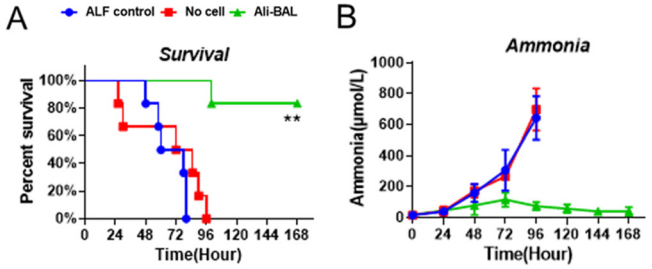
(H&E) staining and immunohistochemistry were used to examine liver injury and regeneration.
Results: iHepLPCs exhibited efficient expansion without growth arrest. Overexpression of FOXA3 significantly improved the synthesis, secretion and detoxification functions of iHepLPCs. When cultured on macroporous carriers in Ali-BAL, not only sufficient cell yield was obtained, but the cells formed 3-D constructs, leading to further enhanced liver functions. After Ali-BAL treatment, ALF porcine had markedly improved survival (83%, n = 6) compared to ALF control (17%, n = 6, p = 0.02) and No-cell device therapy (0%, n = 6, p = 0.003). The blood ammonia levels, as well as biochemical and coagulation indices were significantly reduced in Ali-BAL-treated pigs. Ali-BAL treatment attenuated liver damage, ameliorated inflammation and enhanced liver regeneration.



Conclusion: Novel air-liquid interactive bioartificial liver embedded with 3D-layered iHepLPCs can improve ALF porcine survival. The Ali-BAL might be considered as a new therapeutic device for ALF treatment.

THU174

Outcomes following deceased and live donor liver transplantation for the indication of acute liver failure: a multicenter experience

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Background and Aims: The aim of the present study was to evaluate the characteristics of patients with acute liver failure (ALF) who underwent liver transplantation (LT) at 14 centers in Turkey and to determine factors associated with mortality.
Method: Between 2002 and 2019, adult and pediatric patients who have received LT with the diagnosis of ALF were enrolled into the study. Data was transferred into the electronic case report form on the web site of Acute Liver Failure and Liver Transplantation Special Interest Group (SIG) of Turkish Association for the Study of the Liver (TASL). The recipients were followed in the outpatient setting with regular intervals. Physical examination was performed and laboratory tests were obtained.
Results: Among 6944 recipients with LT, 335 patients (5%) were transplanted for ALF: 238 (144 female and 94 male) were adult, and the remaining 97 (45 female and 52 male) were pediatric cases. Mean age of adults was 36.8 ± 13.6 years, whereas it was 7.7 ± 5.4 years for pediatrics. Most common etiologies among adults were: i) viral hepatitis (32.0%, of which, 88.0% were due to acute HBV), ii) indeterminate (27.3%), and iii) drugs/toxins (26.1%, of which 29.0% were mushroom poisoning). Among children, etiologies were: i) indeterminate (37.1%) and ii) drugs/toxins (30.0%). Living-donor liver transplantation (LDLT) was performed among 221 patients (66%), whereas deceased donor liver transplantation (DDLT) was performed in 114 patients (34%). Overall survival was 70% (235/335) with a median (range) follow-up of 110 (0–884) weeks. Survival was better among the patients who underwent LDLT than those of patients who underwent DDLT (mean 675.2 ± 26.3 vs 395.5 ± 36.7 weeks, respectively, p < 0.001). Survival was slightly better in the adult group compared to the pediatric group (568.2 ± 24.1 vs 550.7 ± 50.0 weeks, respectively, p = 0.15). A multiple cox regression analysis showed that patient age at diagnosis, number of days waiting for LT, donor type (DDLT vs LDLT), pre-transplant high sodium level, high MELD and the presence of hepatic encephalopathy (grade II-IV) were associated with mortality.
Conclusion: Based on the early results of the present multicenter study, hepatitis B virus infection is still major cause of liver-related morbidity and mortality in Turkey. Long-term post-transplant survival is favorable in patients with ALF. LDLT may have improved the overall survival among recipients for ALF.

THU175

Expression of microRNA-124 in Kupffer cells modulates liver injury

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Background and Aims: MicroRNA-124 (miR-124) is related to liver injury subjected to chronic hepatitis B (CHB) and hepatitis B virus related acute-on-chronic liver failure (HBV-ACLF). However, the mechanisms of miR-124 regulating liver inflammation are largely unknown. In this study, we tested the hypothesis that miR-124 highly expresses in Kupffer cells and modulates liver inflammation through effects on the interleukin (IL)-6 pathway.
Method: The role of miR-124 in acute liver injury was assessed in Concanavalin A (ConA) induced mice model. Four hepatic nonparenchymal cells were isolated from liver tissues of mice. Expression of IL-6, signal transducer activator of transcription 3 (STAT3), and phosphorylated-STAT3 (p-STAT3) was investigated in Kupffer cells of mice. miR-124 expression was determined in CHB and HBV-ACLF patients, with miRNA array and quantitative real-time PCR. Biological functions of miR-124 were studied using immunohistochemical.