ASSOCIATION OF SERUM LEVELS OF TRANSFORMING GROWTH FACTOR β1 WITH DISEASE SEVERITY IN EGYPTIAN PATIENTS WITH HCC

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Background: TGF is overexpressed by tumor cells like other proteins and growth factors. TGF-β1 is then activated in the extracellular compartment but is unable to control cell proliferation because of the absence or low level of TGF-β1 receptors on the plasma membrane of malignant hepatocytes.
This potential mechanism might interrupt the autocrine regulation loop of TGF-β1 and its blocking effect on cell proliferation.
TGF is overexpressed by tumor cells like other proteins and growth factors. TGF-β1 is then activated in the extracellular compartment but is unable to control cell proliferation because of the absence or low level of TGF-β1 receptors on the plasma membrane of malignant hepatocytes. This potential mechanism might interrupt the autocrine regulation loop of TGF-β1 and its blocking effect on cell proliferation.
Transforming growth factor β1, is a multifunctional cytokine involved in the regulation of growth and differentiation of both normal and transformed cells. It was found that TGF β1 mRNA and its proteins were overexpressed in HCC tissues and its plasma levels were elevated in HCC patients, however, the exact role in development and prognosis of HCC remains unclear.
Aim: To study the association of serum levels of TGF β1 with disease severity in patients with HCC.
Material and methods:
A total of 180 Egyptian subjects were classified into 6 groups:
Group 1: 30 patients with an early stage HCC (BCLC stages 0 & A).
Group 2: 30 patients with an intermediate stage HCC (BCLC stage B).
Group 3: 30 patients with an advanced stage HCC (BCLC stage C).
Group 4: 30 patients with a terminal stage HCC (BCLC stage D).
Group 5: 30 cirrhotic patients without HCC.
Group 6: 30 control subjects.
Demographic, clinical, laboratory and radiological characteristics of all subjects were evaluated; Barcelona Clinic Liver Cancer (BCLC) stage was identified in all patients with HCC. Serum levels of TGF β1 were measured by an ELISA technique. Statistical analysis was done using SPSS software.

Results: Serum levels of TGF β1 were significantly higher in patients with HCC (1687.47± 1462.81 pg/ml) than cirrhotics (487.98± 344.23 pg/ml, $p < 0.001$) and control subjects (250.16± 284.61 pg/ml, $p < 0.001$).
Serum TGF β1 in BCLC stage A patients (652.83± 1084.60 pg/ml) was significantly lower than that in BCLC stage C patients (2150.68± 1970.10 pg/ml, p value 0.004) and BCLC stage D (1668.78± 1628.15 pg/ml, p value 0.038)
Conclusions: Serum levels of TGF β1may have a role in tumor growth and progression and could be used for risk prediction of HCC in cirrhotic patients.

COMMON MISDIAGNOSES OF BILIARY ATRESIA

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Objectives Discrimination of biliary atresia (BA) from other causes of neonatal cholestasis (NC) is challenging. We aimed to analyze the clinicopathological findings in cholestatic infants who were provisionally diagnosed with BA and then excluded by intraoperative cholangiography compared with those with a definitive diagnosis of BA and to shed light on common misdiagnoses of BA. MethodsWe retrospectively analyzed the data of infants diagnosed preoperatively with BA and referred to surgery between the years 2009 and 2013. On the basis of intraoperative cholangiography results, infants were divided into those with a definitive diagnosis of BA and those misdiagnosed with BA.
ResultsOut of 147 infants, there was a misdiagnosis of BA in 10 (6.8%) infants. Alanine transaminase was significantly higher in the non-BA group, whereas other clinical and laboratory findings were comparable in both groups. Hepatomegaly and abnormal gallbladder in ultrasound, and ductular proliferation and advanced grades of portal fibrosis in liver biopsy were significantly higher in infants with BA.
However, giant cells were more common in the non-BA infants. Nonetheless, the frequency of clay stool, hepatomegaly, abnormal gallbladder, ductular proliferation and advanced portal fibrosis was remarkable (100, 70, 40, 70, and 50%, respectively) in the misdiagnosed infants. The misdiagnoses were idiopathic neonatal hepatitis, progressive familial intrahepatic cholestasis type 3, cytomegalovirus hepatitis, Alagille syndrome, and a cholangitic form of congenital hepatic fibrosis.
ConclusionA meticulous preoperative workup should be performed to exclude other causes of NC even if signs of BA are present, especially if features such as giant cells in histopathology are present. This involves completing the NC workup in parallel involving all common causes of NC rather than performing them in series to avoid loss of valuable time and efforts.

