seven patients (18 conventional PG and 9 EDPS-PG) were enrolled. Grade C postoperative pancreatic fistula (POPF) occurred only in the conventional PG group. Patients in the EDPS-PG group needed significantly shorter time before removal of the abdominal drains (*P*=0.04), significantly reduced length of hospital stay (*P*=0.03) and significantly lower grades of postoperative complications (*P*=0.02) compared with the conventional PG group. Postoperative death occurred only in one patient in the control group. No significant difference could be found regarding operative time, postoperative bleeding delayed gastric emptying or bile leak.

Conclusion: EDPS-PG is simple and safe technique for PG during Whipple procedure and results in significant reduction of POPF and overall complications.

Total pancreatectomy: Short- and long-term outcomes at a high-volume pancreas center

Hazem M Zakaria, John A Stauffer, Massimo Raimondo, Timothy A Woodward, Michael B Wallace, Horacio J Asbun

Aim: To identify the current indications and outcomes of total pancreatectomy at a high-volume center.

Methods: A single institutional retrospective study of patients undergoing total pancreatectomy from 1995 to 2014 was performed.

Results: One hundred and three patients underwent total ductal adenocarcinoma (*n*=42, 40.8%), intraductal papillary mucinous neoplasms (*n*=40, 38.8%), chronic pancreatitis (*n*=8, 7.8%), pancreatic neuroendocrine tumors (*n*=7, 6.8%), and miscellaneous (*n*=6, 5.8%).

The mean age was 66.2 years, and 59 (57.3%) were female. Twenty-four patients (23.3%) underwent a laparoscopic total pancreatectomy. Splenic preservation and portal vein resection and reconstruction were performed in 24 (23.3%) and 18 patients (17.5%), respectively. The 90 d major complications, readmission, and mortality rates were 32%, 17.5%, and 6.8% respectively. The 1-, 3-, 5-, and 7-year survival for patients with benign indications were 84%, 82%, 79.5%, and 75.9%, and for malignant indications were 64%, 40.4%, 34.7% and 30.9%, respectively.

Conclusion: Total pancreatectomy, including laparoscopic total pancreatectomy, appears to be an appropriate option for selected patients when treated at a high-volume pancreatic center and through a multispecialty approach.

Session (2) | Colorectal

Real-time intraoperative fluorescent lymphography – a new technique for lymphatic sparing surgery

Giuseppe Ietto

Background: Many surgical procedures can produce persistent lymphorrea, lymphoceles and lymphedema after lymph nodes and lymph vessels damages. Appropriate visualization of the lymphatic system is challenging. Indocyanine green (ICG) is a well-known non-toxic dye for lymphatic flow evaluation. ICG fluorescent guided lymphography has emerged as a promising technique for intraoperative lymphatic mapping.

Objective: We aimed to develop a high spatial resolution real-time intraoperative imaging technique to avoid or early recognize deep lymphatic vessels damage.

Methods: We intraoperatively performed ICG fluorescence-guided lymphography during a kidney transplant. ICG was injected in the subcutaneous tissue of the patient's groin in the Scarpa's triangle (A). A dedicated laparoscopic high definition camera system was used.

Results: Soon after ICG injection, lymphatic vessels were identified in the abdominal retroperitoneal compartment as fluorescent linear structures running

side by side to the iliac vessels (B-C). Surgical dissection was therefore conducted avoiding iatrogenic damages to major lymphatic structures. Another ICG injection at the end of the procedure confirmed that the lymphatic vessels were intact without lymph spread.
Conclusions: Intraoperative lymphatic mapping with ICG fluorescence-sensitive camera system it's a safe and feasible procedure. ICG real-time fluorescent lymphography can be used to avoid or early recognize deep lymphatic vessels damage and reduce post-operative complications related to lymphatic system.

Surgical rehabilitation of patients after extirpation of a rectum

Tbilisi, Georgia

Avoidance of colostomy formation on abdominal wall after rectal extirpation. is the most important issue in rectal cancer problem.
For the solve the problem we have designed-methodology – that reduces the degree of disability.
The function of the new sphincter is based on the two key moment:

(1) Decrease Intestinal internal pressure to create Intestinal reservoir.
(2) The sources of the common innervation and blood supply physiological and artificialsphincter creates conditions forthe new generation reflex (voluntary contractions).

After three months from surgery patient is fully rehabilitated as well surgically as socially and life continues without colostomy.
Functional Results: Normal parameters correspond: 1. A tone in rest 3–9 h=360–420 gr; 6–12 h=270–325 gr 2. At strong -willed constriction 3–9 h=520–600 gr; 6–12 h=385–500 gr Average indices at our patients have made on an input (below neosphyncter): 1. A tone in Rest 3–9 h=195+27 gr; 6–12 h=90+14 gr 2. Strong-Willed reduction 3–9 h=185+29 gr; 6–12 h=110+16 gr.
At a level of the neosphyncter: 1. A tone in Rest 3–9 h=380+16 gr; 6–12 h=370+19 gr 2. Strong-Willed reduction 3–9 h=500+20 gr; 6–12 h=390+12 gr.
The analysis of questionnaires has shown, that the received functional results with comparison of a constant colostoma, patients estimated as follows: 1. Satisfactory – 8,0% 2. Good – 76,0% 3. Excellent -16,0%. In total we performed sixteen this type of operation, three is including in this year. Research and observation of these patients continues.

Mean platelet volume (MPV) as a predictor of venous thromboembolism (VTE) in colorectal cancer

Chumpon Wilasrusmee, Boonying Siribumrungwong, Napaphat Poprom

Background: MPV, CBC-parameter, is potential biomarker of platelet activity in cancer and VTE. However, recent CATS-study showed that high-MPV levels associated with a decreased VTE risk.
Aim: To investigate the role of MPV in VTE and colorectal-cancer.
Methods: A retrospective study was performed to analyze differences of MPV between patients with VTE, VTE and colorectal-cancer, and control.
Two reviewers independently extrcted data for meta-analysis. Differences in MPV were expressed as unstandardized mean difference
Results: Among 170 patients, 58-control, 54-VTE, and 58-VTE with colorectal-cancer, MPV was significantly higher in VTE groups.
From 403 articles, 10 studies (5 cohorts and 5 case-controls) comprising 2265 patients. MPV was significantly higher in those with VTE (mean difference 0.61 fl,95% CI 0.34–0.88, $P<0.001$). Elevated MPV increased the relative risk of VTE (RR 1.319,1.061–1.641, $I^2=82.5\%$).
Conclusions: Our evidence suggests that elevated MPV is associated with VTE and VTE with colorectal- cancer. A mechanistic study and RCT are required in order to use antiplatelet therapy.

Splenic flexure mobilization is an essential step in laproscopic low anterior resection?

Mohamed Hamed, Mahmoud Shahin, Soliman EL_shakhs

Introduction: Splenic flexure mobilization is performed to ensure tension free anastmosis with an adequate resection margin in laproscopic anterior and low resection.
Patient and Methods: 20 patients of sigmoid and rectosigmoid cancer undergoing laproscopic low anterior resection with hight ligation of inferior mesenteric artery. They are divided into two groups:

Group A: with splenic flexure mobilization.
Group B: with selective splenic flexure mobilization. Resection margin, operative time, post operative morbidity were studied.

Results: The operative time in group B is lower than group A but not significant. safety margin in group A is more than group B but not significant. Anastmotic leak occurred in 1 patient in group B.

Conclusion: Laproscopic procedures without routine splenic flexure mobilization do not increase post operative morbidity or mortality or oncologic risk but splenic flexure mobilization is safe, feasable procedure that enables tension free anastmosis.

Diverting stoma after anterior resection of Dixon for rectal cancer: Does it really makes difference?

Abdallah Mohamed Taha

Aim of the study: To evaluate weather diverting stoma after anterior resection of Dixon for rectal cancer has a significant impact on short surgical outcomes.
Methods: All patients with rectal carcinoma referred to our surgical oncology department, south Egypt Cancer Institute for surgical management between July 2009, and July 2016, were involved in the study. 203 consecutive patients who underwent anterior resection for rectal cancer with or without diverting stoma were recruited from retrospective and prospective database. The 61 patients who had diverting stoma were compared with the remaining 142 patients who did not have diverting stoma. Demographic, clinical, operative and short surgical outcomes were reviewed.
Results: Sixty -one (32.3 per cent) of 203 patients received a diverting stoma after anterior resection of Dixon for rectal cancer, the overall complications rate was 34.5%.The clinico - pathological features of patients who had a diverting stoma and those without stoma were similar as regard the age, gender, body mass index, medical co-morbidities, and tumor stage ($P>0.2$). More patients in the stoma group have received a preoperative neoadjuvant therapy ($P>0.046$).The operative critics between the 2 groups showed no significant difference in surgical approach, intraoperative contamination or way of anastomosis ($P>0.2$). Post-operatively, the overall complications rate was 34.5%. The stoma group had a statistically significant lower rate of complications compared to patients without stoma (21.3% **vs.** 38.7, $P=0.023$). Significant differences were noted in postoperative ileus ($P=0.03$), pneumonia ($P=0.03$), surgical site infection ($P=0.05$), reoperation ($P=0.04$), and length of hospital stay, ($P=0.001$). there was no difference in thromboembolic disorders ($P=0.04$). There is no a statistical difference in incidence of anastomotic leaks ($P=0.07$) nor hospital mortality ($P=0.07$) but there is a significant difference in ICU admission ($P=0.05$).
Conclusion: The Diverting stoma significantly decreased postoperative complications and need for reoperation and could reduce the incidence of leak and hospital mortality after anterior resections for rectal cancer.

Intraoperative mapping and immunohistochemical study of sentinel lymph nodes in colon cancer: is the staging of the disease correct?

Tarek Rageh

Background: It is not clear if sentinel lymph node (SLN) mapping can improve surgical outcomes in patients with colon cancers. The purpose of this study was to determine the value of *in vivo* SLN mapping, thin slicing serial sectioning with H&E staining and IHC detection of SLN micrometastasis in colon cancers as regards its impact on upstaging of colon cancer patients.
Methods: During surgery, methylene blue dye was injected sub-serosal peritumoral prior to radical resections of colon cancer. The first node(s) to stain blue was defined as the SLN. SLNs negative by hematoxylin and eosin (HE) stain were further examined for micrometastasis using cytokeratin IHC.
Results: A total of 27 patients between 32 and 67 years of age were enrolled, including 20 males and 7 females. SLN mapping was successful in 25 out of 27 patients. There were 15 patients with both sentinel & non sentinel lymph node metastases, 2 patients with only SLN metastases detected by H&E staining & thin slicing; and 2 patients in whom lymph node micrometastases were detected by IHC, resulting in an upstaging rate 16% (4/25).
Conclusion: *In vivo* localization, H&E staining with thin slicing and immunohistochemical detection of micrometastasis of sentinel lymph node in patients with colon cancer can upgrade tumor staging and may become a factor affecting prognosis and guiding treatment.

Session (3) | GIT

Perioperative management of emergent laparotomy Improving outcome of a high risk procedure

Mohamed Elmorshedi

Emergency laparotomy is a relatively common procedure with high rates of complications. Patient population is also non-uniform (bleeding, sepsis, bowel obstruction, etc), which adds more complexity. Recent studies revealed wide variations in management practice and patient outcomes. Those outcomes can be improved by adherence to specific clinical pathways; including management by senior staff (anesthetist and surgeon), early anesthetic assessment and preoptimization, early surgical decision-making, early antibiotic use, early exploration, and appropriate postoperative care in an intensive care unit.

