MODERATED POSTER

BASIC IMMUNOLOGY AND REJECTION

MP001 THE INHIBITORY EFFECT OF TACROLIMUS AND SIROLIMUS ON THE DIFFERENTIATION OF T CELLS INTO FOLLICULAR HELPER-LIKE T CELLS, LIMITING B CELL ACTIVATION

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Background: T follicular helper (Tfh) cells are a T helper subtype specialized in supporting B cell activation, resulting in B cell mediated humoral immunity. In transplant patients, this can lead to antibody mediated rejection. Tacrolimus (TAC), and sirolimus (SRL) are two commonly used immunosuppressive drugs used in transplantation; however, their effect on Tfh generation is largely unknown. In this study we therefore studied *in vitro* Tfh like cell formation under immunosuppressed conditions.
Methods: Isolated naive T cells were polarized to Tfh-like cells in the presence of different concentrations of TAC or SRL, (ranging from 0.5 to 20 ng/ml and from 1 to 10 ng/ml, respectively). Tfh-like cells were defined as $CD4^+CXCR5^+$T cells, which also express PD-1 and ICOS. To demonstrate their functionality, we co-cultured these cells with isolated B cells in the presence of alloantigen and then analyzed the Tfh-like cells and their ability to help B cells.
Results: We found that both TAC and SRL significantly inhibited the differentiation into Tfh-like cells. Therapeutic concentrations of TAC and SRL reduced the percentage of PD-1+ and ICOS+ Tfh cells compared to controls without immunosuppression. T cells cultured in the presence of TAC or SRL produced less IL-21 and provided less B cell help. In addition, TAC and SRL inhibited Tfh dependent alloantigen activated B cell proliferation and their differentiation into plasma cells and transitional B cells.
Conclusion: In conclusion, TAC and SRL inhibited differentiation of naive T cells into functional Tfh-like cells, and subsequent B cell activation, a finding that can be extrapolated to immunosuppressive regimens in transplant patients.

MP003 RENAL FUNCTION OUTCOMES IN DE NOVO KIDNEY TRANSPLANT RECEIVING TACROLIMUS WITH EVEROLIMUS AS A MAINTENANCE IMMUNOSUPPRESSION IN SENSITIZED PATIENTS WITH CPRA > 98% WITHOUT DONOR SPECIFIC ANTIBODIES (DSA)

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Introduction: Maintenance immunosuppressive therapy is administered to almost all kidney transplant (KT) recipients to help prevent acute rejection and loss of renal allograft.

Patients who have a history of DSAs but are negative for DSAs at transplantation are considered intermediate-risk patients according to Commit Group.

In this kind of recipients the most useful combination (calculated Panel-reactive antibody test >98%) is calcineurin inhibitors (CNI) with micofenolate mofetil (MMF). In our center the protocol of this cohort is reduced exposure Tacrolimus (TAC) with Everolimus (EVR).

Optimal maintenance immunosuppressive therapy in KT is not established.
Materials and methods: A single center observational cohort study was performed from January 2016 through March 2018 with all patients from PATHI (*programa de acceso trasplante hiperinmunizados*) Spanish national priority hyper-immunized transplant access program. Seven patients where analyzed, all of whom received an induction with antithymocyte globulins (rATG) and corticosteroids.

Outcomes assessed include patient survival, graft survival, kidney function and treatment discontinuation for hyperlipidemia, proteinuria, stomatitis, and wound healing events (WHE).
Results: Seven patients were transplanted with a median age of 54.5 years, 4 males and 3 females.

The incidence of viral infections was extremely low without CMV syndrome and BKV infections. CMV infections was detected in one patient.

Nobody needed treatment discontinuation, but two patients developed hyperlipidemia as an adverse event. Levels of immunosuppression at 1 year were EVR C0: 4.3 ng/ml and TAC C0: 3.7 ng/ml.

One-year allograft survival was 100% and patient survival was 100%. Kidney function with CKD-EPI at 1 year was 51.78 $\pm$ 21.18 ml/min and median proteinuria was 0.13 mg/mg (using protein/creatinine ratio from a single urine sample).

No antibody-mediated rejection was described.
Conclusions: EVR with reduced TAC regimen had a real possibility in these patients.

No serious events with this combination were detected in our cohort.

The regimen was well tolerated and easily managed by concomitant medications.