CRISIS MANAGEMENT DURING ANESTHESIA FOR LIVER TRANSPLANT A NEVER ENDING TALE

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Liver transplant is the only curative treatment for cirrhosis. However, it is a very complex and lengthy procedure, with potential for recurrent and/or severe intraoperative adverse events. Factors that may contribute to this include the procedure itself (surgery near or involving the inferior vena cava; affecting venous return), and blood loss that may be severe and/or rapid. Also liver cirrhosis is known to cause other organ dysfunction in many ways, but patients may remain asymptomatic due to limited physical activity. The keys for avoiding adverse outcomes include procedure understanding, full monitoring, anesthetist-surgeon communication, anticipation and readiness for immediate change in management plans.

EARLY (>6MONTHS) MORTALITY AFTER ADULT TO ADULT LIVING DONOR LIVER TRANSPLANTATION, SINGLE CENTRE EXPERIENCE. A RETROSPECTIVE COHORT STUDY.

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Abstract

Objectives: Both complications and mortality of recipients are annoying problems after living donor liver transplantation (LDLT). The aim to analyze early (<6months) mortality of patients after adult to adult LDLT (A-ALDLT) in a single center. Methods: Between April 2003 and February 2013, we performed 167 A-ALDLT in National Liver Institute, Egypt. We retrospectively analyzed early mortality in recipients. Results: The overall incidence of early mortality was 34.1% (n=57), it was classified into in hospital (28.7%) and post-hospital discharge (5.4%) mortalities. The most frequent causes of in hospital and post hospital discharge mortalities were SFSS (10/48) and sepsis (5/9) respectively. On univariate analysis, the following factors were significant predictors of early mortality (Female gender, Lt lobe graft, GRWR< 0.8, mean blood transfusion 10.8±9.8 units, (vascular, renal, chest, neurological, bacterial infection and small for size syndronme (SFSS)) complications. While on multivariate analysis by Cox regression, mean blood transfusion 10.8±9.8 units, vascular and neurological complications were independent predictors. Conclusion: Reduction of blood transfusion units, prevention and management of vascular and neurological complications is required for better early outcome after A-A LDLT.

EARLY LAPAROSCOPIC CHOLECYSTECTOMY FOR ACUTE CHOLECYSTITIS, IS IT SAFE?

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Background and Aim: Laparoscopic cholecystectomy is found to be superior as a treatment for acute cholecystitis. This study designed to evaluate the safety of (at time of presentation) laparoscopic cholecystectomy for treatment of acute cholecystitis.
Methods: This prospective study was conducted on 30 patients with age range 21-60 years (8 males & 22 females) who were presented by acute cholecystitis to gastrointestinal and laparoscopy unit, Tanta university hospitals from March 2015 through a period of 9 months. All patients was given supportive treatment at time of presentation and treated by laparoscopic cholecystectomy after 24 hours. According to patient's time of presentation, Timing of intervention was within 7 days from the beginning of symptoms.
Results: All patients presented with right side abdominal pain, elevated CRP with mean 44.6 while 21 cases had elevated TLC with mean 22700.48. Higher levels CRP and was found in cases of high grade fever, presence of palpable tender right hypochondrial mass and pyocele cases (P-value 0.001, 0.001, 0.005 respectively). Both CRP and TLC were noticed to be directly proportion with amount of intra-operative hemorrhage (P-value 0.034). Male sex had a delayed time of intervention (P-value 0.031) and also cases of pyocele (P-value 0.005). Delayed timing of intervention was directly proportion to the intraoperative hemorrhage and amount of drain post-operative (P-value 0.006, 0.035 respectively). Total operative time was with mean 109.57 and blood loss was with mean 95. Longer operative time was associated with male sex, high grade fever preoperatively, presence of palpable tender right hypochondrial mass, higher total leucocytic count and higher CRP levels (P-value 0.03, 0.001, 0.001, 0.001, 0.002 respectively). It was noted that delayed timing of intervention had no effect on operative time (P-value 0.145). No conversion to open surgery or bile duct injury. Amount of post-operative drain was estimated in the 20 cases to whom drain were inserted with mean 102.5. Drain insertion was statistically correlated with Pre-operative high grade fever, Presence of palpable tender RUC mass, Higher ranges of CRP with, long operative time and more amount of intra-operative hemorrhage (P-value 0.004, 0.001, 0.035, 0.007, 0.004 respectively). Total hospital stay ranged from 4-6 days with mean 4.97. It has noted that hospital stay increased with male sex and cases of pyocele and delayed timing of intervension (P-value 0.035, 0.016, 0.011 respectively). 6 cases (20%) had post-operative superficial wound infection of epigastric port site
Conclusion: Laparoscopic cholecystectomy is found to be superior for acute cholecystitis as a definitive treatment without added morbidity in experienced laparoscopic hands. Although, with its longer operative time and more blood loss, it was found that early laparoscopic cholecystectomy allows significantly shorter total hospital stay and reduction in days away from work and avoids repeated admissions for recurrent symptoms.