Portal Hypertension and Related Clinical Syndromes

Aly Saber, Tahir M Bajwa

Portal hypertension is characterized by an increased portal pressure gradient which is the difference in

pressure between the portal vein and the inferior vena cava and becomes clinically significant when the portal pressure gradient increases to 10 mmHg or above. Portal hypertension is responsible for many of the manifestations of liver cirrhosis. These manifestations such as gastrointestinal bleeding as a result of ruptured gastroesophageal varices and portal hypertensive gastropathy, colopathy and ascites are documented. Hepatorenal syndrome and hypersplenism are the direct consequences of portal hypertension. Stellate cell activation is a key event in liver injury, and indicates the transition from a quiescent vitamin A- rich cell to a highly fibrogenic cell. Activation consists of three major phases: initiation, perpetuation and resolution. Initiation refers to early paracrine-mediated changes in gene expression and phenotype that render the cells responsive to other cytokines and stimuli while perpetuation results from the effects of these stimuli on maintaining the activated phenotype and generating fibrosis. Portal hypertension secondary to hepatic fibrosis and cirrhosis has multisystem effects and multiple complications. The multisystem effects are hepatorenal, portopulmonary hypertension, hepatopulmonary syndrome, portal hypertensive colopathy and others. Once a patient develops any of such complications, he is considered to have decompensated disease with the high morbidity and mortality.

Diaphragmatic sling sutures for tension free esophageal anastomosis. Experienced technique at Misr cancer center

Gamal Amira, Ibrahim Sallam, Ahmed Sherif, M. Sherif, K. Diab

Introduction: Resection of the lower esophagus, proximal part of the stomach, or total gastrectomy is necessary for malignancies of the esophagus and stomach. Perhaps the most common indication is carcinoma of the cardia or distal esophageal carcinoma, vascularity of esophageal and jejunal or gastric ends and the tension-free anastomosis are requirements for healing and low fistula rates. in this type of anastomosis due to esophageal factors and gravity elicited by weight of the stomach or jejunum. Sling sutures technique used at our center creating tension-free anastomosis and reducing weight and gravity effect of distal bowel or stomach is described.
Materials & Methods: Of the 254 patients who underwent distal esophagostomy, total gastrectomy and proximal partial gastrectomies for esophageal and gastric carcinoma in our cancer center during a 3-year period, 149 underwent gastric pull up, lateral thoracotomy and anastomoses are done in the chest. 105 were included in this study. Of these, 79 had stapler assisted esophagogastric and esophago-jejunal anastomoses, 26 had hand sewn anastomoses. All patients are admitted for 6 to 11 days for hyperalimentation and correction of the malnutrition status, ICU admission ranged from 3 to 5 days postoperative. The maneuver that is utilized to effectively decrease anastomotic tension and reduce the gravity elicited by weight is to apply strong sutures to the wall of the Jejunum and stomach and fix it to the diaphragm.
Results: During hospital stay and three weeks of follow up after discharge fistula rate was significantly better after applying the sling sutures for the distal loop or remaining part of the stomach than anastomosis without applying the sutures (perfect healing: 95% vs. 88%). significant difference was observed among the two groups for recovery rate and hospital stay plus the leakage rate after applying the sutures and the need for medications.
Conclusion: The natural, technical difficulties of esophageal anastomosis result in anastomosis leakage are muscular wall, lacking serosa and tension on the anastomosis elicited by gravity, weight of bowel and stomach. Lack of tension achieved by applying sling sutures to the diaphragm. This maneuver allow effective decrease of the weight and tension on the anastomosis. Tension-free stapled, hand sewn anastomosis by this maneuver resulted in a safer and less expensive esophageal and gastric cancer resection.

Systematic approach for laparoscopic splenectomy

Mohamed Bekheit, Bassam Al-Kari

Laparoscopic approach for splenectomy provides huge differences in the immediate post-operative course compared to the open approach
The purpose of this video is to highlight the technical steps for a systematic approach for laparoscopic splenectomy.

Treatment Of Early Oesophageal Cancers: Current Consensus

Sameh A. A. Mikhail, Nader S. Zaki, Tamer M. Nabil

Barrettâ€™s oesophagus carries an annual risk of developing cancer. We reviewed the literature looking for best evidence papers addressing the management of early oesophageal cancer. A total of 510 papers were found using the reported searches. Oesophagectomy and lymph node dissection for early oesophageal cancer is the standard to which every other treatment modality is compared to. However, the associated mortality and morbidity rates highlight the need for alternative effective and less invasive

procedures. Despite the fast growing interest in Minimally invasive oesophagectomy, there is no way to compare it to endoscopic treatment in terms of impact on patient.

The evidence from the present review supports the following: Endoscopic resection (ER) and Radio-frequency Ablation (RFA) should be regarded as the first line treatment in T1a oesophageal cancer.

The trade off for Endoscopic treatment is a higher recurrence rate which can dealt with using a strict follow up and retreatment. The higher rates of lymph nodes involvement in T1b cancers preclude the use of endoscopic treatment in this setting except for patients unfit for surgery. G3, Vascular and lymphatic invasion are prognostic factors for lymph node involvement.

Dysphagia after nissen fundoplication

Mohamed Abdelgawad, Gianfranco Silecchia

Background: Dysphagia after Nissen fundoplication is a common complication that usually needs surgical re-intervention to cure. The aim of presenting the video of this case is to show and discuss different laparoscopic management options for dysphagia after nissen fundoplication.

Methods: A 72 years old female patient with type III hiatal hernia (HH) presented with severe gastroesophageal reflux disease (GERD). Nissen fundoplication with crurasoft mesh reinforced hiatoplasty was performed and calibrated by 42 Fr bougie. One month after the operation the patient suffered from dysphagia. Barium meal revealed dilated esophagus, while CT scan showed wrap migration into the chest.

Results: Laparoscopic exploration revealed that the wrap was in place. Nissen was revised to Toupet (270^0) fundoplication fixed to the already present mesh. On follow up, the patient did not show any dysphagia.

Conclusions: Toupet fundoplication is a good solution for dysphagia after nissen fundoplication.

Session (4) | Biliary (1)

Solving Iatrogenic lesions of the biliary tract

Jose M. Schiappa

When the iatrogenic lesion is recognised it is – sometimes – too late for immediate action. Then it is necessary to completely evaluate the patient in order to establish a strategy to find a solution to solve the problem. Lesions of the biliary tract can happen during the performance of different types of surgery, not only biliary surgery itself. Mainly five types of surgery are responsible for these events: Biliary surgery, Liver surgery, Portal Hypertension surgery, Pancreatic surgery, Gastric surgery.

This presentation will concentrate on biliary surgery itself, excluding the specific problems from liver transplant surgery. Surgery for biliary lithiasis, tumours, inflammatory conditions, bilio-digestive anastomosis, placement of prosthesis or tumour intubations or biliary re-interventions, can all be cause for complications, specific of the biliary tree.

The presentation will show some of the causes for these mishaps and also will refer to surgical attitudes of prevention of the lesions when, unfortunately, the lesion happens, it can also show in different ways, either by timing or by type of signals.

All of these condition different attitudes for proper diagnosis and for treatment and are necessary to follow in order to obtain the best final results. The authors reviewed their series, analysing the iatrogenic lesions of the biliary tract being operated.

In 43 patients, 51 surgeries were performed, most of them (35) being done at an early stage of the evolution of the situation; 3 were immediate and the other ones were performed in patients who had had attempts of surgical correction before.

Most of the surgeries performed were hepatico-jejunostomies (27), with good results. As a conclusion of this analysis, the authors recommendations are for this type of corrective surgery of iatrogenic lesions to be done by surgical teams with experience on the different alternatives of surgical treatment as well as on the diagnosis and on the proper timing for the surgery; on the other side, all possible explanation of the methodology to be always followed to prevent the lesions shall be done.

Laparoscopic Gall Bladder lithotomy and disconnection (Glad Procedure) for the treatment of difficult acute and chronic cholecystitis: indications and technique

Mohamed Bekheit, Mohamed Habib

Rational: Surgical treatment of cholecystitis is well established, and complications from surgery are well known. The majority of these complications occur due to the poor identification of the anatomy, which in most instances is the result of the inflammatory tissue deposition – whether acute of chronic – leading to anatomical ambiguities.

In the expert hands, a successful cholecystectomy is achieved in most of the cases, and this is associated with prolongation of the operative time. However, if the expertise level is not readily available, the standard surgical approach could be hazardous.

As a risk reduction measure, we propose an alternative procedure that could be adopted in difficult gall bladder surgeries. We herein, describe our view of the indications of the GLAD procedure

as well the technical advantages and disadvantages related to it.
Aim: To describe an alternative technique to the standard laparoscopic cholecystectomy along with its indications.
Methods: A technical description of the GLAD procedure will be delivered, and records of patients who underwent laparoscopic cholecystectomy with the GLAD procedure were analyzed to highlights the potential advantages and disadvantages of the procedure.
Results: GLAD procedure has the advantage of avoiding structural damages to the bile ducts or the bowel adherent to the gall bladder fundus in cases of difficult gall bladders. Moreover, the operative time is considerably shorter than would be expected if cases underwent standard cholecystectomy.
Conclusion: GLAD procedure is a valid alternative in a certain clinical setting that could present a safeguard against complicating an already difficult procedure.

Endoscopic papillary large balloon dilation versus endoscopic sphincterotomy for retrieval of large choledocholithiasis: A prospective randomized trial
Abdallah Mohamed Taha

Background: Endoscopic sphincterotomy (ES) is the standard technique for common bile duct stone removal. Recently, endoscopic papillary large balloon dilation (EPLBD) has been shown to be a safe and effective technique for the removal of large common bile duct stone. The aim of this study was to determine the therapeutic outcomes and safety of EPLBD compared with ES for large common bile duct stone extraction.
Patients and Methods: 124 patients with large bile duct stones were randomized into two groups, the first group included 61 patients subjected to EPLBD and the second group included 63 patients underwent ES. We compared the success rate of stone removal, frequency of mechanical lithotripsy requirement, morbidity and mortality.
Results: Baseline characteristics were not significantly different. The overall ductal clearance rate was ultimately similar between the EPLBD group (96.7%) and the ES group (93.7%) (P=0.53), the one session ductal clearance rate was significantly different (86.9% vs. 71.4%; P=0.01). Requirement of mechanical lithotripsy was significantly different between the EPLBD and ES group (9.8% vs. 17.5%, P=0.04). There were no differences in complication rates between the EPLBD and ES group; pancreatitis, 4.9% vs. 6.3%; minor hemorrhage, 1.6% vs. 6.3%; acute cholangitis, 3.3% vs. 1.9%, recurrent stones, 3.3% vs. 3.2%.
Conclusions: The therapeutic outcomes of EPLBD for removal of large bile duct stones are better than those of ES with comparable complication rate. EPLBD is also recommended for removal of large common bile duct stone in patients with an underlying coagulopathy or need for anticoagulation following ERCP.

Treatment Outcomes of Gall Bladder Cancer, 10 Years Experience
Ali Zedan, Husseien phakry, Murad Jaber, Aber Ibrahim

Background: Gallbladder cancer (GBC) represents the most common and aggressive biliary tract cancer with overall 5-year survival being only 5–10%. Survival following resection, especially in early stages, has shown some improvement due to advances in surgical treatment. Advanced stages, however, continue to have dismal outcome. Complete surgical resection offers the only chance for cure, which extended from simple cholecystectomy to major hepatectomy or enbloc resection of adjacent organs. The aim of this study was to examine the predictors of longterm survival in patients with gall bladder cancer.
Methods: We retrospectively evaluated 38 patients who underwent curative (R0) resection for GBC between January 2001 and December 2010 in Surgical Oncology Department, South Egypt Cancer Institute, Assiut University, Egypt. Surgical procedures included simple cholecystectomy (10.5%), radical cholecystectomy (75.4%), bile duct resection (33.8), and right hepatectomy (7.8%). Adjacent organ resection was performed in (23.4%), duodenal sleeve resection (10.4%), segmental colectomy (5.2%), segmental gastrectomy (2.6%), Hepatopancreatico-duodenectomy (5.3%). Adjuvant chemotherapy was given for (68.4%) of patients and adjuvant radiotherapy for (36.8%) of patients. Median follow up period of the patients was 38 months (0.5-69 months).
Results: The median disease free survival (DFS) for GBC patients was 38 months. Univariate analysis revealed that patient's age, comorbidities, weight loss, jaundice, tumor differentiation, organ invasion, lymph node metastasis, perineural invasion, tumor stage and chemotherapy were associated with the patient's survival. Of these, weight loss, jaundice, lymph node metastasis and tumor stage were found to influence the overall survival on the multivariate Cox Hazard Regression analysis. First year overall survival estimate was 86.84%±5.5%, 2nd year=71.05%±7.4%, Third year 60.53%±7.9% fifth year=15.79%±5.9%.
Conclusion: Curative surgical resection remains the only effective approach for treatment of GBC. This study confirms that jaundice, weight loss and aggressive

tumor (advanced stage and regional lymph nodes metastasis) are predictors of poor prognosis.