MP004 BKV-SPECIFIC CELLULAR IMMUNITY DEMONSTRATES A $CD4^+$ T CELL RESTRICTION THAT IS NOT DUE TO LIMITATIONS IN $CD8^+$ T CELL DETECTION ASSAY

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BKV-associated nephropathy (BKVAN) represents a serious complication of the post-transplant period in kidney recipients leading to organ loss in up 50% of all cases. There is no specific anti-viral therapy. Reduction of immunosuppression to improve antiviral immunity represents the cornerstone in the therapy. Analysis of BKV-specific immunity is therefore crucial for monitoring antiviral response and guiding immunosuppressive therapy. Our previous data demonstrated that $CD4^+$ but not $CD8^+$ BKV-specific T cells are associated with BKV clearance. However, it was not finally clear, whether the low detection level of $CD8^+$ T was due to the use of BKV-specific 15-mer peptides. While 15-mer peptides are known to fit to $CD4^+$ T cell activating MHCII grooves, 9-mer are the optimal size for $CD8^+$ T cell activating MHCI. Here, we evaluate the effect of the BKV peptide library size on its stimulatory capacity and clarify the role of BKV-specific $CD8^+$ T cells in BKV-specific immunity. For this, analysis of BKV-specific T cells was performed using BKV-overlapping 9-mer and 15-mer peptides. PBMC from 17 healthy blood donors were stimulated with 9-mer or 15-mer BKV peptides for 16 h, subsequently stained and analysed by multi-parameter flow cytometry.

Both stimulation approaches were able to elicit T cell response and the data on BKV-specific $CD8^+$ T cells were comparable for 9- and 15-mer peptide stimulation. We also did not see any differences in phenotype of $CD8^+$ T cells using 9- or 15-mer peptides. Comparing $CD4^+$ and $CD8^+$ BKV immunity, we demonstrated the dominance of $CD4^+$ T cells including single, double cytokine producers and polyfunctional T cells.

Here, we demonstrated, that 15-mer BKV peptide library does not underestimate $CD8^+$ immunity and elicit similar $CD8^+$ T cell response as compared to 9-mer peptides. Furthermore, $CD4^+$ T cells showed significantly higher frequencies as compared to $CD8^+$ T cells demonstrating their dominance in BKV-specific cellular immunity.

MP006 ANALYTICAL ROBUSTNESS AND CLINICAL CONSISTENCY EVALUATION OF A NEW IN VITRO DIAGNOSTIC BIOTECHNOLOGICAL IMMUNOASSAY TO HELP DECISION-MAKING IN ADJUSTMENT OF IMMUNOSUPPRESSANT THERAPY FOR KIDNEY TRANSPLANTATION: TRANSBIO STUDY

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Background: Transplanted patients have a persistent risk of graft rejection and require long term treatment with immunosuppressive drugs (IS). Immunosuppression can also lead to severe side effects. IS regimens are stablished based on clinical guidelines and empirically. "Immunobiogram" (IMBG) is a blood-based pharmacodynamic test that offers a personalized comparative evaluation of patient's sensitivity to most used IS, to help clinicians for decision-making in adjustment of immunosuppressant therapy.

Methods/Materials: IMBG is a 3D-cell culture of PBMCs in semi-solid matrix submitted to immune stimulation and exposed to IS concentration gradient along a channel. It reveals the capacity of IS gradient to inhibit the activation cells state, which can be translated into a dose/response sigmoid curve. TRANSBIO is an ongoing, international and multicentre clinical study that aims to evaluate IMBG robustness to measure patient sensitivity/resistance pattern to IS in KT. IMBG intrasubject, inter-time consistency and correlation with patients' clinical prognoses will be measured.
Results: 200 patients with KT were recruited: a group of KT recipients with progressive deterioration in graft function and objective signs of immunological response compatible with rejection in biopsy or DSA strength (Bad-Clinical-Evolution group) and a group of recipients without rejection episodes, no DSA, stable renal function and stable IS treatment for last 12 months (Good-Clinical-Evolution group). Correlation between Immunobiogram sensitivity profile and clinical evolution will be tested. In addition, another group of very stable patients will be studied: intra-subject and inter-time consistency will be evaluated comparing three Inmunobiogram at baseline and after 1 month of follow up.
Conclusions: IMBG allows to quantify patients' PBMC sensitivity profile to a panel of IS in KT recipients. TRANSBIO study will provide results about robustness, reliability and clinical consistency of IMBG.