EARLY SURGICAL PROCEDURES POST LIVING DONOR LIVER TRANSPLANTATION: DIFFICULTIES, CAUSES & OUTCOME

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Different situations post Living Donor Liver Transplantation need early surgical intervention
Methods: From April 2003 to April 2015, 240 patients had undergone LDLTx at the National Liver Institute, Menoufia University. Early surgical procedures in the first hospital stay in such patients were evaluated. Mortality was analyzed using Kaplan-Meier survival curve.
Results: Twenty five patients needed early surgical interventions in the first hospital stay after LDLTx.
External Biliary diversion and peritoneal lavage for biliary leak accounts for the major indication for early surgical intervention (9 patients (36%)). Followed by the vascular complications in the form of Hepatic artery thrombosis and portal vein thrombosis 7 patients (28 %). Wound dehiscence, intestinal perforation, bleeding resulting from pigtail insertion for intra-abdominal collection drainage represent the other indications.
Conclusion: Rapid surgical intervention in such immunocompromised patients is important to achieve fair outcome. Postoperative anticoagulant therapy is one of the major obstacles in early surgical intervention.

EPIDEMIOLOGY (PREVALENCE AND RISK FACTORS) OF FUNGAL INFECTION AFTER HEPATOBILIARY SURGERIES AT NATIONAL LIVER INSTITUTE HOSPITAL

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Background: Candidemia and disseminated candidiasis are major causes of morbidity and mortality in hospitalized patients especially in ICU, the incidence of invasive candidiasis is on a steady rise because of increasing use of multiple antibiotics and invasive procedures carried out in the ICUs. Risk factors for invasive candidiasis& candidaemia include prior antimicrobial therapy, central venous catheters, urinary catheters, ICU admission, parenteral nutrition, major surgery and immunosuppressive therapies. Candida species were the most frequently isolated organism from any sites and comprise 85% of total number of cultures.

Objectives: assessing the rate of fungal infections after hepatobiliary surgery and identification of the risk factors associated with the development of fungal infections in such patients.

Participants &Methods: A prospective cohort hospital based study was carried out at National Liver Institute. The studied group consisted of 210 patients All of them were examined thoroughly, their data were registered and sampled at two times, one at day of admission to be sure that they are free of fungal infection and the second was after hepatobiliary surgery pre-designed questionnaire was used which include data about personal history, medical history and suggested risk factors for fungal infections.

Results: In the present study the incidence rate of fungal infection among patients undergone hepatobiliary surgeries in NLI is (45.2%) and the main predictors of fungal infection were Age (p value 0.001), Antibiotic use (p value 0.05), liver disease (p value 0.006), CVC (p value 0.043), urinary catheter (p value 0.05), and ICU hospitalization more than 48 hours (p value 0 .000008).

Conclusion and Recommendations: High incidence of fungal infection after hepatobiliary surgeries may reach 45% due to type of patient doing such surgeries. The great prevalence of fungal colonization inside ICU which is easily transmissible emphasizes very strongly on the importance of infection- control guidelines. Aggressive antibiotics shouldn't be used outside ICU and only antibiotics according to culture and sensitivity should be used to lessen down emergence of resistant strains and fungal flourishment.

EXTERNAL VERSUS INTERNAL PANCREATIC DUCT STENTING IN DUCT-TO-MUCOSA PANCREAICOJEJUNOSTOMY AFTER PANCREATICODUODENECTOMY

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BACKGROUND: A pancreatic duct stent is often placed across the pancreaticojejunostomy after pancreaticoduodenectomy to decrease the incidence rate of postoperative pancreatic fistula. However, there are few reports in the literatures compared between external and internal pancreatic duct stents. METHODS: We conducted a prospective randomized study with 30 patients who underwent pancreaticoduodenectomy and we compared the effects of using external stent versus internal stent in pancreaticojejunostomy on postoperative course, particularly on incidence of postoperative pancreatic fistula. RESULTS: The incidence rate of pancreatic fistula according to the International Study Group on Pancreatic Fistula criteria was significantly higher in external stent group (external, 26.7%; vs internal, 13.3%). In subgroup analysis of patients with soft pancreas, we found similar rates of pancreatic fistula in the two studied groups. The incidence of overall morbidity was similar between both groups while mortality was higher in external stent group. The mean postoperative hospital stay was not significantly different between the two studied groups.CONCLUSION: Both external stent and internal pancreatic duct stents were safely used for pancreaticojejunostomy. Internal stent had less incidence of postoperative pancreatic fistula and simplifies postoperative management and it might be a better option than external stent in pancreaticojejunostomy after pancreaticoduodenectomy.

