very few nurses' and nursing students' wish to make an organ donation. It is suggested that it would be beneficial to include information about organ donation and transplantation in the curriculum of nursing schools. It is believed that there is need to study to improve nurses attitudes toward organ donation with intervention.

Keywords: Nurse, organ, organ donation, nursing students

PLB140 RELEASE OF MEDIUM AND HIGH-SIZED HYALURONAN FRAGMENTS DURING EX VIVO PERFUSION OF THE RAT LUNG

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Background: Hyaluronan (HA) is the most represented glycosaminoglycan of the lung and is essential for its structural integrity. Ischemia, oxidative stress, and mechanical ventilation can induce HA fragmentation. HA fragments exert different biological activities based on their chain length. High molecular weight (MW) HA promotes tissue repair, whereas low MW HA activates the inflammatory response. Aim of the present study was to investigate HA fragmentation in a rat model of ex vivo lung perfusion (EVLP).
Methods/Materials: EVLP was run for 180 min ($N = 5$). Samples of the outflow perfusate were collected throughout the procedure. Concentration of total HA was determined by ELISA. HA fragmentation was evaluated using a two-step protocol, including an initial sample fractionation according to MW (size-exclusion) and subsequent HA quantification in each fraction. Gene expression was evaluated at the end of EVLP in lung tissue. Controls were biopsies harvested from rats in resting conditions (native, $N = 5$).
Results: Perfusate HA concentration steadily increased during EVLP (from 8.8 ± 1.4 ng/ml at 60 min to 33.0 ± 2.4 at 180, $p < 0.001$). At the end of ex vivo perfusion, 96% of total HA had MW>200 kDa. Perfused lungs showed a marked induction of the synthases involved in high-sized HA polymerization (Has1: 20.89 ± 1.83 *vs* 1.29 ± 0.21, $p < 0.001$; Has2: 5.65 ± 0.72 *vs* 1.26 ± 0.13, $p = 0.002$), whereas the shorter chain-HA synthase Has3 was down-regulated relative to native group (0.44 ± 0.02 *vs* 1.28 ± 0.19, $p < 0.001$). Hyaluronidase Hyal2 was reduced after EVLP (0.49 ± 0.05 *vs* 1.25 ± 0.12, $p < 0.001$).
Conclusion: Data show that EVLP is associated with increased perfusate concentration of medium and high-sized HA fragments. The release appears to depend on activation of de novo synthesis rather than on enzymatic fragmentation. This observation suggest a potential mechanism underlying the EVLP beneficial influences observed in lung transplantation

PLB141 DONOR SPECIFIC ANTIBODIES AND C4D POSITIVITY ARE NOT ALWAYS RELATED TO SPECIFIC HISTOPATHOLOGICAL PATTERNS IN LIVER ALLOGRAFT

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The presence of alloantibodies and antibody mediated injury of the transplanted liver is suggested to be an important risk factor for decreased graft survival. However, the liver is relatively resistant to alloantibody mediated rejection as compared to transplanted kidney and in many patients with detectable donor-specific antibodies (DSA), no antibody mediated injury of the liver allograft occurs. With the goal to analyze the potential clinical role of antibody mediated injury in liver transplantation, we performed a retrospective single-center study in 86 patients who underwent liver biopsy in the time period 1.1.2013 – 1.7.2015. Data from patients were retrospectively examined and correlated with histopathological changes, immunohistochemical staining for C4d and the presence of pretransplant DSA using Luminex single-antigen assays. Signs of antibody mediated rejection were observed in 47 patients, with 21 having detectable DSA and 26 showing C4d positivity. No correlation was found between C4d staining and DSA positivity, with only 9 patients showing positivity in both parameters. Neither DSA nor C4d correlated with specific histopathological patterns (endothelial inflammation, centrolobular necrosis, steatosis, periportal or perivenular fibrosis) or other clinical data. In patients with DSA, both periportal and perivenular fibrosis were the most frequent finding (61.9%) but did not statistically differ from DSA negative patients. Perivenular fibrosis was associated with the presence of diabetes ($p = 0.0276$). Steatosis was found in 19 patients with C4d positivity (73.07%) but the difference against the C4d negative liver transplant recipients did not reach statistical significance. Conclusion: in liver transplant recipients, the presence of DSA or C4d positivity might not reflect antibody mediated injury as expressed by specific histopathological parameters. Acknowledgement: This study was supported by Ministry of Health of the Czech Republic, grant nr. 16-27477A.