Iatrogenic bile duct injury: A retrospective analysis of short and Long-term outcome after surgical repair

Amr Mostafa, MD

Background: Iatrogenic bile duct injuries (IBDI) remain an important problem in gastrointestinal surgery and represent a big challenge for surgeons. Aim: was to review the management of iatrogenic BDI and describe short and long-term postoperative complications of surgical repair at our tertiary referral Institute.
Patients and methods: A retrospective review of the medical record of all patients referred for the management of iatrogenic BDIs between January 2005 and January 2015. One-hundred patients formed the study cohort. Pre-operative data including patient demographics, mechanism of injury, operative details, and postoperative outcomes were extracted. Research ethics board approval was obtained.
Results: There were 36 men and 64 women with a mean age 45.4±11.5 years. Open cholecystectomy was the most common procedure in 61 patients, whereas in 39 patients laparoscopic surgery was the primary treatment. Twenty-nine patients treated by non surgical management in the form of ERCP and stenting, and percutenous abdominal drainage. Seventy patients underwent operative surgery in the form of Roux-en-Y H.J and T-tube insertion in the CBD in 2 cases. Short-term complications encountered in 15 (20.8%) cases, with a significant correlation with a previous ERCP intervention (P=0.047). Long-term complications encountered in 12 (16.6%) patients, with a significant relation with the intermediate timing (within 2 weeks) of repair (P=0.037).
Conclusions: Prompt diagnosis of the type and grade of injury is mandatory before deciding management. Intermediate time for surgical intervention was significantly related to stricture complications. ERCP should be done only in cases that can benefit from conservative management (Strasberg from A-D), as the incidence of postoperative complication is high after surgical repair.

Common bile duct clearance of stones by open surgery, laparoscopic surgery, and endoscopic approaches (comparative study)

Mohammed Ahmed Omar

Background and aim of the work: Around 10–18% of patients undergoing cholecystectomy for gallstones have common bile duct (CBD) stones. Treatment can be provided as open cholecystectomy plus open CBD exploration, laparoscopic cholecystectomy plus laparoscopic common bile duct exploration (LC+LCBDE), or precholecystectomy or postcholecystectomy endoscopic retrograde cholangiopancreatography (ERCP) in two stages for CBD clearance. The aim of this study is to compare the CBD clearance rate by each procedure in a well-equipped tertiary center.
Patients and Methods: A total of 250 patients with choledocholithiasis were included from the General Surgery Department, Sohag and Assiut University Hospitals, and managed randomly by either conventional surgery, endoscopic, or laparoscopic procedures.
Results: The ages of our patients ranged from 20 to 60 years (mean=40 years), with a slight female predominance (1.6:1); most of them presented with calcular obstruction (54.3%). However, there were also other presentations such as colic, cholangitis, or accidental discovery in 14.3, 10, and 21.5%, respectively. Patients were categorized randomly into three groups: group I included 100 patients (40%) who were treated by open choledocholithotomy and T-tube insertion; the operative time was 90 (60–180) min, with the success rate of the attempted procedures reaching 100%, and CBD clearance of stones was achieved in 95% of cases (five cases of missed stones). Hospital staywas8 (5–12) days, with nomortality, and morbidity rate reached15%inthe form of wound infection, bile leak, and missed stone. The patient could return to work after 2 weeks (12–20days). Group II included100patients (40%) treated by endoscopic sphincterotomy; basket extraction was performed in 45%,balloonin25%,thecombined maneuver in 15%, and mechanical lithotripsy in 13%, with failure of the technique in two cases (2%); the duration of theprocedurewasabout 30 (20–45) min, with a success rate of attempted procedures of 98%, and CBD clearance of stones was achieved by 100%, with no mortality; the morbidity rate was 9% in the form of cholangitis (3%) and mild pancreatitis with hyperamylasemia (6%). The period of hospital stay was 1 (1–2) days and the patient returned to work after 3 (2–5) days. Group III included 50 patients (20%) treated by laparoscopic approaches: transcystic approaches in five cases and transcholedochotomy approaches in 45 cases. Choledochoscopic exploration was performed in almost all cases (45 cases) to detect, extract the stones, and test CBD clearance, and there was conversion to open techniques in one case. The time needed for this procedure was 123 (70–292) min, with CBD clearance of stones in 96% (two cases of missed stone), with no mortality, and a morbidity rate of

about 10% intheform of mild hyperamylasemia, fever, and missed stone. The period of hospital stay was 3.2 (2–4) days, with return to work after 7 (5–10) days.
Conclusion: Both ERCP / LC and LCBDE were highly effective in CBD clearance, and equal in terms of the overall cost and patient acceptance. However, the overall duration of hospitalization was shorter for LCBDE with elimination of the potential risks of ERCP-associated pancreatitis, further procedures, and anesthesia risks. It is feasible, cost-effective, and ultimately should be available for most patients in each specialized center.

Long term outcomes of choledochoduodenostomy for common bile duct stones in the era of laparoscopy and endoscopy

Talaat Abdallah, Ayman El Nakeeb

Background/Aims: Choledochoduodenostomy (CDD) has been reported as an effective treatment of Common bile duct stones (CBDS). This study was designed to analyze short term and long term outcomes of CDD for CBDS.
Methodology: Demographic data, preoperative, intraoperative and postoperative variables were collected. The long term assessment was done in a prospective manner included clinical examination, liver function, abdominal ultrasound, MRCP, upper GIT endoscopy and assessment of quality of life using Gastrointestinal Quality of Life Index (GIQLI).
Results: A total of 388 consecutive patients underwent CDD, the mean age was 57.92±13.25 years. The mean CBD diameter was 18.22±4.01 mm. The mean operative time was 81.21±20.23 min Two patients had recurrent stone (0.06%) and managed successfully by endoscope. Gastritis was observed in 16.9% patients. No patient developed sump syndrome, deterioration in liver function or cholangiocarcinoma. Total and subgroup scores on the GIQLI before and after CDD differed significantly at follow-up (P=0.0001).
Conclusion: CDD is a safe and effective method of drainage of CBD after clearance of CBDS. Long term outcomes are acceptable with good quality of life. Sump syndrome is extremely rare; CDD may be associated with mild to moderate gastritis. CDD doesn't lead to development of cholangiocarcioma.

Laparoscopic cholecysto-choledochal-plasty for Mirizzi: How do I it?

Mohamed Bekheit, Mohamed Habib

The purpose of this video presentation is to demonstrate how to successfully manage a fistulating MIrrizi syndrome utilizing a portion of the Hartman's pouch in the repair.

Session (5) | Liver Transplant

Living Donor Liver Transplantation for Patients with Pre-excisting Portal Vein Thrombosis

Hazem M Zakaria, Mohammad Taha, Emad Hamdy Gad, Hossam El-Deen Soliman,Osama Hegazy, Dina El-Azab,Rasha Abd Elhafeez, Nahla Gaballa, Khaled Abou El-Ella, Tarek Ibrahim

Background: Portal vein thrombosis (PVT) in living donor liver transplantation (LDLT) is a surgical challenge with technical difficulty. **The aim** of this study was to analyze the operative procedures for management of PVT in LDLT and the impact of PVT on the outcome in comparison to patients without PVT.
Methods: Between July 2003 to July 2016, 213 patients underwent LDLT at the National Liver Institute, Menoufia University. The patients were divided into two groups; group of patients with PVT, and patients without PVT as a comparison group The preoperative, operative, and postoperative data of patients analyzed.
Results: Thirty six patients (16.9%) had PVT at time of liver transplantation (LT); 18 patients (50%) had partial thrombosis (grade I), 14 patients (38.9%) had near total or total PVT (grade II), 3 patients (8.3%) had complete PVT with proximal superior mesenteric vein (SMV) thrombosis (grade III), and 1 patient (2.8%) with whole splanchnic system thrombosis (grade IV). The management of PVT was by; thrombectomy in 31 patients (86%), bypass graft in 2 patients (5.6%), portal replacement graft in 1 patient (2.8%), anastomosis of the graft portal vein with left renal vein in 1 patient (2.8%) and with large collateral vein in 1 patient (2.8%). Overall postoperative PVT occurred in 10 patients (4.7%) all in the form of early PVT, 4 patients of them had preoperative PVT. The perioperative mortality in patients with partial PVT, total or extensive PVT, and patients without PVT was 12%, 55.5%, and 20.3%, respectively (P<0.001). The 1-, 3-, 5-, and 7y survival in patients with PVT was 49.7%, 46.2%, 46.2%, 46.2% respectively and in patients without PVT it was 62%, 53.7%, 50.8%, 49% respectively (P=0.29) with no statistical difference between both groups.
Conclusions: Portal vein thrombosis observed before surgery may no longer preclude a patient from undergoing successful liver transplant. Steps to decrease complications include detailed knowledge of the degree of thrombosis preoperatively to assist with operative planning. Grade I PVT had better prognosis than grades II, III, IV.

Parenchymatous liver transsection comparison between kellyclasia, spray diathermy and harmonic scalpel. Preliminary

Mohamed El Shobari

Introduction: various techniques of parenchymatous liver transsection were developed However ideal technique not yet approved.
Aim: comparing kellyclasia with spray diathermy and harmonic scalpel regarding efficacy. Cost. Complications. Time

Session (6) | Liver Tumor (1)

Prognostic factors affecting disease-free survival after hepatic resection for hepatocellular carcinoma in cirrhotic liver

Abdallah Mohamed Taha

Aims: Hepatic resections for hepatocellular carcinoma (HCC) in the cirrhotic liver are characterized by early recurrence. In this study, we analyzed several factors affecting disease-free survival after hepatic resection.
Settings and design: A retrospective and prospective study.
Patients and methods: From January 2010 to July 2015, 208 patients underwent hepatic resections for HCC in the cirrhotic liver in the Gastroenterology Surgical Center, Mansoura University, Egypt. There were 157 male (75.5%) and 51 female (24.5%) patients, with a mean age of 55.4±9.3 years. Recurrence rates were analyzed using the Kaplan–Meier curve. The prognostic signifi cance of the tested factors was investigated by univariate analysis using the log-rank test and by multivariate analysis using the Cox proportional hazards model. Statistical analysis was performed using SPSS20.
Results: Most patients were in Child–Pugh class A (88%). Major hepatic resection was performed in 73 patients (35.1%), segmentectomy was performed in 74 patients (35.6%), and localized resection was performed in 61 patients (29.3%). Hospital mortality occurred in 19 (9.1%) patients, whereas hospital morbidity occurred in 37% of the patients. The 1-, 3-, and 5-year survivals were 62.9, 25.9, and 19.1%, respectively. The prognostic factors predicting early tumor recurrence were the Child class, multifocality, portal vein (PV) invasion, perioperative blood transfusion, microvascular invasion, local spread, cut margin infi ltration, lymph node infiltration, lack of a capsule, the tumor grade, the tumor stage, and preoperative alpha feto protein (AFP). However, tumor multifocality, perioperative blood transfusion, and cut margin infi ltration were the main factors predicting early recurrence on multivariate analysis.
Conclusion: Factors predicting disease-free survival are different and multifactorial. However, the resection of HCC in a cirrhotic liver with preserved liver function is the treatment of choice and can be performed with favorable results.

