presence of two or more poor prognostic variables significantly impacts RFS outside Milan criteria.

EP05B-033

COMPARISON OF MANUAL MEASUREMENTS OF PREOPERATIVE AND INTRAOPERATIVE GRAFT VOLUMES WITH SURGEON PERFORMED MEASUREMENTS USING DEDICATED 3-DIMENSIONAL SOFTWARE IN LIVING DONOR LIVER TRANSPLANTATION

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Introduction: Computed tomography (CT) has been utilised in measurement of planned graft volume. CT volumetric can be performed by manually addition of area of liver graft sections or by semi-automatically using a dedicated image processing software. Here we aimed to determine the correlation between manuel CT volumetry (MV) and semi-automated software (AV measurements of preoperative and intraoperative graft volume and weight in living liver donors.

Materials and methods: Eighty-four living liver donor were included in this study. MV was performed by three experienced radiologist, a surgeon calculated graft volume using Myrian(R) (Intrasense, France). Intraoperatively graft volume (IGV) was measured by water replacement method. Intraoperative graft weight (IGW) was measured directly by a weight scales. Difference between tests was analysed by Kruskal-Wallis Test.

Results: Mean graft volume with manual volumetry was 842.3 ± 257.5 with automatised software was 783.6±257.3 and with water replacement was 726 ± 250.3. Mean IGW was 759.2 ± 244.2. Correlation coefficient between MV and IGW was 0.861, between AV and IGW was 0.945.

Conclusion: Preoperative accurate graft volumetry carries great importance for successful liver transplantation. Surgeon performed graft volumetry using dedicated software is strongly correlated with graft weight and increases the accuracy of graft volume estimation.

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EP05C-002

NOVEL CONCEPT OF INDUCED EXOSOME WHICH MAXIMIZES THE POTENTIAL OF STEM CELLS IN THE MICE WITH HEPATIC FAILURE

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We defined induced exosome (iExosome) as the exosome released by adipose-derived stem cell (ASC) which had been pre-conditioned by disease-specific stimuli. The aim of this study was to investigate the effects of iExosome on the composition and hepatic regenerative activity of ASC exosome. Mouse liver extract was obtained from the mice with thioacetamide (TAA)-induced hepatic failure. Subsequently, control and induced exosome were obtained in the conditioned media after culturing human ASCs without or with mouse liver-extract-treatment, respectively. In vitro cell toxicity was induced by TAA treatment of mouse hepatocyte AML12 cells, which were then incubated with control and induced exosome. Control and induced exosome were also intravenously administrated to the mice with TAA-induced hepatic failure, and their effects on liver regeneration were assessed. Induced exosome of ASCs significantly increased mRNA expression of IL-6, tumor necrosis factor-α, HGF, and VEGF, and the release of IL-6 from TAA-treated AML12 cells. In the TAA-treated mice, the injection of induced exosome induced higher phosphorylation levels of STAT3 and liver proliferative rate 7 days after hepatectomy. Finally, the injection of induced exosome significantly reduced the serum levels of aspartate and alanine transaminases, particularly at Days 1 and 2 after infusion ($P < 0.05$). Our results suggest that the induced exosome showed higher therapeutic potential in the mice with hepatic failure mice which had been generated by same stimuli as induced exosome. Thus, the utilization of the exosome which had been preconditioned by disease-specific stimuli could be a promising approach to treat liver diseases using stem cells.

EP05C-003

IMMUNOSUPPRESSIVE THERAPY IN LIVER TRANSPLANTATION: STRATEGIES FOR PERSONALIZATION APPROACHES

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Immunosuppressive therapy in organ transplantation is tentatively moving from a phase of empirical administration towards individualized therapy. This process is highly dependent on the development of monitoring methods to detect individual immune states. Anti-donor alloreactivity, which depends on the number and phenotype of alloreactive precursors in the recipient, could be used to monitor the immune state for individualizing immunosuppressive therapy. For this purpose, we have applied the mixed lymphocyte reaction assay, an assay in which CFSE-labeled PBMCs from recipients are cultured with allogeneic lymphocytes from donors as stimuli, to clinical liver transplantation (LT). This method allows for the separate quantification of the proliferation of CD4 and CD8 responder T cells in response to allo-stimulation by using multiparameter FCM. In addition to the cellular *ex vivo* assay, analyses by molecular genetics such as the single nucleotide polymorphism (SNP) testing would lead to an improvement in risk prediction, early detection and prevention of various complications after organ transplantation. We have recently demonstrated that Fc-gamma