PLB142 A NEW MEDICAL DEVICE IN TRANSPLANTATION FOR LIVER TRANSPORT AND PRESERVATION

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Background & Aims: The injury of the graft sustains during cold ischemia time negatively results in a poor quality of life for the patient, the need for transplanting again, and more problems in the availability of organs for transplant because liver grafts from extended criteria donors are extremely vulnerable to cold ischemia injury. Our aim is provide a new device in transplantation based on the combination of ultrasounds and hypothermia for liver transport and preservation that increases viability of liver grafts during cold ischemia before being implanted in the recipient, in comparison to what could be obtained with known devices
Methods: Pig livers grafts were perfused with preservation solution at 4°C and kept in the cooler with or without ultrasound for 8 h. To assess damage induced by ischemia, transaminases and lactate dehydrogenase were measured in perfusate and caspase 3 in liver. MDA and ATP levels were determined in liver as oxidative stress and energy metabolism preservation index, respectively
Results: The protection of liver grafts (confirmed by the reduction in transaminases, lactate dehydrogenase, caspase 3 and MDA as well as ATP preservation) conferred by UW solution under cold conditions (2-6oC) is higher than that obtained with Celsior or Ringer solution. A synergistic protective effect was observed because the protection obtained when both treatments (cold conditions and ultrasounds at low frequency and intensity) are combined is much better than the sum of protections obtained when both treatments are applied separately. The benefits conferred by ultrasounds were independently of the preservation solution used
Conclusions: We provide a method and equipment for transporting and storing liver grafts based on hypothermal and ultrasound treatment under better conditions than those currently available. All this allows reducing the harmful effects of cold ischemia and increasing viability of grafts before they are implanted.

PLB143 MYELOID NOTCH1 DEFICIENCY ACTIVATES RHOA/ROCK PATHWAY AND AGGRAVATES HEPATOCELLULAR DAMAGE IN MOUSE ISCHEMIC LIVERS

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Background & Aims: Notch signaling has been implicated in playing an emerged role in the regulation of immune cell development and function during inflammatory response. Activation of ras homolog gene family, member A (*RhoA*)/Rho-associated protein kinase (ROCK) pathway promotes leukocyte accumulation in tissue injury. However, it remains unknown whether Notch signaling regulates RhoA/ROCK-mediated immune responses in liver ischemia and reperfusion injury (IRI).
Methods and Results: In a mouse model of IR-induced liver inflammatory injury, we found that mice with myeloid specific Notch1 knockout (Notch1M-KO) showed increased hepatocellular damage and serum ALT levels, macrophage/neutrophil trafficking, and pro-inflammatory mediators compared to the Notch1-proficient (Notch1FL/FL) controls. Unlike in the Notch1FL/FL controls, myeloid Notch1 ablation diminished hairy and enhancer of split-1 (Hes1) but augmented c-Jun N-terminal kinase (JNK)/stress-activated protein kinase-associated protein 1 (JSAP1), JNK, ROCK1, and PTEN activation in ischemic livers. Disruption of JSAP1 in Notch1M-KO livers improved hepatocellular function but depressed JNK, ROCK1, PTEN, and TLR4 activation. Moreover, ROCK1 knockdown inhibited PTEN and promoted Akt, leading to depressed TLR4. In parallel *in vitro* studies, transfection of lentivirus-expressing Notch1 intracellular domain (NICD) promoted Hes1 and inhibited JSAP1 in LPS-stimulated bone marrow-derived macrophages (BMMs). Hes1 deletion enhanced JSAP1 and JNK activation whereas CRISPR/Cas9-mediated JSAP1 knockout diminished ROCK1/PTEN and TLR4 signaling.
Conclusions: Myeloid Notch1 deficiency activates the RhoA/ROCK pathway and exacerbates hepatocellular injury by inhibiting the transcriptional repressor Hes1 and inducing JNK binding protein JSAP1 activation in IR-triggered liver inflammation. Our findings demonstrate that Notch-Hes1 axis is a novel regulator of RhoA/ROCK-mediated innate immunity.

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