Analysis of Predictive factors of early Recurrence after Non-anatomical Liver Resection of Hepatocellular carcinoma complicating cirrhosis

Sherif Saber, Gamal Moussa, Tarek ibraheem, Osama Elkhadrawy, Mohamed Aboraya, Hamdy Sedky, Ahmed Elshora

Objective: To evaluate the predictive factors of recurrence after Non-anatomical Liver Resection for hepato- cellular carcinoma (HCC).
Methods: retrospective study of 80 patients (40 patients were resected by Habib 4x and 40 were resected by Harmonic scalpel in the period between the beginning of 2011 to the end of 2015) to evaluate risk factors for early recurrence (2 years post-hepatectomy) and mode of presentation (marginal, nodular, diffuse and metastatic).
Results: early recurrence was observed in 25 patients; 10 were (group A: NLR with Habib 4x) and 15 were (group B: NLR with Harmonic scalpel).the site of resection was recorded with 3 cases (12%) developed marginal recurrence and all 3cases belong to group B. The preoperative factors (including age, sex and tumor size) and Intraoperative factors (including Intraoperative bleeding and blood transfusion, availability of IOUS, histopathological grading and vascular invasion and surgical margin and its involvement) and postoperative AFP were studied in the recurrent cases.
Conclusions: The identification of the predictive factors of early recurrence is the first step to establish different strategies to diminish the recurrence rate.

Clinicopathological features and surgical outcome of patients with fibrolamellar hepatocellular carcinoma. (Experience with 22 patients over a 15- year period)

Ehab El Hanafy, Mohamed Abdelwahab

Introduction: Fibrolamellar hepatocellular carcinoma (FL-HCC) is a rare histologic variant of hepatocellular carcinoma (HCC) which arises in young individuals and has been considered to be less aggressive than common HCC. The aim of this study was to evaluate the clinicopathological features and the surgical outcomes of patients with FL-HCC over a 15-year period.
Methods: This is a retrospective study including 22 patients with a pathologic diagnosis of FL-HCC who underwent hepatectomy over a 15 year period. Tumor characteristics, survival and recurrence were evaluated.
Results: There were 11 male and 11 female with a median age of 29 years (range from 21 to 58 years). Two (9%) patients had hepatitis C viral infection and only 2 (9%) patients had alpha- fetoprotein level >200 ng/ml. The median size of the tumors was

12 cm (range from 5 â€‘ 20 cm). Vascular invasion was detected in 5 (23%) patients. Four (18%) patients had lymph node metastases. The median follow up period was 42 months and the 5- year survival was 65%. Five (23%) patients had a recurrent disease, 4 of them had a second surgery with 36 months median time interval. Vascular invasion is the only significant negative prognostic factor.
Conclusion: FL-HCC has a favorable prognosis than common HCC and should be suspected in young patients with non cirrhotic liver. Aggressive surgical resection should be done for all patients. Repeated hepatectomy should be considered for these patients as it has a relatively indolent course.

Postoperative thrombocytopenia aggravates liver dysfunction after resection of hepatocellular carcinoma in cirrhotic liver

Ashraf Mohammad El-Badry

Background: Blood platelets are critical for liver regeneration through their contents of serotonin. Postoperative thrombocytopenia may contribute to deterioration of the clinical outcome after liver resection for hepatocellular carcinoma (HCC).
Methods: Medical records of two groups of adult patients who underwent elective liver resection for chronic hepatitis C virus (HCV)-related cirrhosis and HCC (HCC-Cirrhosis group) versus other liver masses (Matched Control group) at Sohag University Hospital (February 2012 – September 2015) were analyzed. Incidence of thrombocytopenia < 100 000/?L versus ? 100 000/?L in the first postoperative day (POD-1), frequency of postoperative liver failure and postoperative complications, including mortality according to Clavien-Dindo system were compared between both.
Results: Twenty two patients were enrolled (11 patients per group). Indications of liver resection in the control group entailed benign liver lesions and metastasis. POD-1 thrombocytopenia <100 000/?L was encountered only in HCC-Cirrhosis group (7 patients). This group exhibited higher complication rates ($P<0.05$), prolonged hospital stay ($P<0.05$), increased levels of bilirubin and reduced prothrombin concentration ($P<0.05$). Mortality occurred only in HCC-Cirrhosis group with reduced postoperative platelet count (two patients) compared with no mortality in the control group.
Conclusion: The increased susceptibility for thrombocytopenia after liver resection in HCC patients is related to preexisting cirrhosis. Concomitant postoperative thrombocytopenia and liver cirrhosis are associated with worse clinical outcome after liver resection for HCC.

Hepatic resection for hepatocellular carcinoma in cirrhotic patients with portal hypertension

Hazem M. Zakaria, Emad H. Gad, Ali Nada, Anwar A. Abdelaleem, Doha Maher, Mohammad E. Abdel Samea and Alyaa Sabry

Aim: Hepatic resection (HR) in cirrhotic patients with hepatocellular carcinoma (HCC) and portal hypertension (PHT) is not recommended, according to international guidelines. The aim of the present study was to determine the outcome of HR for HCC in cirrhotic patients with PHT.
Methods: The present study was a single institutional, retrospective study of 170 Child–Pugh class A cirrhotic patients who underwent HR for HCC from 2011 to July 2015. The patients were divided into two groups, according to the presence and absence of PHT.
Results: PHT was present in 91 patients (53.5 per cent). The postoperative morbidity was insignificantly higher in patients with PHT than patients without PHT (31.9 per cent vs. 25.3 per cent, respectively, $P=0.36$). Patients with PHT showed 90-day perioperative mortality (3.3 per cent), which was similar to patients without PHT (2.5 per cent). In the subgroup analysis, the 1-, 3- and 5-year overall survival for patients with limited HR was 90.3 per cent, 74.3 per cent and 66.2 per cent, respectively, for patients with PHT, and 93.9 per cent, 80.9 per cent and 73.6 per cent, respectively, for patients without PHT, without a significant statistical difference ($P=0.38$).
Conclusion: HR in Child–Pugh class A cirrhotic patients with PHT is a safe and effective procedure with good short- and long-term outcomes in comparison to patients without PHT, especially those with limited liver resection.

Laparoscopic left lateral bisegmentectomy for hepatocellular carcinoma: Moving from Peripheral to anatomical

Hossam Soliman

Background: The use of the laparoscopic approach for liver resections became popular worldwide and is now of increasing popularity in Egypt. The growing experience in laparoscopic liver resections have made it more applicable in cirrhotic livers with Hepatocellular carcinoma.
Aims: To assess the feasibility and safety of laparoscopic Lt. lateral liver resections in a tertiary center in Egypt
Settings and Design: A retrospective analysis of laparoscopic liver resections was undertaken in patients with preoperative diagnoses of a hepatocellular carcinoma with compensated cirrhosis.

Methods and Material: Surgical technique included CO2 pneumoperitoneum and liver transection with a harmonic scalpel and laparoscopic Habib 4× sealer without portal triad clamping or hepatic vein control. Portal pedicles and large hepatic veins were stapled. Resected specimens were placed in a bag and removed through a separate incision, without fragmentation.
Results: From May August 2008 to February 2016, 38 liver resections were included. Eleven patients were planned for Lap. Lt. lateral resection. With the diagnosis of HCC. Mean tumor size was 5.6±2.1 cm. There were 5 conversions to laparotomy; 2 cases due to bleeding, one due to stapler failure, one due to accessibility failure and one due to failure to extract the specimen. Mean blood loss was 150 ±75 ml. Mean surgical time was 160 +40 min There were no deaths. Complications occurred in 2 patients. Only one patient developed postoperative ascites and the other developed Bile leak.
Conclusions: Laparoscopic lt. lateral bisegmentectomy is feasible and safe in selected patients with adequate training and preparation.

Non-anatomical resection of hepatocellular carcinoma; Comparative study of Bipolar Radiofrequency Device (Habib 4X) versus Harmonic Scalpel

Sherif Saber, Gamal Moussa, Tarek Ibraheem, Osama Elkhadrawy

Background: Various methods have been used to decrease blood loss during liver parenchymal transection, because excessive hemorrhage and blood transfusion have been shown to affect postoperative morbidity, mortality and long-term survival. The ideal instrument for liver transection should be able to fragment and selectively divide hepatic parenchyma while preserving vital structures such as intra hepatic vessels and bile ducts. One of these technologies is Harmonic Scalpel (HS), which uses ultrasonically activated shears to seal small vessels between the vibrating blade. Another electronic device to achieve a bloodless field and allow safe LR to be performed even in cirrhotic patients is the use of Habib trade mark (^{TM}) 4x sealer.
Methods: 50 patients with HCC managed by NALR during the period from March 2011 till December 2013; The patients were randomly divided into 2 groups, Group A (25 patients) underwent NALR by RFA using (Habib^{TM} 4× sealer) and Group B (25 patients) underwent NALR by ultrasonic energy using (HS). We estimated the amount of blood loss and subsequent need for transfusions, the length of time needed for parenchymal transection, operative time and postoperative morbidity, mortality and early recurrence during follow up period (6 months).
Results: Habib^{TM} 4x sealer is a safe surgical modality with an acceptable rate of postoperative complications, minimal mortality and the avoidance of any type of vascular occlusion during LR. The slightly faster completion of liver parenchymal transection – compared to HS – adds a further advantage to the use of Habib^{TM} 4x sealer in liver surgery. Furthermore, as there is a lower demand for blood transfusions in LRs using Habib^{TM} 4× sealers compared to those with HS.
Conclusions: Habib^{TM} 4× sealer LRs seem to be approaching the ultimate goal of bloodless NALR. As it allows surgeons to perform minor and major hepatectomies with minimal blood loss, a low blood transfusion requirement, and reduced mortality and morbidity rates

Session (8) | Gastroenterology-Oncology-Radiology (1)

Percutaneous management of hepatocellular carcinoma

Sameh Abdel Wahab

The majority of patients with hepatocellular carcinoma are not candidates for resection because of tumor size, location near major intrahepatic blood vessels precluding a margin-negative resection, multifocality, or inadequate hepatic reserve related to coexistent cirrhosis. Minimally invasive techniques can be used to control the disease. Percutaneous imaging-guided ablative therapies using thermal energy sources such as radiofrequency (RF) and microwave as well as ethanol ablation are minimally invasive strategies for the treatment of these focal malignant diseases. RFA and microwave produces coagulative necrosis of tumor through local tissue heating. Liver tumors are treated percutaneously, laparoscopically, or during laparotomy using ultrasonography to identify tumors and guide placement of the RFA needle electrode.
For tumors smaller than 2.0 cm in diameter, one or two deployments of the needle electrode are sufficient to produce complete coagulative necrosis of the tumor. However, with increasing size of the tumor, there is a concomitant increase in the number of deployments of the needle electrode and the overall time necessary to produce complete coagulative necrosis of the tumor.
In general, percutaneous ablation is a safe, well-tolerated, effective treatment for unresectable hepatocellular carcinoma less than 6.0 cm in diameter. Effective treatment of larger tumors awaits the development of more powerful, RFA technologies.

Transarterial Management of Malignant Hepatic Tumors

Khaled Shehata

The aim of this presentation is to provide a practical clinical guideline for indications, technical aspects, protocols and strategies for the transarterial treatment of hepatic malignancies; either primary HCC or metastases as from colorectal and neuroendocrine tumors. It will review the results of various published protocols of management on the basis of the clinical parameters; including biologic response (BR), morphological response (MR), progress free survival (PFS) and survival periods (SP).

