LB P-004

Ventricular arrhythmias during liver transplant in a patient with prolonged QT interval

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Cardiac arrhythmias are not uncommon noticeable changes during liver transplantation surgery, and most notably, such events can be due to a patients' comorbidities. One of the less well-identified comorbidities in patients with or without liver cirrhosis is the prolonged QT intervals. Pre-operative identification of prolonged QT intervals is an important factor to consider careful monitoring and intraoperative anesthesia management towards prevention and treatment of complications. Certain medications we widely used during liver transplantation can lead to triggering the ventricular arrhythmias due to evident or silent prolonged QT intervals.
We herein present a case report of a patient with QT interval prolongation who developed repetitive ventricular arrhythmias during liver transplantation. A 38-year old female was scheduled for orthotopic liver transplantation due to alcoholic liver cirrhosis. She had a history of hepatic encephalopathy with mild ascites. During the dissection phase of her liver transplant and after 20 minutes, we noted on the monitor screen a multiple intraoperative premature ventricular contraction that progressed to narrow-complex supraventricular tachycardia. Initially, boluses of amiodarone 150 mg and esmolol 20 mg were administered. A few minutes later, the patient had two episodes of a polymorphic ventricular tachycardia consistent with torsade de pointes, each lasting approximately 3-5 seconds and both of which terminated spontaneously. The patient was given IV 4 g magnesium sulphate, lidocaine 100 mg, and then a lidocaine infusion of 2mg/kg/min. These concomitantly administered drugs ceased the TdP temporarily. Long QT syndrome results in prolonged ventricular repolarization, which is characterized by a prolonged QT interval on the electrocardiogram. LQTS may be either congenital or acquired. Many factors can potentially prolong the QT interval, including electrolyte abnormalities, myocardial ischemia, alcohol toxicity, and autonomic imbalance with sympathetic nervous system hyperactivity. A prolonged QT interval represents the most common electrocardiographic abnormality in patients with liver cirrhosis. We believed that we have a drug-induced QT prolongation complication.

LB P-007

Inhibition of the FAS pathway of apoptosis with RNA interference during liver machine perfusion preservation reduces ischemia reperfusion injury after liver transplantation

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Background: Severe ischemia reperfusion injury (IRI), which is associated with hepatocyte apoptosis, limits the use of extended criteria donors (ECD) in liver transplantation (LT). Machine perfusion (MP) is a promising technology for administering specific therapies to improve graft function. Inhibition of genes associated with apoptosis during MP could decrease the intensity of IRI post-LT.
Aim: We attempted to investigate whether inhibition of an apoptosis-associated gene (FAS) using a small interference RNA approach could alleviate the IRI in a rat LT model.
Methods: In two sets of syngeneic rat liver transplant experiments FAS-siRNA (500ug) was administered either to rat donors 2hs before organ procurement followed by a static cold storage (SCS) period of 22hs to intensity IRI effects or was added to the perfusate during 1h of ex situ hypothermic oxygenated perfusion (HOPE) to livers previously preserved for 4hs in SCS. Liver tissue and serum samples were collected at 24hs post-LT.
Results: Post-LT transaminases levels (AST) were lower in the siRNA-SCS (979±117 x 1914±229IU/L p=0.0005) and siRNA-HOPE (810±72 x 1041±262IU/L p=NS) groups. Inflammatory cytokines (IL2, IL6, IP10, TNF , and IFN) were significantly decreased in siRNA-SCS group. In addition, anti-inflammatory cytokines (IL4, IL10) were increased in the siRNA-HOPE group. Apoptosis index (TUNEL+ cells) was lower in siRNA-SCS (13±3.7 x 44±15IU/L p=0.023) and siRNA-HOPE (47±10 x 74±12IU/L p=0.056) groups, which was associated with less necrosis in histological analyses. Hepatocyte siRNA uptake was confirmed by confocal microscopy. Finally, FAS-protein expression was decreased in siRNA-treated groups.
Conclusions: Our results suggest that inhibition of FAS through siRNA therapy decreases apoptosis, inflammation and the severity

of IRI. In addition, treatment with FAS siRNA during MP seems to induce anti-inflammatory pathways. This approach can be used to optimize ECD liver grafts function and has the potential to improve outcomes and increase the pool of transplantable livers.

LB P-013

Liver transplantation: peri operative death at a single center

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Objective: Although liver transplantation techniques and perioperative management have improved over the last decades, perioperative death remains a possibility with a reported incidence of 3 %. We aimed to determine the incidence, the causes, and the factors influencing the perioperative mortality in the light of the literature.
Methods: We performed a retrospective observational analysis on data collected from all perioperative deaths between 1990 and 2019. A descriptive analysis was performed for different outcomes (Incidence, comorbidities, etiology). A review of literature using pubmed, google scholar and Cochrane database was done to determine the incidence, causes, prevention and outcomes for peroperative mortality death. We then compared the results of literature to our own data.
Results: Incidence of peroperative death was 1,33%. The most common peroperative mortality found in the litterature is caused by uncontrolled bleeding, intracardiac and pulmonary thrombus (ICPT) and primary graft failure. Post reperfusion syndrome and sepsis have also been described as factors of mortality in the early per/postoperative period. In line with this in our series, 4 patients died from ICPT, 5 from massive bleeding, 1 from primary graft failure, 1 from spontaneous cerebral death, 2 from sepsis, 1 from cardiac arrest, and 6 from unknown causes. No particular risk factor could be identified.
Conclusion: Peroperative mortality has an incidence of 1,33% (which compares favorably with the literature). Most frequent causes are massive bleeding, ICPT and sepsis. No predictive factors could be found.

LB P-014

Packing procedure effective in liver transplantation for hemophilic patients with HIV/HCV coinfection

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We herein report an effective procedure for liver transplantation (LT) for severe cirrhotic patients with hemophilia. Three hemophilic patients suffering from liver cirrhosis due to human immunodeficiency virus (HIV)/hepatitis C virus (HCV) coinfection underwent deceased donor LT in our institute. After making a Mercedes Benz incision, using the piggy-back method, deceased donor LT was performed as previously described.[5] After meticulous hemostasis and the administration of coagulation factors, fresh frozen plasma, and platelets using a regular clotting monitor and thromboelastography, the decision was made to close the abdomen with the intra-abdominal gauze packing procedure, since bleeding should not be controlled without the correction of systemic clotting disorders. Large gauzes were placed into the right and left subphrenic space and the peri-liver graft space and the whole upper abdomen was covered. Subsequently, loose skin only suture or partial abdominal wall suture with negative pressure suction therapy to drain exudate fluid over the gauze were applied.All patients underwent the gauze packing removal procedure under general anesthesia on on day 1-3. The graft function of all patients recovered well upon the depacking procedure and the patients were subsequently discharged. The depacking procedure was performed 3 days after packing. The administration of clotting factor was discontinued on day 3-5 after deceased donor LT. None of the patients developed infectious complications. The serum HIV RNA titer remained undetectable throughout the observation period in all three patients under treatment with Raltegravir, which does not interfere with the metabolism of tacrolimus.
This technique could be an option for achieving successful LT in these patients. Cooperation between transplant surgeons and anesthesiologists can make this challenging surgery possible. To the best of our knowledge, this is first report of such strategy in the updated world literature related to LT for hemophilic patients with HIV/HCV co-infection.