

## A NOVEL ENDOLUMINAL FUNDOPLICATION TECHNIQUE: ESOPHYX PROCEDURE

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**BACKGROUND:** GERD is the most common benign disease that affects the great part of the western countries population. It is a chronic disease that can progress to the Barrett disease until it becomes an adenocarcinoma. Many minimal-invasive endoscopic procedures have been proposed in the last decade ((EndoCinch, Gatekeeper, Enteryx) but none of them has been successful due to their unsafe and ineffective correlated procedure results. The most recent endoscopic procedure is Esophyx ,whose purpose is to create a novel endoluminal fundoplication technique using a trans-oral and fastener-deploying device . The AIM of our study is to demonstrate the feasibility, safety and efficacy of this endoscopic procedure and to compare these results with the laparoscopic surgery approach using the robot. **METHOD:** In our EsophyX protocol we also included non responders to PPI therapy and all patients included underwent esophageal 24 h impedance Ph monitoring before EsophyX procedure. We tested this procedure on 3 patients, 2 F and 1 M with mean age of 45 years. Each procedure was performed in surgery room by both skilled endoscopist and surgeon respectively, taking advantage of expert EsophyX-procedure engineer presence. Deep sedation was induce in all patients by dedicated anesthetist. The average time for a single procedure was 1 hour. Follow up data was obtain after 1 month of EsophyX procedure by ambulatory access or by endoscopic control when was necessary. **CONCLUSIONS:** EsophyX seems to be a feasible and safe endoscopic procedure. It is not possible to demonstrate the efficacy related to the procedure due to our less experience. A large number of patients are required to approve this endoscopic procedure. **RESULTS** Sex Procedure(No Complications Post procedure Follow up(1 month) /age of fasteners) (early / late) symptoms(in 24 hours) F/ 50 7 PML(\*)due to overtube Odynophgia Need the PPI therapy M/48 8 NO



## ANTICARDIOLIPIN ANTIBODIES IN PATIENTS WITH CHRONIC LIVER DISEASES

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Anticardiolipin antibodies (aCL) are frequently found in patients with systemic lupus erythematosus and other autoimmune disorders as well as in both chronic hepatitis B and chronic hepatitis C. Aim: To study the anticardiolipin antibodies in patients with chronic liver disease and correlate its presence with clinical features in these patients. Patients and methods: This study included 60 patients with chronic liver disease (10 patients with chronic hepatitis (group A), 30 patients with liver cirrhosis (group B), 20 patients with hepatocellular carcinoma (groupC)). Ten healthy persons matched to age and sex were taken as control. All patients and subjects were subjected to the following : history taking ,thorough clinical examination, abdominal Ultrasonography and -Collection of serum blood samples: for liver function tests, serological markers , alpha fetoprotein and anticardiolipin antibodies. Results: there was no statistical significant influence of age, sex, PT, PC, alpha-fetoprotein, or Child class on the incidence of positive aCL antibodies. The incidence of portal vein thrombosis (PVT) was lower (10.3%) in patients with positive aCL antibodies than in patients with negative aCL antibodies (12.9%). However, the incidence of positive aCL antibodies was higher in patients with positive aCL antibodies and HCC (50%) than in patients with negative aCL antibodies and HCC (28.6%). Conclusion: The aCL antibodies are commonly found in patients with chronic liver disease . The prevalent concept is that, in the majority of cases, aCL antibodies are non-pathogenic and therefore their routine determination is not justified

## CASE PRESENTATION- BILIARI-BRONCHEAL FISTULA

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58 years old saudi femal patient presented by obstructive jaundice due to malignant stricture of common hepatic duct(CHD), operated upon by resection of CHD with Rt and left hepatico Jejunostomy Roux-en-Y. One year after patient developed multiple cholangitic abscesses due to strecture at the anastomosis treated by percutaneous drainage, one3 of the abscesses complicated by biliari-broncheal fistula with expectoration of bile. The case treated by rexploration with endoscopic insertion of stent in the left biliary system and Rt lung lower lobe lobectomy