Session (9) | Biliary (2)

Single-session treatment of cholecysto-choledocholithiasis: Totally Laparoscopic versus laparo-endoscopic

Abdallah Mohamed Taha

Background: This study details our experience in treating combined gall bladder and common bile duct stones in a single session, either with Endoscopic retrograde cholangiopancreatography (ERCP) for Common Bile Duct (CBD) stone extraction followed by laparoscopic cholecystectomy (LC), or totally laparoscopic treatment.

This study details our experience in treating combined gall bladder and common bile duct stones in a single session, either with Endoscopic retrograde cholangiopancreatography (ERCP) for Common Bile Duct (CBD) stone extraction followed by laparoscopic cholecystectomy (LC), or totally laparoscopic treatment.

Patients and methods: In this prospective randomized study, 46 consecutive patients with confirmed cholecysto-choledocholithiasis were randomized to 2 groups. Group (**A**) included 24 patients treated with single-session ERCP for CBD stone extraction and laparoscopic cholecystectomy [**ERCP-LC**]. Group (**B**) included **22** patients treated with laparoscopic CBD exploration and laparoscopic cholecystectomy [**LCBDE-LC**]. Demographic data, operative time, CBD clearance success rate, short term complications and duration of hospital stay were recorded.

Results: Patients included **28** females and 18 males with mean age of **42.1±12.1** years (range **17–71 years**). In **22/24** patients (91.7%) **ERCP-LC** was done successfully. Mean operative time was **105±19.1 min** (50–150 min). No intra-operative complications occurred. Early post-operative complications occurred in **3** patients (**12.5%**). Mean hospital stay was **2.1±0. 91** days (1–6 days). In the other group, **LCBDE-LC** was performed successfully in **22/22** patients (100%). Mean operative time was **145 ±23 min** (100–180 min). Minor intra-operative complications (bleeding) occurred in 2/22 cases (9%). Minor early post- operative complications (bile leak, ileus, bleeding) occurred in 4/22 patients (18%). Mean hospital stay was **2.8±0.83** days (2–7 days).

Conclusion: Single session **ERCP-LC** and **LCBDE-LC** procedures for management of cholecysto-choledocholithiasis are feasible, safe, and effective and have comparable outcome regarding success rate, peri-operative complications. **ERCP-LC** has statistically significant less operative time and less hospital stay.

Routine nasobiliary insertion compared to just CBD clearance during ERCP in cases that have combined common bile duct stones and gallstone

Alaa M. Sewefy

Background: ERCP followed by laparoscopic cholecystectomy (LC) is the most common management of gallstone complicated by clacular obstructive jaundice (COJ). ERCP itself is a risk factor for difficult cholecystectomy. Other risk factors include old age, male gender, obesity, acute or long-standing chronic inflammation. Cholecystectomy in these situations associated with increased risk of bile duct injury (BDI), may reach up to 3.5 times as in easy LC. The intraoperative cholangiography (IOC) can decrease the incidence BDI, but its main role is the intraoperative diagnosis for early management. This study aimed to evaluate routine insertion of a nasobiliary tube during ERCP for clacular obstructive jaundice in high risk group for difficult cholecystectomy.

Patients and Methods: From total 110 patients admitted to Minia university hospital from April 2015 to August 2016. In 55 patients, nasobiliary was inserted during ERCP after CBD clearance (NB group). In the other 55 patients, only CBD clearance was done (control group). In all patients, LC was done within the same week of ERCP by senior laparoscopic surgery trainees under supervision of senior laparoscopic sturgeon In NB group, dynamic tans-nasobiliary IOC was done during the dissection of Calot's triangle and when the clipper on the supposed cystic duct. At the end of the procedure, methylene blue was injected to detect any hidden leak.

Result: From the total 110 patients, 47 patients (42.7%) were male and 63 (57.3%) were female. Median age was 55 (range 40–70). The average operative time in NB groups was 115 min (range 69–150 min) VERSUS 128 min (range 90–185 min) in control group. The average postoperative hospital stay was 2.2±0.1 day in NB group VERSUS 4±5.7 days in control group. One case of biliary leak (1.8%) occurred in NB group

with no intervention other than leaving the NB in place till cholangiography revealed no leak VERSUS 4 cases (7.3%) in control group. No conversion to open in NB group (0%) VERSUS 6 cases (10.9%) in control group.
Conclusion: Routine nasobiliary insertion during ERCP in patients with combined gallbladder and CBD stones is a safe procedure and can diagnose minimize the degree of severity and treat biliary injury and decrease the conversion rate in LC.

Operative outcome and patient satisfaction in early and delayed laparoscopic cholecystectomy for acute cholecystitis

Aly Saber â€¢, Emad N Hokkam

Introduction: Early laparoscopic cholecystectomy is usually associated with reduced hospital stay, sick leave, and health care expenditures. Early diagnosis and treatment of acute cholecystitis reduce both mortality and morbidity and the accurate diagnosis requires specific diagnostic criteria of clinical data and imaging studies.
Objectives: To compare early versus delayed laparoscopic cholecystectomy regarding the operative outcome and patient satisfaction. Patients and Methods. Patients with acute cholecystitis were divided into two groups, early (A) and delayed (B) cholecystectomy. Diagnosis of acute cholecystitis was confirmed by clinical examination, laboratory data, and ultrasound study. The primary end point was operative and postoperative outcome and the secondary was patient's satisfaction.
Results: The number of readmissions in delayed treatment group B was three times in 10% of patients, twice in 23.3%, and once in 66.7% while the number of readmissions was once only in patients in group A and the mean total hospital stays were higher in group B than in group A. The overall patient's satisfaction was in group A compared with in group B.
Conclusion: Early laparoscopic cholecystectomy resulted in significant reduction in length of hospital stay and accepted rate of operative complications and conversion rates when compared with delayed techniques.

Early Versus Delayed Laparoscopic Cholecystectomy For non complicated Acute Cholecystitis

Abdallah Mohamed Taha

Background: Acute cholecystitis is a relatively common complication of gallstones It can lead to significant morbidity and mortality from potentially life-threatening complications such as empyema, gallbladder gangrene and gallbladder perforation It presents as a surgical emergency and usually requires hospitalization for management Laparoscopic cholecystectomy is advocated for acute cholecystitis; however, the timing of cholecystectomy and the value of the additional treatments have been a matter of controversy.
Aim of the study: To compare the outcome of early versus delayed laparoscopic cholecystectomy in cases of acute cholecystitis, as its place remains controversial in the management of acute cholecystitis due to a high reported incidence of bile leaks and conversion rate.
Design: Prospective interventional comparative study. 120 Patients admitted to Assiut, Sohage, South Valley and Aswan Universities' hospitals with acute cholecystitis over two years period (2014–2016) were included in this study An early laparoscopic cholecystectomy (ELC), within 7 days from onset of symptoms, for 50 patients, and delayed Laparoscopic cholecystectomy (DLC) after 6 weeks of conservative treatment for 70 patients was performed Demographic details, operative findings, conversion to open surgery, operative time, complications, timing of endoscopic retrograde cholangiopancreatography (ERCP) and hospital stay for all those patients were recorded Statistical analysis was performed by SPSS version 20.
Results: There was insignificant difference in the conversion rates (2 in ELC group vs. 2 DLC group, *P* value: 0.555), post-operative hospital stay (2 days vs. 1.5 days, *P* value: 0.375) However, operative time was significantly more in the ELC group (85 min vs. 70 min, *P* value: 0.023) Postoperative ERCP was required in 2 patients in ELC group and one patient in DLC group Pre-operative ERCP was required in 2 patients in delayed group 40% of patients (48) had previous admissions with similar symptoms Conclusion: ELC for uncomplicated acute cholecystitis is technically demanding surgery, but it is safe and do not have increased complication rate than DLC It decreases re-admission rate and overall hospital stay.

Intraoperative endoscopic retrograde cholangio-pancreatography: a useful tool in the hands of the hepatobiliary surgeon

Ayman El Nakeeb

Aim: To evaluate the efficacy of intraoperative endoscopic retrograde cholangio-pancreatography (ERCP) combined with laparoscopic cholecystectomy (LC) for patients with gall bladder stones (GS) and common bile duct stones (CBDS).
Methods: Patients treated for GS with CBDS were included. LC and intraoperative transcystic cholangiogram (TCC) were performed in most of the cases. Intraoperative ERCP was done for cases with proven CBDS.

Results: Eighty patients who had GS with CBDS were included. LC was successful in all cases. Intraoperative TCC revealed passed CBD stones in 4 cases so intraoperative ERCP was performed only in 76 patients. Intraoperative ERCP showed dilated CBD with stones in 64 cases (84.2%) where removal of stones were successful; passed stones in 6 cases (7.9%); short lower end stricture with small stones present in two cases (2.6%) which were treated by removal of stones with stent insertion; long stricture lower 1/3 CBD in one case (1.3%) which was treated by open hepaticojejunostomy; and one case (1.3%) was proved to be ampullary carcinoma and whipple's operation was scheduled.
Conclusion: The hepatobiliary surgeon should be trained on ERCP as the third hand to expand his field of therapeutic options.

Indicators of success of the transcystic CBD exploration: highlighting the technical tips

Mohamed Bekheit, Mohamed Habib

Transcystic CBD exploration is an alternate modality to the trancholedochal approach when clearance of stones is indicated. This approach is associated with certain advantages over the traditional one. Hospital stay tends to be shorter with lower complications rate. However, there is no consensus concerning the technical tips associated with the success of this procedure and the drawback is potentially longer operative time.
We will describe the key factors related to a successful completion of this procedure. The description includes the patients' factors and favorable anatomical characteristics, as well as the instrumental backup that is required to perform the procedure.

Value Of Routine Cystic Duct Milking During Laparoscopic Cholecystectomy

Mohammed Elbalshy, Hatem Soltan, Mohamed Ammar, Moharm Abd El Shahid, Asem Fayed M

Background: Cystic duct stones although they are occasionally encountered during laparoscopic cholecystectomy (LC), They are not detected easily by preoperative investigations however it is worthy to detect them intraoperaively as they will decrease the incidence of postcholecystectomy pain and they will alarm us to the more serious CBD stones. So we aimed at this study to evaluate the role of cystic duct milking in detection of cystic duct stones and its significance.
Methods: This study was performed on 150 cases with calcular cholecystitis at Menoufia university hospital in the period from August 2015 to December 2016. All patients had undergone (LC),cystic duct milking and routine on-table cholangiogram.
Results: CDS were detected in 28 case, preoperative investgations failed to detect any of them however retrospectively 19 case (68%) of them revealed to have mild transient liver functions derangement associated with acute rt. hypochondrial pain. In 3 cases of them they have wide cystic duct diameter more than 4 mm. among the whole cases CBD stones were found in 23 case and the incidence of association with cystic duct stones was in 10 cases from those with CBD stones representing about (43%) those with CBD stones were treated with endoscopic retrograde cholangiopancreatography (ERCP).
Conclusion: CDS are occasionally encountered during (LC), they can be removed easily by just milking of cystic duct before clipping, with the benefit of decreasing incidence of postcholecystectomy pain.at the same time it alerts us towards the more serious CBD stones. So on-table cholangiogram at that time becomes.