FACTORS AFFECTING THE OUTCOME OF BLUNT TRAUMATIC DIAPHRAGMATIC RUPTURE AND THE ROLE OF LAPAROSCOPIC MANAGEMENT

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Objectives: To identify the factors affecting the outcome in blunt diaphragmatic rupture (BDR), and the role of laparoscopy in its management.
Methods: We reviewed 28 patients managed at our units after blunt thoracic and /or abdominal trauma. We reviewed only cases with blunt trauma. The longest interval between injury and presentation was 4 years.
All the reviewed clinical variables were retrospectively recorded in the computerized database.
Results: The majority of our cases were males, aged 19-71 (mean 38) years. The causes of injuries were: motor vehicle crash in 24 patients (86%) and fall from height in 4 patients (14 %). Twenty patients had BDR on the left (71%) and 8 were on the right side (29%), with no bilateral cases. Early diagnosis of BDR was made in 21 cases (75%) in less than 24 hours. Diagnosis was delayed for up to 4 years after injury in 7 cases (25%), in which, blunt diaphragmatic rupture was missed during the initial hospitalization. Closure of the diaphragm was achieved through a laparotomy in 13 cases (47%), laparoscopy in 6 cases (21 %) thoracotomy in 7 (25%), and laparo-thoracotomy in 2 case (7%). Two patients died with about 20 % morbidity rate.
Conclusions: Blunt diaphragmatic rupture can easily be missed in the absence of other indications for prompt surgery, where a thorough examination of both hemidiaphragms is mandatory. In our series, delay in diagnosis did not influence the outcome and was not influenced by the side of BDR location. Laparoscopic repair of BDR is feasible and safe, but needs precaution especially in cases of small bowel obstruction.
Keywords: Trauma, diaphragm, hernia, rupture, laparoscopy.

HEPATIC RESECTION FOR HEPATOCELLULAR CARCINOMA IN CIRRHOTIC PATIENTS WITH PORTAL HYPERTENSION

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Background: Hepatic resection (HR) in cirrhotic patients with Hepatocellular carcinoma (HCC) and portal hypertension (PHT) is not recommended according to the international guidelines. The aim of this work is to study the outcome of HR in cirrhotic patients with PHT.
Methods: It is a retrospective study of 170 Child-Pugh class A cirrhotic patients 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%). The postoperative morbidity was non-significantly higher in patients with PHT than patients without PHT (31.9% vs 25.3% respectively, P=0.36). The signs of postoperative liver decompensation were more frequent in the group of PHT. Patients with PHT showed 90-day perioperative mortality (3.3%) similar to patients without PHT (2.5%). The 1-, 3-, and 5-year overall survival for patients with limited HR was 90.3%, 74.3%, and 66.2%, respectively for patients with PHT, and 93.9%, 80.9%, and 73.6%, respectively for patients without PHT, without significant difference (P=0.38).
Conclusion: HR in Child-Pugh class A cirrhotic patients with PHT is safe and effective procedure with good short and long-term outcomes in comparison to patients without PHT especially with limited liver resection.

HYPERBILIRUBINEMIA POST-LIVING DONOR LIVER TRANSPLANTATION (LDLTX) IS AN OMINOUS SIGN FOR EARLY SURVIVAL

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Background: Jaundice is a common sequel of LDLTx, etiological factors of post-LDLTx jaundice are multifactorial and varies according to the time of occurrence, so we study the etiological factors of persistent hyperbilirubinemia post-LDLTx and its impact on early survival.
Methods: From April 2003 to December 2011, 150 patients had undergone LDLTx at the National Liver Institute, Menoufia University, factors affecting persistent hyperbilirubinemia after LDLTx were evaluated by univariate and multivariate analysis. Mortality was analyzed using Kaplan-Meier survival curve.
Results: 84 patients (56%) of the patient who had undergone LDLTx, developed hyperbilirubinemia. Factors of persistent hyperbilirubinemia represents that vascular complications accounts for the majority of causes of hyperbilirubinemia post-LDLTx (23 cases ~ 27%), followed by postoperative sepsis which accounts for 16% (14 cases). Bile leak occurred in 15 cases (18.9%). Small for size accounts for 15% of the cases with hyperbilirubinemia. Acute cellular rejection occurred in 7 cases (8%).
Ischemia reperfusion injury occurred in 3 cases (3.6%).
Multivariate analysis of factors of hyperbilirubinemia revealed that recipient gender, actual graft recipient weight ratio (GRWR) less than one, multiple hepatic venous anastomosis, acute cellular rejection & duct to duct biliary reconstruction were independent risk factors.
Incidence of hyperbilirubinemia in the perioperative period decreases patient survival as 53 cases (63%) of patients who had developed hyperbilirubinemia, eventually died.
Conclusion:
Hyperbilirubinemia post-LDLTx indicates poor outcome and poor survival. Early management of hyperbilirubinemia improves the outcome. Avoidance of steatotic grafts, small for size & GRWR < 1 improves the incidence of early post-LDLTx Jaundice.