## CLINICAL OUTCOMES FOR SAUDI AND EGYPTIAN PATIENTS RECEIVING DECEASED DONOR LIVER TRANSPLANTATION IN CHINA

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**Background:** Because of long waiting list times in local liver transplant programs in Saudi Arabia and because of unavailability of cadaveric liver transplantation in Egypt, an increasing number of patients have been seeking transplantation in foreign centers especially in China. They are especially attracted by the lower costs in China as well as shorter waiting time compared to other foreign centers. In this paper we describe the outcome of patients transplanted in China and followed in one center in Saudi Arabia ( King Faisal Specialist hospital and Research Center (KFSH & RC) in Riyadh) and in Egypt. Methods: All patients receiving liver transplantation in China from January 2003 to January 2007 who were followed post transplantation in the two centers were included. Available preoperative data before traveling to China, all available reports from China and their follow up charts after coming back were retrospectively reviewed for relevant clinical and laboratory data. Mortality and morbidity in this group of patients is described and compared to those transplanted in KFSH & RC during the same period. Results: Seventy four adult patients were included. Sixty were males while fourteen were females. Their mean age was 54 years. Thirteen patients were above 65 y. Forty-six patients were Saudi nationals, 27 were Egyptians and 1 was Lebanese. Indications for liver transplantation were as follows: hepatitis C cirrhosis (n=29); hepatitis B cirrhosis (n=13); cryptogenic cirrhosis (n=6); hepatitis B and C co-infection cirrhosis (n=1), primary biliary cirrhosis (n=1) and hepatocellular carcinoma (n=24). All patients were either on the KFSH waiting list for liver transplantation or were denied liver transplantation in KFSH or Egypt due to unsuitable medical condition such as old age or advanced hepatocellular carcinoma (HCC). One year, 3-year and 5-year cumulative patient survival rates were 83%, 62%, and 62%



## EXPANDED CRITERIA FOR RESECTION OF COLORECTAL CANCER HEPATIC METASTASIS

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Hepatic metastasis for colorectal cancer primary is the most common site for hematogenous metastasis. Almost half of those who undergo resection of colorectal cancer primary will eventually develop liver metastasis. One-fourth of colorectal cancer patients will present with synchronous liver metastasis. Even with the best chemotherapeutic agents available, survival without hepatic resection is measured in months.

However, only 20% of patients presenting with hepatic metastasis are deemed respectable. Since the approval of new chemotherapeutic agents and new biological agents for use in hepatic metastasis of colorectal cancer primary, an additional 10-20 % can be resected due to down staging. Care has to be taken with these new agents as they can cause steatohepatitis. Steatohepatitis will require larger future liver remnant (FLR) to be left behind to prevent liver failure.

New radiographic staging aids are available to help better select resectable candidates such as PET/CT fusion scan and intraoperative ultrasound. Mortality from resection has declined over the past decade due to better understanding of liver anatomy and advanced surgical devices such as CUSA and Water Jet Dissector. Several techniques are available to increase respectability like portal vein embolization, radiofrequency ablation, & staged liver resection. These can be combined in some patients to achieve R0 resection.

## INTERVENTIONAL EUS-GUIDED CHOLANGIOGRAPHY (IEUC): THE PRESENT IN PROGRESS

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IEUC has been increasingly used as an alternative to percutaneous transhepatic cholangiography (PTC) in case of biliary obstruction when ERCP is unsuccessful. We present two cases of EUS guided drainage of obstructed biliary ducts (BDs). Case 1: A 71-year old M with obstructive jaundice, due to a suspected pancreatic head mass, was referred to our Endoscopy Unit for diagnostic EUS and therapeutic ERCP. EUS showed a Common bile duct (CBD) and Wirsung duct dilation, 28 mm and 7.8 mm respectively, due to a 30 mm unresectable obstructive mass of pancreatic head. ERCP drainage of the biliary tract failed because deep CBD cannulation was not obtain even after performing pre-cut technique. Using a therapeutic EUS scope (FG 38X Pentax), a right intrahepatic biliary dilated duct (IHBDs) was punctured through the gastric wall with a 5-Fr fine needle (Echo-Tip, Wilson Cook 22 G) and



cholangiogram was obtained. Under fluoroscopic guidance a 0.35-inch guide wire was advanced forward the IHBD, through the CBD distal third stricture, till the duodenum. The ERCP rendezvous was performed allowing the placement through the Vater Papilla of 6 cm 10 Fr metal stent (Ultraflex, Boston Scientific) after CBD mechanical dilatation using 5 to 10 Fr coaxial dilators catheters (Soehendra biliary catheters; Cook). The CBD was drained properly and no complication occurred. CASE 2: A 83 year old F with increasing jaundice referred to our Endoscopy Unit for management of obstructive duodenal wall mass shown at prior CT scan. EUS revealed a 8 x 6 cm heterogeneous unresectable mass of the pancreatic head involving the duodenal lumen and a markedly dilated CBD with mild dilatation of IHBDs. Firstly to overcome the duodenal obstruction an uncovered SEMS (Enteral SEMS cm??.; Boston Scientific corp.) was placed through the stenosis under a fluoroscopic guidance. The following therapeutic ERCP was unsuccessful because the tumor invasion of the Vater Papilla did not allow a deep CBD cannulation. Wit