MP007 DEVELOPMENT OF A METHODOLOGY FOR THE PRODUCTION OF SPECIFIC ALLOANTIGEN – REACTIVE HUMAN TREGS

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Background: Regulatory T cell (Treg)-based immunotherapy for the prevention of transplant rejection has shown promise in animal models and early clinical trials. In experimental models, the adoptive transfer of polyclonally-expanded Tregs can suppress effector T cells and maintain graft survival. However, optimal Treg immunotherapy should employ alloantigen-reactive rather than polyclonally-reactive Tregs to ensure both safety and enhanced specificity. Several approaches have been reported for the selective expansion of alloantigen Tregs, but none have demonstrated effective generation at a practical scale for clinical use.
Aim: This study aimed to develop a simple and effective method to rapidly expand functional human alloantigen-reactive Tregs.
Methods: $CD4^+CD25^+CD127^{low}$ human Tregs were flow sorted and stimulated ex vivo with allogeneic immature dendritic cells (iDCs). Cells were subsequently expanded with repeated rounds of allo-stimulation.
Results: Using in vitro suppression assays, alloantigen-reactive Tregs were found to be superior suppressors of effector cells in comparison with polyclonally-expanded Tregs. Alloantigen-reactive Tregs maintained a high expression of Treg-specific and functional markers after expansion. Moreover, pre-incubation of alloantigen-reactive Tregs with pro- inflammatory cytokines did not have an impact on their expression profile of Treg-specific markers nor did it impact their functional capacity. This suggests that this expansion protocol produces cells that are likely to have stable suppressive activity in an inflamed environment such as that of a transplant.
Conclusions: Our results suggest that the generation of alloantigen-reactive Tregs with definable allo-specificity is technically feasible. This methodology may provide a GMP-compatible technique for alloantigen-reactive Treg generation without genetic manipulation. We next aim to assess the (TCR) repertoires of these Tregs to identify the degree of clonal expansion.

MP008 MANIPULATION OF REGULATORY T CELL COMPARTMENT WITH IL-2-COMPLEXES INCREASE PLASMA CELL POPULATIONS IN SPLEEN

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Introduction: Treatment with specific IL-2-anti-IL-2 antibody complex (IL-2-cplx) is known to allow the selective expansion of regulatory T cells (Tregs) and has been demonstrated to impair allograft rejection. Here, under IL-2-cplx treatment, we focused on the effect on B cell subpopulations and possible changes in the expression of markers relevant for immune response activation.
Methods: C57BL/6 mice received intraperitoneal injections of either PBS (control) or IL-2-cplx (1 μg IL-2/5 μg anti-IL-2) on five consecutive days and were sacrificed on day 7. We used flow-cytometric analysis to investigate the frequency of Tregs and B Cells subpopulations [Naïve mature, Germinal Center (GC) B cells and Plasma Cells (PC)] with focus on the expression of MHC-II and important costimulatory molecules on B cells that are known to play a key role in immune response activation, namely CD80, CD86 and PDL-1 in samples taken from spleen and lymph nodes.
Results: Beside an expected significant increase in Tregs ($CD4^+$ $CD25^+$ $FoxP3^+$) within spleen and lymph nodes (19.4% vs. 4.2%, $p < 0.001$ in spleen; 13.5% vs. 5.9%, $p = 0.03$ in lymph nodes; vs. naïve) treatment with IL-2-cplxs resulted in elevated numbers of $B220\text{-}CD138^+$ Blimp-1 + PCs in spleen (1.57% vs. 0.44%, $p = 0.03$; vs. naïve). Beyond that, administration of IL-2-cplxs led to an increase of B220 + GL-7 + Fas+ GC B cells in spleen (0.72% vs. 0.53%, $p = 0.01$; vs. naïve) and a decrease of Bcl-6 expression within the GC B cell compartment in treated mice (30.3% vs. 16.8%, $p = 0.01$; vs naïve). Moreover, IL-2-cplx treatment significantly enhanced the surface expression of MHC-II (MFI = 109326 vs. 79233, $p < 0.001$) and PDL-1 (MFI = 7026 vs. 5010, $p = 0.001$) gated on B220 + B cells when compared to the naïve mice.
Conclusion: These data suggest an important role for Treg cells in PC biology that may have further implications in immune cell modulation protocols for human organ transplantation. Further research to explore the mechanism between PCs and Tregs are warranted.