INTRAOPERATIVE SERUM LACTATE CONCENTRATION AND CENTRAL VENOUS OXYGEN SATURATION AS EARLY PREDICTOR FOR EARLY GRAFT FUNCTION DURING LIVER TRANSPLANT

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Presenting Author: Amira Elkholy

Background: Initial poor graft function (IPGF) following orthotopic liver transplantation (LT) causes complications, which result in poor prognosis. This study was performed to evaluate if intraoperative changes in blood lactate level and venous oxygen saturation (ScvO2) after hepatic allograft reperfusion can reflect IPGF following LT.
Methods: After Ethics Committee (0100/2014), and consent approvals, this prospective observational cohort study of 40 recipients were studied. Patient State Index (PSI), SEDLine (Masimo, Irvine, CA) monitored anaesthesia depth (25-50) with Desflurane (Des) % and fentanyl altered accordingly. Transoesophageal Doppler (TED) (CardioQ, Chichester, UK), invasive mean arterial blood pressure (MABP, mmHg) and heart rate (HR, beat/min) were monitored; TED was used for fluid optimization. Intraoperative serum lactate and daily collection of serum and plasma samples were taken to provide aliquots for routine biochemistry analysis, liver function test.
Results: IPGF occurred in 4 of the 40 patients (10%). Both serum lactate and ScvO2 following reperfusion in the non-IPGF group was markedly lower than that in the IPGF group (53.46±13.62 vs. 82.02±14.16 P
Conclusions: Both change in intraoperative blood lactate and ScvO2 after hepatic allograft reperfusion served as good predictor of initial graft function during LT.

LIVER INJURY GRADE-RELATED MANAGEMENT AND ITS OUTCOME

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Background: Liver injuries take second place among all the injuries of the abdominal organs and achieve between 15-20%. Hepatic injuries are associated with high mortalities.
The aim of this study is to assess patients with traumatic liver injury according to its grade and their consequent management with special emphasis on their outcome.
Results: A prospective study was conducted at National Liver Institute between January 2013 and January 2014 included 30 patients with liver trauma (24 males & 6 females), 10 patients was pediatrics
Conclusion: The AAST grade of injury can be a factor with the vital status of the patient in determining the appropriate method of management of liver trauma patients. The conservative management is more compatible with low grade injuries (Grade I, II and III) while the operative management is more compatible with high grade injuries (Grade IV, V and VI).

LIVER RESECTION. ZAGAZIG UNIVERSITY EXPERIENCE.

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Introduction: liver resections were first described centuries ago, but until the latter half of the 20th century, the majority of such resections were performed for either injuries or infections. Today, these procedures are performed not only for treatment of acute emergencies but also as potentially curative therapy for a variety of benign and malignant hepatic lesions.

In our unit, all cases are revised by multidisciplinary team consists of liver surgery team, hepatology, medical oncology and radiology.

Since the opening of ACLD at July 2012 till Jan 2016.

78 patients underwent different techniques of liver resection for a variety of hepatic lesions:

- 22 HCC.
- 32 Hydatid Cyst.
- 18 Hepatic Metastatic Nodules.
- 3 Haemangiomas.
- 1 Hepatic Adenoma.
- 1 Hepatic Cyst-adenoma.
- 1 Cholangio-carcinoma.

One case of mortality (Cholangio-Carcinoma) due to pulmonary embolism at day 6 and overall morbidity was minor complications.

Conclusion: liver resection still the master key for liver disease. Surgical expertise, operative facilities, good selection and assessment of patients and lastly team work, are the factors which determine success.

MODEL FOR END-STAGE LIVER DISEASE (MELD) SCORE, AS A PROGNOSTIC FACTOR FOR CIRRHOTIC PATIENTS, UNDERGOING HEPATECTOMY FOR HEPATOCELLULAR CARCINOMA

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Background/aims: To evaluate the ability of the model for end-stage liver disease (MELD) in predicting the post-hepatectomy outcome for hepatocellular carcinoma (HCC).
Methods: Between the periods from January 2007 to June 2010 in National liver Institute (NLI) -Menoufiya University 60 cirrhotic patients with HCC underwent hepatectomy and the results were retrospectively analyzed. MELD score was associated with post-operative mortality and morbidity, hospital stay and 3-year survival.
Results: Eleven major and 49 minor resections were performed. Thirty-day mortality rate was 8.3%. MELD ≤ 9 was associated with 2.6% peri-operative mortality vs. 20% when MELD > 9 ($P < 0.05$). Overall morbidity rate was 53.3%; 36.6% when MELD > 9 vs. 16.6% when MELD ≤ 9 ($P < 0.05$). Median hospital stay was 18 days [12 days, when MELD ≤ 9 and 22 days when MELD > 9 ($P = 0.05$)]. Three-year survival reached 51% (66% when MELD ≤ 9; 29% when MELD > 9 ($P < 0.01$).
Conclusion: MELD score seems to predict outcome of cirrhotic patients with HCC, after hepatectomy.