## LAPAROSCOPIC PANCREATIC SURGERY, WHAT HAVE WE LEARNT IN TEN YEARS EXPERIENCE?

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The first great lesson we learnt is that to achieve the best results you need skills and enthusiasm. Ten years ago two great Schools joined efforts to start a wonderful adventure: the Verona University pancreatic surgery school directed by Professor Paolo Pederzoli and the Modena Hospital laparoscopic surgery school directed by Professor Gianluigi Melotti. This made it possible to standardise a technique, to achieve very good results, and to specify indications and contraindications. Once again Italy had climbed to the top of international literature. The Authors speaks about some dilemmas, such us indications (considering two large chapters: site and type of pathology) and technique (enucleation, distal pancreatectomy with or without spleen preservation and, if with spleen preservation, with or without splenic vessels preservation). The Authors analyse their results (more than 100 cases treated till now )comparing with the literature. Some questions are still open, to be answered: how can we cut down such a long learning curve, given the relatively small number of cases to be treated? Will a safe method be found to section and seal the pancreas? Will technology assist us in the management of the reconstruction time of pancreas head resections? Will pancreatic malignancies be amenable to laparoscopy, safely and on the basis of suitable randomised trials and long-term follow up? Will robotic surgery have real prospects in this field? Will it be possible to treat the pancreas with endocavitary surgery? The answers, perhaps, in the next ten years!



## LAPAROSCOPIC ULTRASOUND WITH RADIOFREQUENCY ABLATION OF HEPATIC TUMORS IN CIRRHOTIC PATIENTS

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**Presenting Author:** Ibrahim Abdelkader Salama

**Background:** The optimal treatment for hepatocellular carcinoma (HCC) is surgical resection. However, only a small percentage of patients are operative candidates due to associated liver cirrhosis. Recent advances in laparoscopic ultrasound and Laparoscopy have greatly improved the accuracy in detecting intrahepatic tumors nodules, many of which were missed by preoperative imaging modality. Objective: Evaluation the safety and efficacy of laparoscopic Radiofrequency Ablation (RFA) guided with laparoscopic ultrasound in detecting and treatment of liver tumors in patient with liver cirrhosis. Methods: 72 patients with liver tumors (58 HCC, 9 metastatic Adencarcinoma, 2 neoendocrine metastasis, 3 other metastasis) were submitted to laparoscopic RFA under laparoscopic ultrasound guidance. 44 patients (61.1%) Child A and 28 patients (38.9%) Child B. Patients with large tumor (>6 cm), portal vein thrombosis, or Child C Class were excluded from the study. Results: Laparoscopic RFA were completed in all patients without any conversion rate. Laparoscopic ultrasound identified 19 new malignant lesions (18.4%) in comparison with the result of preoperative imaging. A total of 103 Lesions were treated by RFA (45 patients had one lesion, 23 patient had 2 lesions and 4 patients had 3 lesions) There was no mortality. Morbidity occurred in 4 patients (5.5%) 2 patients had liver abscesses, one patient had pleural effusion and one patient had postoperative bleeding necessitate blood transfusion and surgery. After a mean follow up of 14.3+/- 11.6 months, a complete response with 100% necrosis was achieved in 69 of 72 patients examined (95.8%). 3 patients (4.1%) locally recurred at the RFA side and 7patients (9.7%) had of new malignant nodules. Conclusion: Laparoscopic RFA guided with laparoscopic ultrasound is an excellent use of existing technology in improvement of safety and efficacy of detection and treatment of intrahepatic tumors in patients with liver cirrhosis. Key Word

## LINEAR ENDOSCOPIC ULTRASONOGRAPHY (L-EUS) IMPACT ON DIAGNOSTIC AND THERAPEUTIC MANAGEMENT IN PANCREATIC AND BILIARY DISEASES (PBD)