Laparoscopic cholecystectomy of Gangrenous cholecystectomy (case Presentation)

Sherif A. Saber

Introduction: Gangrenous cholecystitis is a serious complication of acute cholecystitis. We present a case of gangrenous Cholecystitis with severe preoperative menifestations suggesting gangerous changes due to strong predisposition. We have not found any similar cases in the published literature.
Case presentation: A 60-year-old female known to be HTN and DM presented with acute cholecystitis which not responded to conservative management with progressive deteriorations. An urgent laparoscopic cholecystectomy was performed and our patient was found to have a totally gangrenous gall bladder.
Conclusion: It is important to keep a high index of suspicion for the diagnosis of gangrenous cholecystitis in order to avoid potentially serious complications. Laparoscopic Cholecystectomy should be the initial approach in the TTT of GC as it can be safely performed and leads to possibly less sever morbidity. Trial of retrograde dissection should be done before decision of conversion to open Cholecystectomy.

Early Versus Late Cholecystectomy After Clearance of Common Bile Duct Stones by Endoscopic Retrograde Cholangiopancreatography: A Prospective Randomized Study

Waleed Askar, Ayman El Nakeeb

Background: The time interval between ERCP and laparoscopic cholecystectomy (LC) is a matter of

debate. This study was planned to compare early LC (within admission) versus late LC (after 1 month after ERCP.

Patient and methods: This is a prospective randomized study on patients who are presented with concomitant gall bladder (GB) and common bile duct (CBD) stone. The study population was divided into two groups; group (A) managed by early laparoscopic cholecystectomy (LC) within 3 days after ERCP and group (B) managed by late LC one month after ERCP. The primary outcome is the conversion to open surgery. Secondary outcomes will include recurrent biliary symptoms, postoperative morbidity, and hospital stay.

Results: 110 patients included in this study. The conversion rate from LC to open occurred in 11 (10%) cases. No significant difference between both groups as regards the conversion rate, the degree of adhesion, cystic duct diameter, and intraoperative CBD injury or bleeding. Recurrent biliary symptoms were significantly more in delayed LC group in 7 (12.7I %) patient versus one patient in early LC (P=0.03). Four (7.3%) patients developed postoperative bile leakage from the cystic duct stump in delayed LC group and all patients managed conservatively.

Conclusion: LC after ERCP and ES is more difficult, it must be operated by an experienced laparoscopic surgeon to reduce the conversion rate and decrease the morbidity rate. No significant difference between both groups as regards the conversion rate. Recurrent biliary symptoms were significantly more in delayed LC while waiting LC.

Session (10) | Liver Tumor (2)

My first fourteen robotic liver procedures: Thoughs and words of A young surgeon

Marco Vito Marino

Firstly described in 2002, the acceptance of robotic liver surgery has been hindered by its high cost, the concerns for the absence of tactile feeback and the lack of standardized training program. A quicker learning curve and the use of a double console allow young surgeons to be faster involved in challenging procedures.

We investigated the perioperative outcomes of two cohorts of patients, similars with respect to comorbidites, tumor type and size, performing a comparison between robotic and laparoscopic approach. A total of 24 patients underwent to robotic (14) or laparoscopic liver resection (10) performed by a 34-years old surgeon from November 2015 to May 2016. The number of major hepatectomies (5/14 vs. 2/10) and the resections of postero-superior segments (4/14 vs. 1/10) were superior in the robotic group. We didn't register any significant difference regarding the operative time (378 vs. 365 min) and the complication rate (21.4% vs. 20%). Nevertheless the reduced blood loss (154 vs. 189 ml) in the robotic procedures we observed a reduced need of Pringle maneuver (1/14 vs. 4/10). The length of hospital stay (9.5 vs. 10.4 days) and the overall conversion rate were lower in the robotic cohort, where we obtained a wider surgical margin (21.4 vs. 15.7 mm). The 1 year disease-free survival didn't differ between the two groups (p: 0.446). Despite the doubts related to its cost-effectiveness, the robotic liver surgery seems to be a safe and feasible technique providing perioperative and oncological results similar to the laparoscopic approach. Its continuous implementation and the integration of new technologies like near-infrared fluorescence or augmented reality, allow the surgeon to use the minimally invasive approach even in more complex liver surgery increasing the number of 'parenchymal sparing' liver resection.

Endoscopic management of biliary obstruction after liver transplantation

Ahmed Soliman

Patients and methods: sixteen Patients complicated by biliary obstruction after liver transplantation manifested by clinical, laboratory and radiological evidence of biliary obstruction were included in the study.

Repeated combination of biliary balloon dilation (6–10 mm) using Maxforce 18 or 24 plus the use of plastic stents ranging from 7–11.5 F with increasing diameter and number, the stents were replaced every 3 months for a year and they were followed up for another 12 mon.

Results: 16 patients 13 males and 3 females with a mean age of 49.7 years (range 44–71 years) underwent ERCP for biliary complications. The cholangiogram showed anastomotic stricture in 12 patients, stones in 4 patients, with mean number of ERCP sessions per patient 3.5 with mean duration 12 month and success rate 92.7%.

Laparoscopic management of parasitic liver cysts: A retrospective comparative study

Hossam Soliman

Background: Parasitic liver cysts are common in many areas of the world. In our country, hydatid disease is the commonest to cause cystic lesions. We reviewed our data to compare and analyze the outcome of laparoscopic management of these patients.

Patients and methods: we retrospectively reviewed our operative and inpatient data at the National liver institute, Menoufia University, Egypt for clinical and operative, postoperative details starting from January 2012 to June 2015.
Results: 47 patients had operative management for hepatic hydatid cystic lesions. Twenty seven patients had laparoscopic management and twenty patients we managed through open procedures. 4 patients had multiple liver cysts and two had associated splenic hydatid cysts. Operative procedure included endocystectomy in all laparoscopic cases and while three of the open group had liver resection in additon, hospital stay was at a mean of 3 days for lap cases and 6 cases for open group. Complications included anaphylactic shock in two patients in the open group and one cases of bile leak. While there were no complications in in the lap. Group.
Follow up showed occurance of recurrence in two of the open group only.
Conclusion: laparoscopic endocystectomy is feasible and of low complication rate.

Selective inflow vascular control inresection of hepatic focal lesions

Mohammed Mostafa Mohammed

Purpose: In this study, we prospectively evaluated the selective inflow vascular control during and after resection of hepatic focal lesions and compare this technique with Pringle's maneuver.
Methods: Between November 2013 and November 2015.Thirty patients with hepatic focal lesion were prospectively randomized into two groups by means of sealed envelope, group A, 14 patients were subjected to surgical resection using Pringle's maneuver (PM) and group B, 16 patients were subjected to surg ical resection using selective inflow vascular control. The intraoperative (operative time, blood loss, hemodynamic changes, etc.) and postoperative parameters (complications, recovery of normal liver function, etc.) were measured and compared between the two groups. Liver function of all these patients was detected by blood test at 1-day preoperation, and at 1, 3, and 7 days postoperation.
Results: Both of the two surgeries were successfully performed without any mortality. The intraoperative systolic arterial pressure and pulse in PM group were much higher than that in selective inflow vascular control group ($P<0.01$). The postoperative liver function parameters such as alanine transaminase (ALT), aspartate transaminase (AST), and total bilirubin (TBIL) increased much more in the PM group than that in the selective inflow vascular control group group compared with preoperation results ($P<0.05$). Intraoperative bleeding, blood transfusion were more in the selective inflow vascular control group than in the PM group but the difference was not significant. There were no statistical differences in, hepatic inflow occlusion time and incidence of complications between the two groups ($P>0.05$).
Conclusion: Selective inflow vascular control is safer with less ischemia reperfusion injury than PM surgery for resection of hepatic focal lesions.

Utility of Clavien Gradient System in Living Liver Donor Hepatectomies

Sameh Hamdy

Background: Several large centers have reported outstanding outcomes of LDLT to decrease waiting list mortality. Although the ratio of complications differ widely, Moreover, there is still no consensus on how to define and stratify complications by severity.
Aim: identify and analyze retrospectively the surgical outcome of live liver donor and describe the surgical morbidity according to the grading system of Clavien for the consistent description of surgical complications.
Materials and methods: This study retrospectively analyzed the outcomes of 270 consecutive living donor hepatectomies performed between April 2003 to February 2017 using modified Clavien system: Grade I=minor complications; Grade II=potentially life-threatening complications requiring pharmacologic treatment; Grade III=complications requiring invasive treatment; Grade IV=complications causing organ dysfunction requiring ICU management; Grade V=complications resulting in death.
Results: They were 171 males (63.3%) & 99 females (36.7%) with the donor's mean age was 27.72±6.4 years with a range of 18-45 years. There were 84 donors (31.4%) who developed postoperative complications totally 94 complications. Ten donors (3.7%) had more than one complication. Thirtynine (46.5%) donors had Clavien grade I complications, Thirty-six donors (43.5%) had Clavien grade IIIa, six (8%) donors had Clavien grade IIIb complications and there was two donors (1.5%) who had Clavien grade IVa and one (0.5%) case of mortality (Clavien grade V).
Conclusions: donor hepatectomy is a relatively safe procedure, when performed by a dedicated and welltrained team. A prompt diagnosis and meticulous intervention is considered a first priority whenever a donor complication expected. Furthermore, continuous standardized reporting and a comprehensive database to precisely define true donor morbidity.

Is CT & MRI accurate in determining tumor characteristics in patients undergoing transplantation for HCC?

T.A.A. Hassan, M.M. El-Shafie, A. Helmy, M. Attia, S.A. Ammar

Introduction: Hepatic resection and transplantation remain the standard curative therapies for HCC. These treatments are limited to either patients with early-stage tumors in the case of transplantation or patients with preserved liver function in the case of resection. (Lei *et al*., 2013).

Hepatocellular carcinoma (HCC) is a major global health problem. It is the fifth most common type of cancer and the third most common cause of cancer-related mortality in the world. Over 80% of HCC develops in cirrhotic liver, and is mainly attributable to chronic viral infection with hepatitis B or C. (Nordenstedt *et al*., 2010). Both MRI and CT have got nearly equivalent diagnostic performance on a lesion-by-lesion basis. Small tumor nodules were the most common cause of missed HCCs with all tests. (Sharlene *et al*., 2003).

Materials & Methods: A total of 101 HCC patients who had surgical treatment (77 for cadaveric Liver Transplantation and 24 for Liver Resection) in the Liver unit at Queen Elizabeth Hospital, University of Birmingham NHS Trust, Birmingham, UK were both retrospectively and prospectively evaluated by chart review. In the transplantation group we have chosen five parameters to assess the accuracy of different pre-operative radiological methods; CT, MRI, in determining tumor characteristics in comparison with their post-operative histopathological results. These parameters were: (1) Number of nodules,(2) Total tumor size, (3) Vascular invasion, (4) Diameter of the largest nodule and (5) Tumor multinodularity.

Results: Both post-operative nodular number (2.12 ±1.24) and total tumor sizes (4.75±2.22 cm.) were significantly higher than pre-operative tumors number (1.64±1.10) and total tumors sizes (4.08±2.41) ($P<0.005$, $P<0.051$, respectively). Also radiological methods were of least sensitivity in detecting vascular invasion (sensitivity was 4.17%) while radiological methods were accurate in determining the diameter of the largest tumor as well as the tumor multi-nodularity (sensitivity 45.24%).

Pericystectomy for management of liver hydatid cyst. A center experience

Wael Mansy, Morsi Mohamed

Background: liver is the most common site of infection with hydatid disease. We evaluated our experience of treating hydatidosis using a management protocol combining radical surgery with anti-scolicidals (Albendazole). Patients and Methods: This study was done in Zagazig university hospitals, from March 2011 till march 2015 on 69 patients admitted to our unit with liver hydatid cyst. 17 (24.6%) patients were males and 52 (75.4%) patients were females with median age 33 (range 17–50) years, of whom 21 (30.4%) were asymptomatic. Diagnosis was by serological tests and imaging. All had disease confined to the liver and received peri-operative anti-scolicidal drug therapy 'Albendazole'.