NATIONAL HEPATOLOGY AND TROPICAL MEDICINE RESEARCH INSTITUTE AS PROMISING CENTER FOR LIVING DONOR LIVER TRANSPLANTATION AT CAIRO, EGYPT

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Introduction: Living Donor Liver Transplantation (LDLT) has been widely accepted for the treatment of end-stage liver disease that its outcomes have been improving with greater surgical experience and advances in surgical techniques. In this study, we aim to evaluate adult liver transplant as regards to complications and outcomesPatient and methods: 25 adult who had liver transplant in our institution between December 2013 and March 2016 had been evaluated separately according to sex, age, BMI, relations, indications, morbidity and mortality.Results: 25 donors (11F: 14M), mean age is 28.3 years (19 – 38), the relation to the recipient are14 first degree relatives (son, daughter, wife, husband), 4 unrelated, the remaining are 2nd, 3rd degree relatives. Mean BMI is 26 Kg/cm2 (19.72 – 33.3). No mortality rate morbidity rate 3 cases. 25 recipients (5F: 20M) mean age is 47 (23- 62), mean Body weight is 77 Kg (62-97). Indications for LDLT are 16 cases of HCV, 5 cases of HCC, 3 cases of autoimmune and 1 case of HBV. Mortality rate is 7 cases (28%) and morbidity rate is 6 cases (33%).Conclusion: The overall outcomes of adult liver transplant at our center are very promising. With improved care and the combined efforts of the patients and transplant team, the number of candidates receiving transplants will be increased in the future.

PERFORATED VISCUS IN PATIENTS WITH LIVER CIRRHOSIS: HOW FAR IS IT?

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Background: Gastrointestinal tract perforations can occur for various causes that require an early recognition and, often, a surgical treatment.
Methods: From April 2013 to April 2015, 69 patients had been presented with perforated viscus to the surgical department at the National Liver Institute, Menoufia University.
The different varieties of management plans and their impact on prognosis in patients with liver cirrhosis were studied as well as the effect of liver condition on the outcome.
Results: The 69 patients were presented with acute abdomen with pneumoperitoneum, 30 of which were due to pathological causes and the most frequent presentation was due to perforated duodenal ulcer "10 patients" (33%).
The major cause of perforated viscus was due to iatrogenic factors (39 cases), 15 cases were post ERCP perforation, 2 cases were after colonoscopy, 6 cases were due to causes related to percutaneous radiological intervention, 3 of them were encountered during sessions of radiofrequency and microwave ablation for Hepatocellular carcinoma while the other 3 cases were during drainage of intraabdominal collections by pigtail insertions. The rest of iatrogenic perforations occurred intraoperatively (16 cases).
Due to delayed presentation, 8 patients (11.6%) died before any intervention. Conservative management was successful in 17 patients (24.6%) with iatrogenic causes, while the other 44 patients (63.8%) were surgically explored according to the etiology. The Overall hospital mortality were 27 cases (40.3%)
Conclusion: Liver cirrhosis carries a negative impact on the prognosis in the patients with perforated viscus. Delayed presentation of perforated viscus carries dreadful outcome.
Conservative management of perforated viscus is a successful alternative option especially in iatrogenic perforation. Early diagnosis and management is mandatory to improve the outcome in patients with liver cirrhosis.

PERIOPERATIVE EVALUATION OF TERLIPRESSIN INFUSION DURING LIVING DONOR LIVER TRANSPLANTATION RECIPIENTS ON INCIDENCE OF ACUTE KIDNEY INJURY

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Background and Aims: Acute kidney injury (AKI) during and after liver transplantation (LT) occurs frequently. The impact of perioperative terlipressin infusion on acute kidney injury will be studied together with monitoring the perioperative Neutrophil Gelatinase Associated Lipocalin (NGAL) changes and the effect of Terlipressin on NGAL blood levels.
Methods: Registered as a prospective randomised controlled study at the Clinical Trial registry (NCT02059460). After local ethics committee approval and consent, 50 recipients were enrolled as Controls (n = 25) or Terlipressin treated group (n = 25). Terlipressin was infused at 1-4 µg/kg/h to maintain mean arterial pressure (MAP) >65 mmHg till day 5. Nor-epinephrine was used as appropriate. Haemodynamic and transoesophageal Doppler parameters (intraoperative), renal function, peak portal vein blood flow velocity (PPV), hepatic artery resistive index (HARI), urine output (UOP), liver enzymes, catecholamine support were compared intra-operatively and 4 days after surgery between both groups.
Results: Terlipressin maintained better the MAP and systemic vascular resistance (SVR) during reperfusion. Nor epinephrine was used in both groups but was less in terlipressin group p=0.040. AKI incidence was not different p=0.777. NGAL plasma concentrations were not significantly different between both groups ($P > 0.05$), but did increase significantly with in patients who suffered from AKI (n=24) post reperfusion (p =0.038) versus those with no AKI. Lactate, PV flow and HARI were not affected by Terlipressin infusion at any stage perioperatively ($P > 0.05$) .
Conclusion: Terlipressin improved SVR and MAP with less need for catecholamines particularly post-reperfusion. Terlipressin did not affect PV flow and hepatic artery flow at any stage. Despite Terlipressin was able to demonstrate haemodynamic supportive effects but still was unable to provide evidence for its renal protective effects in this study group