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**Background:** EUS has been shown to be a highly effective test for PBD imaging, with accuracy better than other trans-cutaneous imaging techniques. EUS accuracy for diagnosing and staging PBD has been shown to have a pivotal influence on patient management. Aim: To evaluate the L-EUS impact on diagnostic and therapeutic management in pts with PBD. Methods: We studied L-EUS clinical impact in 20 pts (9 M/11 F, mean age 66, range 40-85 yrs) in which L-EUS results could be controlled (by follow-up, surgery and ERCP). These pts underwent L-EUS (Pentax FG 36 UX echoendoscope) for suspected pancreatic (n=10) or biliary disease (n=10) on the basis of a previous diagnostic work-up (CT n= 8, US+MRCP n=5, US+CT+MRCP n=5, US n=2). EUS-FNA was performed in the same diagnostic session where possible. Results: 3/8 pts studied by CT had pancreatic tumor diagnosis confirmed by L-EUS (1 had cystic lesion vs. solid lesion diagnosed by CT). 5/8 pts with normal CT imaging at L-EUS proved to have: choledocholithiasis (n=2), pancreatic uncinata process tumor (n=1), ampullary tumor (n=1), small traumatic Wirsung duct lesion (n=1). In 6 pts studied by US+CT+MRCP, L-EUS showed: choledocholithiasis (n=2), neuroendocrine tumor (n=2), ampullary tumor (n=1) and pancreatic head tumor (n=1). Choledocholithiasis in 3 of 4 pts and ampullary tumor in 1 of 4 pts were diagnosed in US+MRCP negative pancreatic and biliary imaging pts. An US diagnosis of normal CBD was changed in choledocholithiasis by L-EUS in 2 pts. FNA was performed in the same diagnostic session in 8 of 20 pts to confirm the imaging diagnosis. Conclusions: Our data confirm that impact of L-EUS on diagnostic and therapeutic management of PBD pts is substantial and it is comparable with known radial scanning-EUS technique. Therefore after abdominal US, L-EUS could be performed as a first line diagnostic test in PBD also in view of the FNA capabilities

## LIVER TRANSPLANTATION FOR HEPATOCELLULAR CARCINOMA :WHERE DO WE STAND?

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Algorithmic approaches to the treatment of HCC are difficult since new treatments and indications for various treatments are evolving rapidly .Therapies that are known to offer a high potential for cure are;Surgical resection, Transplantation and Percutaneous ablation. Liver transplantation for treatment of HCC is attractive because resection of the malignant tumor can be achieved while also replacing the cirrhotic liver that remains at risk for the development of new lesions. Early experience with transplantation for patients with unresectable local HCC was disappointing.A change in the philosophy of transplantation for HCC evolved with the finding that small, incidentally found HCC in explanted livers did not adversely affect survival of patients. Selection of Cases is the Key to Good Outcomes. Hopefully, in the years to come the management of patients with HCC will offer a completely different perspective in which BOTH prevention and treatment would significantly decrease the number ofHCC related deaths. The selection criteria should be looked on as guidelines only and should be constantly reviewed.



## MANAGEMENT OF COMMON BILE DUCT STONES IN THE LAPAROSCOPIC ERA.

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**Background:** approximately 25-50% of patients with choledocholithiasis ultimately develop symptoms and require treatment, but even asymptomatic CBD stones can cause major morbidity and mortality and should be treated. The management of CBD stones in the laparoscopic era is controversial. Aim of the study is to evaluate the different lines of management in different clinical presentations of CBD stones. Patients and methods: 125 patients with clinical, laboratory and ultrasonic evidence of common bile duct stones, the diagnosis then confirmed by the use of either MRI or EUS. If no stones detected only cholecystectomy with intraoperative cholangiogram was done. If stones detected with CBD diameter more than 7 mm undergone cholecystectomy + laparoscopic common bile duct exploration (LCBDE). ERCP followed by cholecystectomy if CBD diameter less than 7 mm. ERCP followed by cholecystectomy or Rendezvous technique in cases presented with cholangitis, acute severe pancreatitis, cholecystectomized patients and presence of contraindication to the surgical intervention. The results were evaluated as regard the efficacy of clearance, complications related to each procedure, and the need for pre-cut procedure in cases undergone ERCP. Results: 41 patients undergone cholecystectomy + LCBDE with complete clearance in 40 patients (98.6%) mean hospital stay range 5 days (3-17), 100 minutes mean operative time range (75-270), complications in 3 patients (7%), duodenal injury in one patient repaired intraoperatively and post operative bile leak 2 patients which were managed expectantly, mortality in one patient (1.4%) due to stroke, T-tube was needed in 7 patients (17%). 75 patients undergone ERCP followed by cholecystectomy. 9 patients undergone Rendezvous tech. with mean operative time 125 minutes and 7 days mean hospital stay. Complete clearance in 69 patients (82%) after the 1st session, 12 patients (14%) needed 2nd session for complete clearance and 3 patients (4%) needed a 3