Results: Total pericystectomy was carried out on 55 (79.7%) patients, hepatic resection was carried out on 11 (16%) patients and 3 (4.3%) patients required a subtotal pericystectomy with omentoplasty. Post-operative hospital stay was 7 days (range 5–10). 13 (18.85%) Patients developed post-operative complications, in which two were suffered from biliary leak. There was no mortality or recurrence. All patients were followed-up for 6 months.

Conclusion: Surgery combined with anti-scolicidal therapy proved effective. Radical procedures were effective with lower morbidity rates and no recurrence.

Single incision liver resection for benign and malignant hepatic tumors: A single center experience

Mohamed Bekheit, Momen Malik, Bassam Alkari, Irfan Ahmed

Background: Minimal access surgery is being increasingly adopted for many digestive pathologies. The liver has not been an exception to that. However, minimally invasive liver surgeries are not yet standard procedures according to the latest guidelines. The evolution of the technology and the enthusiasm of surgeons to reduce the surgical trauma are driving improvement in the patients' outcomes.

Aim: Present our cumulative experience in single incision liver resection for benign and malignant liver tumors.

Material and methods: Data was retrieved from a prospectively maintained database containing all liver resection records and analyzed.

Results: A total of 18 liver resections were performed in a single incision. Five patients had deroofing of hepatic cysts and 13 patients had minor resection (4 left lateral sectionectomy and 9 non anatomical resection). The indications for resection were: hepatic cysts X 6, CLM X 9, and FNH X 3. Segments involved were II, III, IV, V, VI.

The median blood loss volume was 200 ml (50–500 ml), the median hospital stay was 2 days (1–3 days).

There was no conversion to laparoscopic or open surgery. No intraoperative complications or in hospital post-

operative complications were recorded. All patients were followed up according to the local protocols.
Conclusions: Single incision liver resection is safe to conduct using the regular laparoscopic instruments. Adjustment of the port site to a suitable orientation to the lesion is essential.

Session (11) | Biliary (3)

What is better in bile duct injury ???

Luis Ruso Martinez, Pablo Valsangiacomo, Cecilia Chambon, Martin Bentacur

Background: Iatrogenic lesions of the bile ducts (ILBD) is one of the major surgical problems to be solved due to clinical, economic, legal and socio- family repercussions.
Multiple factors determine the initial management and the ortunity of the surgical repair; about this, multiple procedures are performed but nevertheless, the best technique to be used in bile duct repair remains controversial.
Objective: Analysis of morbidity, mortality and postoperative stenosis of the techniques used in the primary surgical repair of bile duct injuries.
Material and methods: In Hospital Maciel of Montevideo, Uruguay, (public hospitaluniversity associate). Retrospective-observational study of 35 (0.5%) patients underwent ILBD in 5217 cholecystectomies performed. Period: 208 months (January 2000 to May 2016). Twenty-five cases (66%) originate in our own Hospital and 10 (25%) referred from other centers. Ten men and 25 women, with a mean age: 43.7 yo. Intraoperative diagnosis was made in 12 cases by intraoperative cholangiography, in the remaining 3, postoperatively.
The Bismuth classification was: Type I: 14 cases; Type II 11; Type IIIa 5 and Type IV 5 cases. Six (17.5%) thermal and two (5.7%) vascular lesions were observed in this serie. Primary repair was performed intraoperatively in 22 (63%) cases and deferred in 13 (37%), that were treated by biliary drainage, nutritional support and antibiotics and operated four week after. In the first surgery, was performed 9 hepaticojejunostomies over a Roux-en-Y loop associated with Hepp Couinaud maneuver; 23 sutures (with T-tube or stent-associated), one of them without calibration, one hepaticoduodenostomy and 2 cases of abdominal drainage and antibiotics. The follow-up average 40.2 m (ranged 2–203 m.) with clinical control, imaging and hepatic function assessment.
Results: Mortality was 5.7%, morbidity 40%. Fourteen patients (40%) evolved without complications, but 9 (25%) suffered bile duct stenosis. All secondary stenoses were repaired by hepaticojejunostomy, with 11% operative complications, without re-stenosis. One patient (5.6%) died due sepsis to anastomosis leakage.
Conclusions: The ILBD incidence of our center are consistent with the literature; although with high number of thermal and vascular injuries, that we link to laparoscopic practice and which conditioned the bile duct repair because are indication of primary hepaticojejunostomy.- In the medium-term evolution, is observed that the techniques of suture with T.tube or stent are stenosed more earlier than the hepaticojejunostomies. The intraoperative identification of the biliary lesion with repair right there, and the hepaticojejunostomy performed by trained hepato-biliary surgeons, justify the acceptable results obtained.

Laparoscopic cholecystectomy with difficult cases

Abd El Fattah Morsi

Aim: Laparoscopic cholecystectomy (LC) has become the gold standard for removal of the gallbladder. In around 2% of cases, there is a need to convert because of the difficult dissection encountered in the Calot's Triangle. However, even today, experienced laparoscopic surgeons still encounter difficult problems with LC. However, it is difficult to find articles that clearly describe techniques for difficult cases of LC. The aim of this article is to assess the clinical and radiological parameters for predicting the difficult laparoscopic cholecystectomy and its conversion to open and to outline different strategies and techniques for the management of these difficult cases.
Materials and Methods: This was a prospective study conducted on 72 patients who undergo to LC. The triad of clinical examination, laboratory data and radiological study was performed for all patients. The preoperative ultrasound was done in these patients for pre-operative assessment of diagnosis and assignment of a patient to difficult gall bladder. The standard four port technique was used for LC. Different methods was done including: Aspiration of the distended GB, Fundus-first cholecystectomy, transfixing suture to wide and short cystic duct, Intraoperative cholangiography, Open the GB and look inside and Unroofing of the gallbladder.
Results: 72 patients: there were 48 male patients, diabetes were present in 24, dense adhesions in 10 patients, contracted gall bladder in 29, acute cholecystitis in 9, empyema and mucocele in 1 and 10 patients respectively. Ten patient with previous ERCP. Conversion to open surgery in three cases. Operative time range from 50 to 150 min Bleeding from cystic artery 5 cases and controlled by laparoscope.

CBD injuries two cases and converted to open exploration of CBD.
Conclusion: Removal of gall bladder by laparoscopic method at times poses technical challenges due to various reasons. Essential points under consideration for performing safe difficult laparoscopic cholecystectomy are: preoperative workup and identification of co-morbid conditions, meticulous dissection, minimal use of cautery and no inhibitions for conversion to open cholecystectomy. Advanced skills in laparoscopic surgeries are important in difficult situations.

Malignant obstructive jaundice in the NCI Cairo University review of 232 patients

Ashraf Sobhy Zakaria

Background: Obstructive jaundice is a common problem in the medical and surgical gastroenterological practice. Malignant obstructive jaundice can be caused by cancer head of pancreas, periampullary carcinoma, carcinoma of the gall bladder and cholangiocarcinomas.
Objective: to review the etiological spectrum of malignant obstructive jaundice in NCI Cairo university during a period of 3 years (2008 till 2010).
Patients and methods: retrospective study including 232 patients who presented with malignant obstructive jaundice between (2008 to 2010). Data were collected from the biostatistics and cancer epidemiology department.
Results: out of 232 patients; 156 (67.2%) were male and 76 (32.8%) were female; the median age of the study population was 49 years (range 19–80 years).
The commonest cause of malignant obstructive jaundice was pancreatic head cancer, 72% (167/232), followed by the ampullary carcinoma 15% (36/232). The last cause was cholangiocarcinoma12.5% (29/233).Regarding the commonest symptom; clay colored stools (98.7%) was more frequent in patients with malignant disease whereas abdominal pain (97.7%) was 2nd common symptom.
Conclusion: Obstructive jaundice is more common among males and cancer head of pancreas is the commonest malignancy.US, ERCP and CT-Scan are important diagnostic modalities for evaluation of patient with obstructive jaundice with ERCP having the additional advantage of being therapeutic as well.

Postoperative outcome after major liver resection in jaundiced patients with proximal bile duct cancer without preoperative biliary drainage

Ehab El Hanafy, Mohamed Abdelwahab

Background/Aims: The need for routine use of preoperative biliary drainage (PBD) before major liver resection in jaundiced patients has recently been questioned. Our aim was to present our experience of patients with proximal bile duct cancer who undergo major liver resection without PBD and compare these results with patients without biliary obstruction who underwent major liver resection.
Methods: Eighty six consecutive jaundiced patients underwent major liver resection without PBD. The postoperative outcome was compared to the control group which was the same size and matched.
Design: A case-comparison study.
Results: Fifty nine jaundiced patients (69%) and 22 non-jaundiced patients (25%) received blood transfusion (P=0.04). Fifty-three patients (62%) in the jaundiced group and 17 (19%) in the non-jaundiced patients experienced postoperative complications (P=0.003). A statistically significant difference could not be detected for mortality (6% vs. 2%) and transient liver failure (10% vs. 3%). Those patients who underwent extended right hemihepatectomy (with future liver remnant
Conclusions: Major liver resection without PBD leaving a liver remnant of more than 50% is safe in jaundiced patients.
However, transfusion requirement and morbidity are higher in jaundiced patients than in non-jaundiced patients.

Concomitant vascular injury associated with postcholecystectomy iatrogenic bile duct injuries: Institutional Experience

Osama Hegazy

Aims: Concomitant vascular injury with post cholecystectomy bile duct injury is possible. It is considered as an increasing finding during repair. Thus, assessment of those injuries is crucial for defining the optimal surgical management.
Methods: One hundred and sixty patients were managed for post cholecystectomy bile duct injury between January 2010 to December 2015. Patients records were revised including preoperative, intraoperative and postoperative data. Follow up visits were also revised. Vascular injury was identified intra-operatively at the beginning of the study while, later, all patients were carried out Computed Topographic hepatic angiography.
Results: Thirty five patients had concomitant vascular injury. Majority were females (75%)with mean age 35years (range, 30–50 years). Most of the injuries were post open cholecystectomy (71%). All the patients had right hepatic artery injury while seven had added right portal vein injury. Sixteen patients had right hepatectomy and left hepatico-jejunostomy (46%). Three patients died (9%) due to sepsis and

multi-organ failure. The remaining patients had conventional hepatico-jejunostomy.
Conclusions: Assessment of vascular injury is an important part in the management of patients with bile duct injuries. Isolated arterial or combined portal injuries may lead to hepatectomy while mortality occurred due to cholangitic abscesses, severe choalngitis with subsequent sepsis.

Laparoscopic Cholecystectomy versus Mini-Laparotomy Cholecystectomy: A randomized controlled trial

Wael Barakaat Ahmed Mohamed, Ahmed Gaber Mahmoud, Kamal Abdelal Elsharkawy

Background: Minimally invasive procedures, laparoscopic cholecystectomy (LC) and less invasive procedures such as Mini-Laparotomy (ML), have largely replaced the traditional cholecystectomy. Many studies comparing both technique ML, and LC show small difference ML had less cost and shorter duration of operation compared to LC but the complications, morbidity and mortality were the same in both methods so, it was interesting to conduct this study in order to know which technique was better. The aim of our study was to compare short term outcomes of laparoscopic cholecystectomy (LC) versus mini-laparotomy cholecystectomy (ML) for treatment of gallstones.
Methods: In this prospective study, patients with gallstones that were referred and enrolled in the study for elective LC or ML between October 2013 and October 2014 at Sohag university hospital, Egypt; Operation, anaesthesia, rescue analgesia and postoperative care were standardized. Patients were assessed for operation time, postoperative pain, hospital stay and complications in the postoperative period on day 1, 1 week, 1 month and 3 months, postoperatively.
Results: Of 220 patients, 110 underwent LC and 110 underwent ML between October 2013 and October 2014 at Sohag university hospital Sohag in Egypt. In laparoscopic cholecystectomy group (LC) 91OF 110 PATIENTS were female and in mini-laparotomy group (ML) 75 of 110 were female (*P* value.018) this because chronic calcular cholecystitis more common in female. The patient's age for the LC Group was 37.34±10.88 and for ML group was 32.60±10.55 (*P* value 0.558). As regards operative time the mean operative time for the ML group was 42.3182±14.66252 which is significantly lower than LC 52.1364 ±19.52955 (*P* value 0.018). No statically detected significant differences in both groups as regard hospital stay, intraoperative, postoperative complication, mortality rate, conversion rate, CBD injury or post-operative pain.
Conclusion: ML was comparable to LC but we recommend using ML in in our hospitals as the method of choice for most of the patients due to low cost rate as well as our limited resources.