RISK FACTORS IMPACTING MORTALITY POST LIVING RELATED LIVER TRANSPLANT FOR HEPATOCELLULAR CARCINOMA : A PROSPECTIVE COHORT STUDY

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Objective: Liver transplantation is an optimal radical therapy for selected patients with hepatocellular carcinoma. Yet, risk factors determining outcome after living donor liver transplantation (LDLT) are still lacking and need to very well identified to maximize recipient benefit and minimize donor risk.
Aim: the aim of this study is to retrospectively identify and analyze the factors impacting the mortality of HCC patients after LDLT.
Patients and methods: This is a single center retrospective analysis of data collected from 205 patients, who underwent LDLT in the Department of Surgery, National Liver Institute, Menoufia University, between May 2004 and the end of December 2013. Of these patients, 53 patients proved to have an HCC in the explanted liver. Preoperative data included demographic criteria of the patients, Liver status, Tumor burden, and downstaging or bridging procedures, as well as all intraoperative and postoperative data were collected and compared against mortality outcome. On the other hand, mortality was divided into 3 periods; hospital mortality occurred within 30 days after operation, early mortality occurred between 2-6 months post operatively and late mortality occurred after 6 months from transplantation.
Results: The mean age of all patients was 48 ± 6.1 years, with 50 (94.3%) patients were male. During the follow-up period, 22(41.5%) patients expired. The majority of mortality cases 10 (18.9%) were in the peri-operative period, 6 (11.3%) patients died in the early period and 6 (11.3%) cases were in the late period. There was a statistical significance between mortality rate and CMV-IgG negativity and TNM classification (III B). Concerning the operative data, there was a significant statistical relation between mortality and actual graft weight, actual graft GRWR, and number of blood and plasma transfused units. Postoperatively, there was a significant statistical relation between mortality and the grade of tumor differentiation. In multivariate analysis, CMV-IgG negativity, TNM stage (stage III), actual graft weight and number of Blood transfusion units were independent predictors of mortality.
Conclusions: Several factors have independently a significant effect on post-LT mortality. The CMV-IgG negativity, advanced tumor stage (III B), actual graft weight, volume of intra-operative blood transfusion, poor tumor grade of differentiation and tumor recurrence have an influence on post-transplantation mortality rate. Because LDLT can be performed regardless of Child-Pugh, MELD score or portal hypertension, only tumor factors, graft volume and technical complications should be considered when deciding a LDLT for HCC patients.

SMALL FOR SIZE SYNDROME DIFFICULT DILEMMA: LESSONS FROM 10 YEARS SINGLE CENTRE EXPERIENCE IN LIVING DONOR LIVER TRANSPLANTATION

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Abstract
Background: sufficient function of undersized grafts is a major concern in living donor liver transplantation (LDLT). The term Small for size syndrome (SFSS) has been used to describe a variety of clinical presentations ranging from mild hepatic dysfunction with isolated hyperbilirubinemia to irreversible graft failure leading to death of the patient in the absence of an available organ for re-transplantation. The differentiation between SFSS and other etiologies of graft dysfunction is not straight forward. It is proposed to divide SFSS into small-for-size dysfunction (SFSD) and small for size non-function (SFSNF). Objectives: to clearly define SFSS and to identify sub classification, pathogenesis, clinical presentation, risk factors, possible specific management and outcome of this syndrome. Patients and methods: throughout more than 10 years; during the period from April 2003 to the end of 2013, 174 adult-to-adults LDLT (A-ALDLT) had been performed at National Liver Institute(NLI), Menoufiya University, Shibeen Elkoom, Egypt. The records of these patients were retrospectively analyzed to identify and study cases with SFSS. Results: Twenty (11.5%) recipient had been diagnosed to have SFSS, of whom 16 patients (80%) had SFSD and 4 patients (20%) had SFSNF. Hyperbillirubinaemia was the fixed presentation in 100% of cases followed by large volume of ascitis in 90%, then, coagulopathy in 85% of cases. While small for size graft (SFSG)((Graft recipient weight ratio(GRWR)> 0.8)) was present in 9.7% (n=17/174), Graft size in SFSS cases were classified to extra-small (GRWR <0.8) in 10 cases, small (GRWR ≥0.8 and < 1) in 5 cases and medium sized (GRWR ≥ 1) in 5 cases. The occurrence of the syndrome had been owed to transplantation of extra small graft in 10 cases, portal hyperperfusion in 3 cases, severe portal hypertension in 4 cases and outflow obstruction in 3 cases. While extra-small graft, Portal hypertension, steatosis and Lt lobe graft were significant predictors of SFSS in univariate analysis, only graft size were independent predictor of SFSS on multivariate analysis. Splenectomy was tried in 7 patients at the time of transplantation of extra-small graft aiming to prevent its occurrence. The SFSS related mortalities were recorded in 13/20 patients (65%). Conclusion: SFSS is a major and difficult entity following LDLT with dreadful outcome. Small graft represents the main obvious causing factor. Splenectomy may be used in cases with extra-small grafts to avoid SFSS but of controversial value and should be further studied before being addressed as a beneficial management for SFSS.