## PANCREAS TRANSPLANTATION IN EGYPT : A FUTURE REALITY OR MERELY WISHFUL THINKING

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The outcome of pancreas transplantation in the 1960s and 1970s was far inferior to that with other organs. However, owing to improvements in surgical technique and immunosuppression, the results of the procedure now approach those of other transplants. The usual candidates for pancreas transplants are patients with diabetic nephropathy who are obligated to chronic immunosuppression to prevent rejection of a kidney allograft. In Egypt pancreas transplantation procedures have not yet been performed because of the absence of a law that permits the usage of organs from brain-dead donors criteria.



## PANCREATODUODENECTOMY IN KING FAHAD SPECIALIST HOSPITAL: AN EARLY EXPERIENCE

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**Background:** Hepatobiliary problems are a major health problem in the Eastern Province of kingdom Saudi Arabia, there was an obvious need for a specialized unit in this area . Hepatobiliary unit started on October 2006 ,this program continues to date with a series of 55 cases admitted with cancer periampullary region, 20 patients underwent whipple's procedure ,one case on emergency basis. A series of 20 pancreatoco-duodenctomy reported to date in KFSH between August 2006 and October 2008 .In this presentation, the result of such procedure at a tertiary hospital is presented with a special emphasis on age ,sex, Indications , different procedures, morbidity and mortality. Conclusion ;whipple's procedure is a challenging procedure ,should be performed in specialized centers with surgical facilities to achieve better outcome.

## RECENT ADVANCES IN IMAGING TECHNIQUES OF CHOLANGIOCARCINOMA

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Imaging plays a role in (a) noninvasive diagnosis and characterization of cholangiocarcinomas, (b) confirmation of diagnosis, (c) pretherapeutic staging and assessment of resectability, and (d) screening of high-risk patients (eg, those with PSC) for early detection. An ideal imaging test for cholangiocarcinomas should help in both detection and staging of the disease, so that the surgeon can make an informed preoperative decision. However, such a single ideal imaging test remains elusive. US is relatively less accurate in the estimation of tumor spread in the abdomen and the determination of tumor resectability. In addition, the accuracy of US varies with tumor type, equipment quality, and operator experience. Therefore, other imaging modalities are generally relied upon for further evaluation. CT arteriographic, CT portographic, and CT venographic images generated from dynamic contrast material "enhanced CT data can now provide a precise, high-definition preoperative vascular "road map" equivalent to that provided by catheter angiography. These images can reliably depict the involvement of critical vessels, the relationship of the tumor to vessels, and the presence of any vascular anomalies or variants (occurring in 50% of cases), thereby aiding in surgical planning or palliative treatment. By virtue of its superior contrast resolution, MR imaging with MR cholangiography has been found to be superior to CT for the assessment of intraductal lesions. PET/CT could conceivably be used for detecting small or very early cholangiocarcinomas, which may be suspected but are not readily visible at anatomic imaging. Similarly, the differentiation of benign biliary strictures from infiltrating cholangiocarcinoma is desirable. Whether PET/CT can be used in this way awaits future investigations. The imaging manifestations of cholangiocarcinomas are extremely diverse, since these tumors vary greatly in growth pattern and location. The accurate detection, characterization, an



## RESPECTIVELY COMPARED TO 92%, 84% AND 71% IN KFSH. MEDIAN SUR LIVER TRAGEDY IN EGYPT

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**Title:** LIVER FAILURE TRAGDY IN EGYPT Authors: Shadia E. Michael, pH. D. \*