MP010 DSA FORMATION CORRELATES WITH GERMINAL CENTER FORMATION, FOLLICULAR T HELPER CELL EXPANSION AND IL-21 IN A MODEL OF CHRONIC RENAL ALLOGRAFT REJECTION IN RATS

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Background: Donor-specific antibodies (DSA) and ABMR (antibody-mediated rejection) compromise renal allograft survival. Follicular T helper cells (Tfh) in germinal centers (GC) activate antigen-specific B cells to differentiate into plasma cells. We studied DSA and GC formation, Tfh expansion and function in a rat renal transplant (RTx) model. In parallel, we are analyzing serum IL-21 levels from RTX patients.
Methods: We treated rats with reduced dose cyclosporine A (CsA, 5 mg/kg/alternating days) or high dose CsA (10 mg/kg/day) for 28 or 58 days in a full MHC mismatch RTX model. We used immunofluorescence microscopy for GC and Tfh, flow cytometry for DSA and ELISA for serum IL-21 detection. In addition, we are measuring serum IL-21 in a retrospective cohort of 102 RTX patients to correlate this to pre-sensitization, rejection and allograft function.
Results: In transplanted rats receiving low dose CsA, DSA were significantly elevated at d28 and d56 compared to rats with high dose CsA ($p = 0.02$ at d28; $p = 0.02$ at d56), as were GCs ($p = 0.01$, d28) and Tfh ($p = 0.03$, d28). Serum IL-21 was significantly elevated in RTx rats with low CNI compared to control ($p = 0.04$) and positively correlated with levels (MFI) of specific IgG subclass, namely IgG2b-type DSA ($p = 0.025$). In a retrospective cohort of 40 pre-sensitized (panel reactive antibodies (PRA) 52 ± 24%) and 62 non-sensitized (PRA = 0%) RTX patients with a median follow-up of 24.5 ± 16.1 and 28.5 ± 17.1 months respectively, we are measuring serum IL-21 at 0, 3 and 12 months post-RTX to correlate with pre-sensitization, rejection and allograft function (results pending).
Conclusion: We found that DSA formation correlated with GC formation, Tfh expansion, and serum IL-21 in our rat RTX model. IL-21 producing Tfh may be a therapeutic target for the prevention of DSA formation.

MP011 IGURATIMOD (T-614) ATTENUATES THE PRODUCTION OF DONOR-SPECIFIC ANTIBODY (DSAS) BY INDUCING $CD19^+$ $TIM\text{-}1^+$ REGULATORY B CELLS AND IMBALANCE OF TH17/TREG

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This study was designed to investigate the effect and mechanisms of Iguratimod on circulating DSA and allograft survival. Mice secondary skin transplantation model was established. Iguratimod were administrated in the first/secondary skin transplanted recipients. Levels of de novo DSAs following the first skin transplant and secondary DSAs after second skin transplant in each group were detected by flow cytometry assay. Levels of Bregs, Tregs and Th17 cells, in peripheral blood monocytes (PBMCs) collected from mice recipients were also examined. Primary Bregs extracted from the spleen of recipients with or without Iguratimod, as well as PBMCs, were co-cultured in vitro. Bregs and balance of Th17/Tregs were examined. Finally, the co-culture system was intervened by anti-IL-17 receptor (IL-17R) monoclonal antibody. Significantly reduction of DSAs was observed after the treatment with Iguratimod in secondary skin transplanted mice. Bregs was significantly increased after the treatment with Iguratimod along with a higher level of IL-10. Allografts from Iguratimod-treated recipients showed significantly lower levels of IL-17A expression and higher levels of Foxp3 expression after both the first and the second skin transplantation, compared with control group. Also, Iguratimod can reduce the proportion of Th17 cells and increases the proportion of Treg cells. Furthermore, intervention of Iguratimod remarkably reduced the levels of DSAs, increased expression of Bregs and IL-10, as well as imbalance of Th17/Treg. Blocking the IL-17 receptor with the monoclonal antibody suggested that the IL-17/IL-17R axis may be significantly correlated with the reduction of DSAs induced by Iguratimod. In conclusion, our study observed that Iguratimod can attenuate the production of DSAs by increasing the proportion of Bregs and the imbalance of Th17/Treg cells through IL-17/IL-17R axis.