Session (13) | Pancreas (2)

Impact of Diabetes Mellitus on The Outcomes After pancreaticoduodenectomy for Pancreatic Ductal Adenocarcinoma

Shehta A, Elnakeeb A, Moneer A, Said R, Elrefai M, AbdAllah T

Background: Pancreatic ductal adenocarcinoma (PDAC) is a life-threatening health problem that poses substantial challenges in its management. Radical surgical excision is the principal step of treatment, but it is associated with high morbidity and mortality, and poor survival outcomes.
At the time of diagnosis, up to 80% of PDAC cases have impaired glucose tolerance or clinically manifest diabetes mellitus (DM). The role of pre-operative DM on the outcomes after pancreaticoduodenectomy (PD) is still unclear.
Methods and Methods: We reviewed the data of patients who underwent PD for pathologically confirmed PDAC at Gastrointestinal Surgery Center, Mansoura University, during the period between 1993 and 2016. Patients were divided into 2 groups according to presence or absence of preoperative DM.
Results: During the study period, 451 patients underwent PD for PDAC and were included in this study. DM group included 113 patients (25.1%), and Non-DM group included 338 patients (74.9%).
More firm pancreas was found in DM group, and more clinically relevant postoperative pancreatic fistula (POPF) was found in Non-DM group. There was more delayed gastric emptying (DGE), especially grade C, in DM group which required longer nasogastric tube decompression. Also, there was more wound infection rate in DM group.
The long-term oncological outcomes were comparable between groups regarding the overall (P=0.55) and disease-free survival rates (P=0.972).
Conclusion: Preoperative DM did not significantly affect the perioperative outcomes after PD for PDAC patients, however, certain morbidities are more affected. Preoperative DM is not associated with POPF; however it is significantly associated with DGE and wound infection.

Tailored Pancreatic Reconstruction after Pancreaticoduodenectomy: A Single Center Experience of 892 Cases

Ayman El Nakeeb

Background: Pancreatic reconstruction following pancreaticoduodenectomy (PD) is still debatable even for pancreatic surgeons. Ideally, pancreatic reconstruction after PD should reduce the risk of POPF and its severity if developed with preservation of both exocrine and endocrine pancreatic functions. It must be tailored to control the morbidity linked to the type of reconstruction. This study was planned to show the best type of pancreatic reconstruction according to the characters of pancreatic stump. Patients and method: We studied all patients who underwent PD in Gastroenterology Surgical Center from January 1993 to December 2015. Patients were categorized into three groups depending on the presence of risk factors of postoperative complications. Low risk group (absent risk factor, G1), moderate risk group (presence of one risk factor, G11) and high risk group (presence of two or more risk factors, G111).
Results: 892 patients underwent PD for resection of periampullary tumor. BMI >25, liver cirrhosis, soft panaceas, pancreatic duct <3 mm, and pancreatic duct location from posterior edge <3 mm are risk variables for development of postoperative complications. Postoperative pancreatic fistula (POPF) developed in 128 (14.3%) patients. Delayed gastric emptying occurred in 164 (18.4%) patients, biliary leakage developed in 65 (7.2%) and pancreatitis presented in 20 (2.2%) patients. POPF in G1,G11 and G111 were 26 (8.3%), 65 (15.7%), and 37 (22.7%) patients respectively. Postoperative morbidities and mortality were significantly lower with pancreaticogastrostomy (PG) in G111 while pancreaticojejunostomy (PJ) decreases incidence of postoperative steatorrhae in all groups.
Conclusion: Selection of proper pancreatic reconstruction according to the risk of patients may reduce POPF and postoperative complications and mortality. PG is superior to PJ as regards short term outcomes in high risk group but PJ provides better pancreatic function in all groups. So, PJ is superior in low and moderate risk groups.

Nontraditional criteria for prediction of patient survival following pancreaticoduodenectomy for malignancy

Mohammed Mostafa Mohammed

Background: Accurate and simple prognostic criteria based on histopathology following pancreaticoduodenectomy would be helpful in assessing prognosis and considering and evaluating adjuvant therapy. This study analyzed the histological parameters influencing outcome following pancreaticoduodenectomy for periampullary malignancy.
Methods: A total of 35 pancreaticoduodenectomies were performed from June 2011 to June 2012. The median age of patients was 58 years (range 25-65 years). The median follow-up was 4.9 years, 26 were pancreatic adenocarcinoma and the rest were ampullary (5), cholangio (2), duodenal (2) carcinomas.
Statistical analysis was performed using log-rank and Cox regression multivariate analyses.
Results: Patients who underwent resection had 1-, 3- and 5-year survival rates of 70%, 46% and 41%, respectively. The 1-, 3- and 5-year survival rates for periampullary cancers other than pancreatic denocarcinoma were 83%, 69% and 61%, respectively; those for pancreatic adenocarcinoma were 62%, 31% and 27%, respectively ($P<0.003$). Poor tumor differentiation ($P<0.001$), tumour size >3 cm ($P<0.001$), margin 2 mm ($P<0.001$), nodal involvement ($P<0.003$), perineural infiltration ($P<0.001$) and lymphovascular invasion ($P<0.002$) were associated with poorer prognosis. In a multivariate analysis, histologically identified perineural infiltration ($P<0.03$) and lymphovascular invasion ($P=0.05$) were significant factors influencing outcome. Five-year survival was 77% in patients negative for both factors and 15% in patients positive for both ($P<0.0001$). In the pancreatic adenocarcinoma subgroup, patients who were negative for both factors had a 5-year survival of 71%, whereas those who were positive for both had a 5-year survival of 16% ($P<0.02$).
Conclusions: The presence of perineural infiltration and lymphovascular invasion on histopathology is highly significant in predicting 5-year outcomes after pancreaticoduodenectomy for periampullary and pancreatic malignancies.

Surgical Outcomes of Uncinate process carcinoma after PancreaticodudenectomyÂ

Talaat Abdallah, Ayman El Nakeeb

Background: Pancreatic head cancer (PHC) is considered to have the worst prognosis of the periampullary carcinomas. The resectability rate of uncinate process pancreatic carcinoma (PUC) is low and have poorer prognosis than equivalent pancreatic head cancer.
Methods: This study included three groups of patients from January 2008 to February 2015. Group A patients with PHC, group B patients with combined head and uncinate process carcinoma (CC) and group C patients with PUC.
Results: The study included 257 patients, Group A patients was 185 (72%) patients), group B was 37 (14.4%) patients and group C was 35 (13.6%)

patients. Jaundice was the most common presenting symptoms in PPC and CC. Abdominal pain was the most common presentation in PUC. The mean common bile duct (CBD) and pancreatic duct diameters were significantly smallest in PUC group (P=0.0001). The venous invasion was significantly observed more in PUC group and vascular resection was done in 50% of cases. The number of patients with microscopically residual tumor was significantly highest in PUC group after PD than in other two groups (P=0.001). Recurrence rate occurred in 55% in PUC group, 35% in CC group and 23% in PUC group after PD (P=0.007). The median survival was 19 months in PHC groups, 16 months in CC group, and 14 months in PUC group (P= 0.02).

Conclusion: PUC presented with abdominal pain with more vascular infiltration. The recurrence rate was common after PD for PUC especially locoregional recurrence and the overall survival rate was found to be lower.

Session (14) | Gastroenterology-Oncology-Radiology (2)

Enhanced Recovery After Surgery Care Versus Traditional Perioperative Care For Elective Open Colorectal Cancer Surgery

Mohamed I. Abdelaziz

Background: traditional colorectal surgeries usually require a relatively long hospital stay around 10 days. Inadequate pain control, intestinal dysfunction and immobilization are the main factors associated with delay in recovery. Fast track or enhanced recovery colorectal protocols have been used to optimize the perioperative care and to enhance the postoperative recovery.

Objectives: Is to study the outcome of the enhanced recovery program for selected patients with colorectal malignancies subjected to elective surgery compared with similar patients subjected with surgery with traditional perioperative care.

Methodology: This prospective study was performed at Fayoum University Hospital from April 2008 to February 2016 and involved 97 patients have uncomplicated colorectal cancer and planned for elective open colorectal surgeries divided into two groups, group A (44 patients) subjected to surgery based on fast track protocol and group B (53 patients) subjected to surgery based on traditional perioperative care. Hospital stay, perioperative morbidity, mortality data, post-operative pain and patient satisfaction data were collected, statistically analyzed and recorded.

Results: In group A and B respectively, the mean (±SD) age was 47.3±5.1 and 43.7±6.1 years, number of males were 31 and 44 while females were 13 and 9. According to ASA score, 43.2% and 54.7% of patients were ASA I and 56.8% and 45.3% were ASA II. 40.9% and 43.4% underwent low anterior resection, 36.4% and 22.6% sigmoidectomy, 22.7% and 8.3% right colectomy, and 0% and 5.7% left colectomy. The mean (±SD) length of postoperative hospital stay was 3.58±0.24 and 8.84±1.87 days. There was no mortality in the two groups, and overall morbidity rate was 22.7% and 22.6%; 4.5% and 7.5% wound infection, 2.3% and 0% abdominal wall dehiscence, 11.4% and 11.3% persistent vomiting, 2.3% and 3.8% postoperative fever and one patient in group A (2.3%) required readmission and re-surgery to manage anastomotic leakage and peritonitis.

Conclusions: enhanced recovery program for elective colorectal cancer surgery has a very good impact on post-operative recovery as it shortens the length of hospital stay with high safety and good patient compliance, so we strongly recommend the application of such protocols provided that the availability of the well trained and adequately experienced personnel in equipped centers.

Implementing Enhanced Recovery after Surgery (ERAS) Program in colorectal surgeries in Upper Egypt

Abdallah Mohamed Taha

Background: Enhanced recovery after surgery (ERAS) program is used to attenuate stress response after surgical trauma to reduce morbidity, hospital stay, costs and early return to daily normal activities.

Aim of the study: To evaluate the benefits and harms of the ERAS program compared to conventional approach in patients undergoing liver surgery colorectal surgeries in Upper Egypt.

Patients and Methods: This on randomized study was included 200 patients from free as well as private sectors in Assiut, Sohage, South valley and Aswan Universities Hospitals. Patients had open and laparoscopic colorectal surgeries with resection and primary anastomosis (Right hemicolectomy, Left hemicolectomy, Sigmoidectomy, Anterior rectal resection).

ERAS program was applied in 120 patients (intervention group), whereas the traditional perioperative management was applied to 80 patients (control group).

Demographic, operative and post-operative data were recorded and analyzed by SPSS Ver. 20.

Results: Statistically insignificance difference between groups regarding age, neither sex nor type of surgery. There statistically insignificant increase in

postoperative complications and 30 days re-admission rate in ERAS group.
Statistically significant difference in early ambulation, oral feeding, overall and post- operative hospital stay, overall patient satisfaction in ERAS group.
Conclusion: ERAS program can be successfully implemented in colorectal surgeries with significant shorter overall and post-operative hospital stay without increase in postoperative complications and readmission rate. A teamwork including the patient, the surgeon, the anesthetist and the nursing staff is usually required for successful implementation of this program.

Conflict of interest
No conflict of interest.