SURGICAL MANAGEMENT OF HILAR AND PERIPHERACHOLANGIOCARCINOMA EXPERIENCE IN THE NATIONAL LIVER INSTITUTE

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Introduction: cholangiocarcinoma is the name given to Bile Duct Cancer.

It arises from the epithelial cells lining the bile ducts. It is usually slow-growing and does not metastasize quickly. However, many are already advanced by the time of diagnosis.

May start anywhere along the bile ducts with consequent ductal obstruction. Occurs in approximately 2 out of 100,000 people but common in Asian countries where parasitic infestation with liver flukes is endemic.

The second frequent primary liver malignancy after HCC In Egypt, its resection constitutes an average of 9% of resections for HCC among HPB units due to high prevalence of HCV.

Methodology: NLI strategy to achieve complete negative margin resection of Hilar cholangiocarcinoma (Non Touch Technique) Excision of supraduodenal bile duct, cholecystectomy, resume bilioenteric, routine hepatectomy with caudectomy ,portal lymphadenectomy, selected major vascular reconstruction.

Resection of Intrahepatic cholangiocarcinoma and Aggressive surgical resection for hilar-invasive and peripheral intrahepatic cholangiocarcinoma.

Hilar-invasive-type tumors had perineural invasion (100%) and nodal involvement (85%) more frequently than did peripheral_type tumors.

Result and recommendation: a survival advantage using photodynamic therapy (PDT) in patients with unresectable cholangiocarcinoma, down-regulation and/or inhibition of Mcl-1 function sensitizes the cancer cells to cell death by tumor necrosis factor (TNF)-related apoptosis inducing ligand (TRAIL).

Endoscopic Therapy of Malignant Bile Duct Stricture Conditions: Obstruction of Biliary Tree; Biliary Tract Cancer; Biliary Tract Neoplasms

Intervention: Device Radiofrequency ablation catheter (Habib EndoHBP)

THE EFFECT OF INTRA AND POSTOPERATIVE INTRAVENOUS INFUSION OF N-ACETYLCYSTEINE IN CIRRHOTIC PATIENTS UNDERGOING LIVER RESECTION ON HEPATIC FUNCTIONS : A RANDOMISED CONTROLLED TRIAL

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Background and Aims: Liver resection is usually followed by a degree of hepatocellular dysfunction. (1) The aim of this study was to evaluate the effect of N-acetylcysteine (NAC) on preserving postoperative liver function in cirrhotic patients undergoing liver resection.
Methods: A prospective, randomized, double-blind trial with Ethics Committee approval, Pan African Clinical Trial Registry (PACTR201508001251260) and consent approval. A total of 60 cirrhotic patients child A undergoing liver resection surgery were categorized into :NAC group(n = 30) received intravenous infusion of NAC (10 g/24 h in 250 ml of 5% dextrose) at the time of parenchymal transection and continued post-operatively for 2 days and control group (n = 30) received a similar volume of 5% dextrose solution . Depth of anaesthesia was monitored with Patient State Index (PSI) of SED Line (Massimo, Irvine, CA). Transoesophageal Doppler (TED) for haemodynamics, oxygen delivery (DO2) and fluid optimization. Haemodynamics and TED parameters (intraoperative), liver enzymes, International normalized ratio(INR),C reactive protein (CRP) and intercellular adhesion molecule 1 (ICAM 1) were compared between both groups.
Results: Mean levels of alanine aminotransferase (ALT) and aspartate aminotransferase (AST) increased above the baseline levels in both groups at post operative day 3 , but the increase was lower in NAC group than control group (118.30 ± 18.624 vs. 145.43 ± 14.039 U/L; P = 0.00) and (121.53 ± 19.539 vs. 146.63 ± 15.196 U/L;P = 0.00) respectively. INR changes were not significant between the two groups. Serum level of ICAM 1 was lower in NAC group vs. control at postoperative day 3 (308.87 ± 38.217 vs. 352.84 ± 59.484ng/ml ;P=0.002) respectively. CRP level was lower in NAC group vs. control at post operative day 3 (44.29 ± 13.4 vs. 68.7 ± 48.2 mg/L ; P = 0.003). There was no significant difference in haemodynamics, DO2 between both groups. Chest infection was lower in NAC group than control in association with shorter hospital stay (2 (6.7%) vs. 6 (20.0%)) and (6.1 ± 0.84 vs. 6.9± 1.18 day; P = 0.006) respectively.
Conclusion: Intravenous administration of NAC in cirrhotic patients undergoing liver resection attenuated the post liver resection hepatic dysfunction as indicated from a reduced increase in transaminases ,ICAM 1 and CRP levels.