MP012 HIGH NUMBERS OF ANTI-DONOR T CELLS PERSIST LONG AFTER KIDNEY TRANSPLANTION

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Background: Despite advances in immunosuppressive medication, long-term renal allograft loss remains a significant problem. High numbers of donor-reactive IFN-γ and IL-21 PBMCs are associated with acute rejection. However, knowledge about how these cytokine producing cells develop over a longer period is lacking. In the present study, we investigated the frequency of donor-specific IFN-γ and IL-21 producing cells in renal transplant patients prior to transplantation until 5–7 years after transplantation.
Methods: PBMC samples from 88 kidney transplant patients were obtained pre transplantation, at 1 year and at 5–7 years post transplantation. The frequency of IFN-γ and IL-21 producing PBMCs was analyzed by Elispot assay. Patient's PBMC were stimulated with irradiated donor or third-party cells, which were completely HLA-mismatched with donor and recipient.
Results: While the response against third-party cells remained stable over time, the number of donor-reactive IFN-γ and IL-21 producing PBMCs decreased at 1 year compared to pre transplantation ($p < 0.0001$). This decrease was still significant after 5–7 years post transplantation ($p < 0.0001$). However, this decrease is not seen in a subset of the recipients. High[MOU1] responders, defined as having numbers of donor-specific cytokine producing cells higher than the median, [MOU2] were also the highest responders prior to transplantation (IFN-γ, $p = 0.0002$; IL-21, $p < 0.0001$). This suggests that aggressive effector donor-reactive immunocompetent cells are persistent in immunosuppressed recipients.
Conclusion: Despite an overall decrease in the anti-donor response, patients with high numbers of anti-donor responsive T cells prior to transplantation remain immune reactive up to 7 years later. These patients should be carefully monitored and not be tapered in their immunosuppressive load in order to prevent rejection.

MP02 – MOLECULAR INVESTIGATION IN LIVER AND KIDNEY

MP013 SERUM LIVER-TYPE FATTY ACID-BINDING PROTEIN AS A PREDICTOR OF EARLY AND ONE-YEAR GRAFT FUNCTION FOLLOWING KIDNEY TRANSPLANTATION

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BackgroundPredicting early and long-term graft function is important in clinical decision-making around kidney transplantation (KTx). Several biomarkers are being studied to help to discriminate patients with a higher risk for kidney graft dysfunction. Only few studies, showed the utility of liver-type fatty acid-binding protein (L-FABP) as a potential diagnostic value of graft dysfunction following KTx.
Methods: This prospective study was conducted on 40 consecutive KTx recipients to evaluate time-dependent changes in serum L-FABP levels within the first week after KTx and to assess their performance in predicting delayed graft function (DGF=dialysis requirement during initial post-transplant week) and 1-year graft function. Blood samples were collected before (day-0) and after KTx (days-1, 2, 4 and 7).Multivariable linear mixed and linear regression models, receiver-operating characteristic (ROC) and areas under ROC curves (AUC-ROC) were used.
Results: At all time points (including pre-transplant), mean L-FABPlevels were significantly higher in patients developing DGF ($n = 18$). Serum L-FABP decreased rapidly in patients with immediate function and slowly in DGF patients. Shortly after KTx (8–12 h), L-FABPvalues were higher in DGF recipients (on average + 47 ng/ml) and this difference increased further on following day (on average + 95 ng/ml), contrasting with prompt functioning recipients. Serum L-FABPlevels predicted DGF on day-1 (AUC-ROC = 0.81) with a performance higher than serum creatinine (SCr) (AUC-ROC = 0.73), but its prediction accuracy was quite superior on day-2 (AUC-ROC = 0.95) with a performance higher than SCr (AUC-ROC = 0.89). Multivariable analysis revealed that serum L-FABPlevels on day-2 were an independent predictor of 1-year graft function, controlling for variables usually associated with graft outcome.
Conclusions: Serum L-FABP is an accurate biomarker for predicting DGF in early post-KT period and 1-year graft function.