**Purpose:** To investigate the failure tragedy in Egypt and how to combat it. Little information is availble concerning the relation between the two main causes of liver failure Shistosoma Parasite and hepatitis virus B.C.D &E. Therefore, the present work was designed to study the relationship between shsitosoma and hepatitis Virus infection in liver failure patient in the Haematemesis Unite. At Damanhour Teaching hospital as well as to identify the various risk factors associated with its occurrence. Patients and Methods: Three tools were used in this study for identifying the liver failure cases between the 168 target patients. Tool 1. A questionnaire was developed by the researches after reviewing literature. This questionnaire was developed by the researchers after reviewing literature. This questionnaire composed of two parts. The first part elicited general biological data about sex, age. The second part included questions covering the general risk factors that leads to schistosomiais or HCV infection ( the two main causes of liver failure ) occupation, home address, previous operation, blood transfusion, injection. Tool 2. Laboratory investigations. \*Ultra Sound ( U/S ) for schistosomiasis diagnosis \*Liver Function tests ALT,AST, prothrombin time, total protein and serum albumin. Tool 3. Clinical examination. Results & Discussion : The results showed that out of 168 patients studied 129 ( 76.8% ) of them showed evidence of liver failure. The risk factors in these patients were surgical operation, blood transfusion and injection. This last one was considered as the main risk factor in ( 98.3% ) of cases. In addition this result showed that patients infected with HCV on top of schistosomiasis were more likely to have liver failure.

## RISK FACTORS FOR EARLY MORTALITY AND EARLY TUMOR RECURRENCE AFTER LIVER RESECTION FOR HEPATOCELLULAR CARCINOMA

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**Presenting Author:** Mostafa M. Sayed

**Background:** Hepatocellular carcinoma (HCC) is one of the most common cancers worldwide. The incidence of HCC is rising, especially where chronic HCV and HBV infections are common. In Egypt, the prevalence of these infections is high. Untreated, HCC has poor prognosis. Recent advances in early dignosis and surgical treatment of such tumor resulted in better prognosis. Knowledge of risk factors for early mortality and early tumor recurrence after liver resection for HCC is supposed to help better patient selection and optimzation before liver resection and help



determine the group of patients who are in need for close follow up and adjuvant treatment after resection. Patients and methods: Our study included 157 patients with HCC who have undergone first-time liver resection with the intension for cure. Patients were admitted and operated upon in the Surgical Oncology Department, Mount Sinai Hospital NY, USA (n=151) and the Surgery Department Assiut University Hospital (n=6). Operations were performed between Jan-1-2004 and Jun-30-2007. Patients were classified into group A (n=35) that included patients who died in the first year and Group B (n= 122) that included patients who didn't. the two groups were compared regarding multiple supposed risk factors that may affect early mortality after resection. on the other hand tumor recurrence occurred in 89 patients (56.7%) during the whole follow up period, of them 63 (71.5%) occurred in the first year after resection. patients were classified into two other groups, group C (n=63) that included patients who developed tumor recurrence in the first year after resection and group D ((n=94)that included patients who didn't.the two groups were compared regarding multiple supposed risk factors that may affect early tumor recurrence after resection. Results: Forty five patients (28.7%) died during the whole follow up period (range=0.2-42.0, mean= 19.98, SD= 10.12 months), of them 35 (77.8%) died in the first year. With multivariate an

## **ROLE OF EUS IN DIAGNOSIS OF PANCREATIC MASSES.**

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Endoscopic Ultrasound (EUS) is the most sensitive imaging modality for the detection of pancreatic masses. It is particularly useful for identification of tumors undetected by other methods, such as computed tomography (CT). A normal appearing pancreas without a mass essentially rules out the possibility of pancreatic cancer. EUS is superior to CT and angiography for detection of tumor invasion of the portal vein or confluence. CT appears to be superior to EUS for invasion of superior mesenteric vessels and major arteries of the upper abdomen. EUS-FNA of the pancreatic tumors has a sensitivity of 85% and a specificity approaching 100%. Diagnostic yield appears to be maximized by the presence of on-site cytopathology interpretation. The role of EUS-guided Tru-Cut biopsy for pancreatic tumors is currently best reserved for transgastric biopsy following negative or non diagnostic EUS-FNA. Although not perfect, EUS is very useful in distinguishing inflammatory pseudotumors from neoplastic masses, even without FNA; positron emission tomography (PET) is also promising. EUS is the most accurate modality for detection of pancreatic neuroendocrine tumors, particularly tumors smaller than 2.0 cm in diameter.