MP014 INFRARED THERMOGRAPHY: A NON-INVASIVE, REAL-TIME BIOMARKER OF DELAYED GRAFT FUNCTION IN KIDNEY TRANSPLANTATION

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Background: Currently, no functional imaging modality is used pre- or intra-operatively to assess transplanted kidney perfusion. Infrared thermography has the potential to objectively assess the effects of ischaemia-reperfusion injury (IRI) on cortical microcirculation during kidney transplantation. This preliminary study aimed to assess its prognostic value in predicting delayed graft function (DGF).
Methods: Images of the exposed surface of the kidney were captured using a FLIR E75 camera at seven timepoints (out of ice, after venous anastomosis, immediately before and after perfusion, and at 5, 10 and 15 min. The mean and standard deviation (heterogeneity) of temperature at each timepoint was compared between DGF and non-DGF organs using repeated-measures ANOVA. Values were then averaged across all timepoints, and predictive accuracy was assessed using ROC curves.
Results: Forty consecutive patients were recruited, of whom 16 (40%) developed DGF. Apart from higher cold ischaemia time in the DGF group ($p = 0.029$), there were no other significant differences in donor or recipient factors. Mean temperature was similar in DGF and non-DGF kidneys over the seven timepoints ($p = 0.551$), whilst heterogeneity was significantly higher in DGF ($p = 0.005$). ROC curve analysis returned an AUC of 0.75 ($p = 0.008$) for the predictive accuracy of heterogeneity of temperature, with respect to DGF. A cut-off of 1.15 returned positive and negative predictive values of 71% and 77%, respectively. Subgroup analysis found predictive accuracy of the heterogeneity of temperature to be greatest in DCD organs (AUC: 0.90, $p = 0.028$).
Conclusion: This study shows for the first time that heterogeneity of infrared thermal radiation may be a useful, non-invasive, real-time biomarker for DGF that could aid patient care and develop novel therapies. Differences in heterogeneity but not absolute temperature may be explained by the no-reflow phenomenon which creates area of high and low capillary flow.

MP015 BMP-7 AND BMP-2 EXPRESSION IN ENDOTHELIAL CELLS OF EPIGASTRIC ARTERIES ARE ASSOCIATED WITH DEVELOPMENT OF PROTEINURIA IN RENAL TRANSPLANT RECIPIENTS

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Background: Glomerular endothelial function has important role in development of proteinuria. It may reflect systemic endothelial dysfunction. Recent studies suggested the importance of recipient factors in addition to donor characteristics on outcomes of renal transplantation. However, investigations on recipient's biologic materials are scarce. Bone morphogenetic proteins have been associated with maintenance of kidney structure and function in prenatal and postnatal life. Herein, we investigated association of BMP expression in endothelial and media cells of epigastric arteries on development of proteinuria after renal transplantation.
Methods: 79 patients were included in this prospective study. BMP-7 and BMP-2 expression in intima media (BMPm) and endothelium (BMPe) of recipient's epigastric artery retrieved during the transplantation was assessed by immunohistochemistry. Proteinuria and creatinine clearance were assessed 5 years after the transplantation from 24-h urine.
Results: Patients with no BMP7e expression had higher proteinuria 0.29 g/day (interquartile range 0.17–0.94) compared to patients with grade II BMP7e staining (proteinuria 0.12 (0.08–0.66)), $p = 0.05$. To the contrary, BMP2e expression was not recorded in patients with lower proteinuria – 0.25 (0.14–0.34) while patients with positive BMP2e staining had higher proteinuria 0.61 (0.24–0.90), $p = 0.06$. Expression of neither BMP7 nor BMP2 in media had no association with proteinuria at 5 years. There was no correlation with glomerular filtration rate.
Conclusion: Our results demonstrate that BMP-7 and BMP-2 expression in endothelial cells of epigastric arteries may predict development of proteinuria after renal transplantation. This may provide further evidence in favor of the hypothesis that endothelial function presents a link between systemic vascular disease, as is present in end-stage renal disease, and development of proteinuria.