## STEM CELLS "RAW MATERIAL FOR REPAIRING DAMAGED LIVER"

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HCV is a major cause of acute hepatitis and chronic liver disease, including cirrhosis and liver cancer. Globally, an estimated 170 million persons, 3% of the world's population, are chronically infected with HCV and 3 to 4 million persons are newly infected each year. No vaccine is currently available to prevent hepatitis C and treatment for chronic hepatitis C is interferon taken alone or in combination with ribavirin, but the cost of treatment is very high. Treatment with interferon alone is effective in about 10% to 20% of patients. Interferon combined with ribavirin is effective in about 30% to 50% of patients. Now, scientists are utilizing stem cells to repair damaged liver. Stem cells have the potential to develop into many different cell and serve as a sort of repair system for the body, they have two important characteristics that distinguish them from other types of cells. First, they are unspecialized cells that renew themselves for long periods through cell division. The second is that under certain physiologic or experimental conditions, they can be induced to become cells with special functions such as hepatocytes. Scientists primarily work with two kinds of stem cells from animals and humans: embryonic stem cells and adult stem cells. The embryonic stem cells were created through in vitro fertilization procedures. In the 3- to 5-day-old embryo, called a blastocyst, Human embryonic stem cells are isolated by transferring the inner cell mass into a culture dish and then stem cells well develop to give multiple specialized cell types that make up the liver, heart, lung, and other tissues. adult stem cell is an undifferentiated cell found among differentiated cells in a tissue or organ, can renew itself, and can differentiate to yield the major specialized cell types of the organ. Scientists isolate human bone-marrow-derived hepatocyte stem cells. These cells express albumin, alpha fetoprotein and after intraportal infusion, these cells integrate with he

## SURGICAL RESULTS FOR TREATMENT OF HYDATID DISEASE OF LIVER

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**Aim:** to improve the surgical results for patients with hydatid disease of liver. Materials and methods. This work generalizes and analyzes surgical treatment results for 329 patients with hydatid disease of liver treated in the department of liver surgery during the period from 2000 to 2008. Population consisted of 214 females (65.1%) and 115 males (34.9%) aged 15-67 years. Primary hydatid disease of liver was revealed in 276 patients (83.9%), recurrent " in 53 patients (16.1%). Noncomplicated form of hydatid lesion was registered at 284 patients (75.4%), complicated form " at 81 patients (24.6%). Single lesions were observed at 226



patients (68.7%), numerous (more than 2) " at 103 patients (31.3%). Localization of cysts in the right lobe of liver was registered at 174 patients (52.9%), in the left lobe of liver " at 52 patients (15.8%). Results. Echinococectomy with capitonnage of residual cavity was performed at 228 patients 69.3%), in 59 cases (17.9%) operation was completed with omentohepatopexy. Total pericystectomy was performed in 26 cases (7.9%), subtotal pericystectomy " in 7 cases (2.1%), left caval lobectomy " in 4 cases (1.2%) and combined surgical procedures at liver, i.e. hepatic resection and total pericystectomy were performed at 5 patients (1.5%). Complication rate recorded after echinococectomy with capitonnage of residual cavity comprised 9.7%. Effusion with suppuration in the residual cavity of liver was recorded in 21 cases (6.4%). Postoperative course was complicated by formation of external biliary fistula in 7 cases (2.1%). Abscess in subphrenic space was observed in 4 cases (1.2%); ultrasound-guided puncture and drainage were performed in three cases; relaparotomy, opening and drainage of pyogenic abscess was performed in one case. The patients which had either solitary pericystectomy or in combination with hepatic resection had no specific complications in postoperative period. Cholepoiesis by control drainage which ended

## **SURGICAL TREATMENT OF IATROGENIC INJURY OF BILE DUCTS DURING LAPAROSCOPIC CHOLECYSTECTOMY**

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**Aim:** to improve the surgical results for patients with bile ducts lesions. Materials and methods. During the period from 1998 to 2008, 21 patients with iatrogenic injury of bile ducts during laparoscopic cholecystectomy underwent surgical treatment in the department of liver surgery. Population consisted of 6 males (28.6%) and 15 females (71.4%) aged 23 - 81 years. Twelve patients were transferred from other clinics within 5-12 days following the injury of bile ducts. Intraoperative diagnostics of injuries was based on appearance of bile in the operative site; postoperative diagnostics was based on bile flow through drainage, peritoneal sign, signs of obstructive jaundice and cholangitis. Ultrasonic scanning was used to determine the degree of damage; ERCP, fistulography, computer tomography and MRCP were used when justified. Results. Injuries of bile ducts were diagnosed at 5 patients during operation, in 4 cases " in early postoperative period, in 8 cases " at 5th -7th day and in 4 cases " 2-3 weeks following operation. Depending on diagnosis of bile ducts lesion, the following operations were performed: primary suture of common bile duct at the drainage was made in 4 cases; external drainage of common bile duct with t-tube suction drainage " in 3 cases; hepaticojejunal anastomosis was performed at drainage-carcass in 6 cases; Roux-en-Y hepaticojejunal anastomosis was performed at isolated jejunal loop without drainage-carcass in 8 cases. Follow up was made at 17 patients. Good results were registered at 9 patients who underwent hepaticojejunostomy. Satisfactory results were observed at 5 patients, who suffer from occasional pains in right hypochondrium and signs of cholangitis following drain removal from bile ducts. Three patients had developed stenosis of hepaticocholedoch within 6-18 months after primary plasty of common bile duct requiring the repeated reconstructive surgery. Conclusion. Suture and drain with T-tube suction drainage are required



## THE USE OF SYNTHETIC CYANOACRYLIC GLUE AS A PREVENTIVE MEASURE OF ANASTOMOTIC LEAKAGE AFTER PANCREATODUODENECTOMY PROCEDURE.

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Pancreatic anastomotic leakage is a common lethal complication of PD procedure. The aim of the present study is to evaluate the effect of cyanoacrylic glue reinforced-pancreaticojejunostomy & hepaticojejunostomy on pancreatic and biliary leakage after PD. Patients and methods: 16 consecutive patients with malignant diseases of pancreatic head and periampullary region were underwent PD operation and reconstruction of the digestive tract was performed by using Child method. The PJ and HJ anastomotic techniques have been completed by applying a thin layer of new acrylic glue on the anastomotic flap for sealing and reinforcement of the anastomosis. Results: There were 11 males and 5 females with mean age of 58 years. The diameter of the tumors varied from 1.5 to 4 cm. There was no evidence of pancreatic or biliary leakage in all patients. The median postoperative hospital stay for these patients was 14 days. There was no death occurred, while postoperative complications occurred in 4 patients out of 16; delayed gastric emptying in 2, hepatic insufficiency in 1, and wound infection in one. Conclusion: cyanoacrylic reinforced PJ and HJ procedure is a feasible and reliable procedure to prevent pancreatic and biliary leakage.

## TRANSDIFFERENTIATION OF HUMAN UMBILICAL CORD BLOOD STEM CELLS TO HEPATOCYTES IN CCL4- INJURED LIVER OF MICE

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Stem cell-based therapy has received attention as a possible alternative to organ transplantation, owing to the ability of stem cells to repopulate and differentiate at the engrafted site. Aim of the work: We transplanted Human cord blood-derived stem cells (HUCB-SCs) into liver-injured rats to test the therapeutic effect, degree of engraftment and liver response to injury. METHODS: The HUCB-SCs were transplanted into CCl<sub>4</sub> - injured rats, immediately or after one week of injury, by injection through the caudal vein. 4 weeks later; The liver was excised for in-vitro labeling of engrafted HUCB-SCs and staging of liver fibrosis and the degenerative process. Blood samples were collected to correlate the histological findings with the functional activities. RESULTS: Engraftment of the transplanted HUCB-SCs was seen with significant staining by monoclonal mouse anti-human hepatocyte, which proved that the transplanted stem cells were transdifferentiated into hepatocytes in the injured liver. Immediate transplantation of the HUCB-SCs into liver-injured rats restored their serum albumin level and suppressed transaminase activity when compared with one week delayed transplantation. Histological parameters in immediately transplanted HUCB-SCs; revealed suppression of the degenerative process with no portal tract fibrosis, no bridging fibrosis, no piecemeal necrosis with no or mild portal tract inflammation and preservation of 28.6% of liver architecture. Therefore, HUCB-SCs were shown to have a therapeutic effect on liver injury. CONCLUSION: We have shown that transplantation experiments reveal that HUCB-SCs cells are true progenitors capable of repopulating injured rat liver and could be valuable candidates for liver cell therapy. This might give the way of using autologous transplantation of mesenchymal stem cells which could be ethically and functionally promising for stem cell-based therapy.