MP016 TOTAL CELL-FREE DNA AS A NONINVASIVE BIOMAKER OF A DELAYED GRAFT FUNCTION AFTER KIDNEY TRANSPLANTATION FROM DONATION AFTER CARDIAC DEATH

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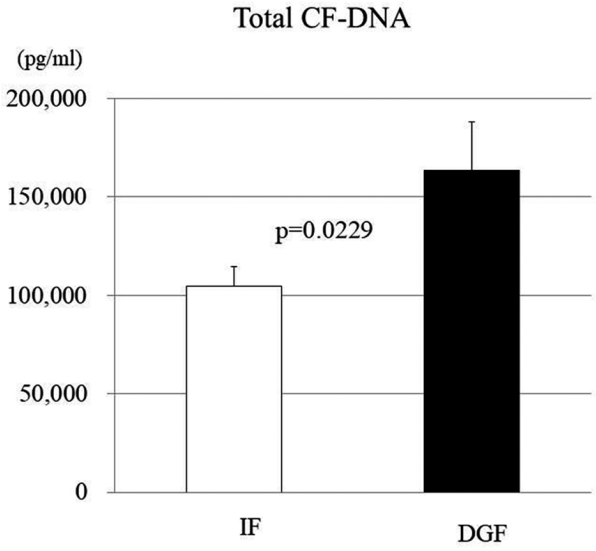
Because of the global shortage of renal grafts, kidney transplantation (KTx) from donors after cardiac death (DCDs) is an alternative way of obtaining KTx from brain-dead donors. Although the prognosis of DCD KTx is gradually improving, the graft often suffers from a delayed graft function (DGF); as such, managing DGF is essential for post-KTx patient care. Owing to the recent progress in our understanding of the characteristics of cell-free DNA (CF-DNA) and the rapid clearance of circulating DNA, we therefore consider the plasma total CF-DNA (tCF-DNA) to be a potentially useful biomarker for predicting the functional recovery of KTx from DCDs. Consecutive patients transplanted with kidneys from living donors (LDs; $n = 5$), brain-dead donors (BDs; $n = 6$) or DCDs ($n = 13$) were enrolled. Plasma samples were collected after KTx. CF-DNA was isolated using the MagMAX Cell-Free DNA isolation Kit (Thermo Fisher Scientific. Electrophoresis of DNA extracts was performed using a High Sensitivity D5000 ScreenTape Assay, and tCF-DNA were quantified using the TapeStation 2200 software program (Agilent). The tCF-DNA was higher in BDs and significantly higher in DCDs plasma after KTx than in LDs (LD: 91.4 $\pm$ 13.2 (ng/ml) vs. BD: 130.0 $\pm$ 13.2 and DCD: 150.1 $\pm$ 2 3.5; $p < 0.05$ vs. LD). Furthermore, the tCF-DNA was significantly increased in plasma from DGF patients (DGF: 163.3 $\pm$ 24.7 vs. immediate function 104.8 $\pm$ 9.9; $p < 0.05$). tCF-DNA also correlated the duration of DGF ($r = 0.5825$, $p < 0.05$). Although the mechanism underlying the release of DNA from transplanted grafts into the recipient circulation remains unclear, cell death by apoptosis or necrosis (from damaged grafts) as well as active secretion by different types of activated cells of the immune system (from recipient reaction) may play an important role in DGF. These data suggest that monitoring the tCF-DNA may help predict graft recovery from DCDs. There is no need to quantify the donor-derived CF-DNA in order to predict DGF.



MP017 ESTIMATED GLOMERULAR FILTRATION RATE TRAJECTORIES AND PROGRESSION TO END STAGE RENAL DISEASE AFTER TRANSPLANTATION: AN INTERNATIONAL POPULATION-BASED STUDY

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Background: Although the current gold standard of kidney allograft patients monitoring relies on GFR assessment, little is known about long-term GFR trajectories profiles and their determinants at a population level. Such information would be key for improving prediction and risk stratification in kidney transplantation.
Methods/Materials: International population-based cohort involving 15 kidney transplant referral centers (10 in Europe and 5 in the US) including patients from 2000 to 2016. Patients underwent assessment of clinical, histological, immunological parameters including repeated eGFR measurements (MDRD estimation) after transplantation. Latent class mixed models were performed to determine the profiles of eGFR individual trajectories. Multinomial regression analysis was used to assess transplant parameters associated with the eGFR trajectory profiles.
Results: 11,623 patients were included (4,140 patients in the French development cohort and 7,483 patients in European and US cohorts). The median time of follow up post-transplant was 6.5 years (IQR 4.0–8.6). A total of 123,188 eGFR measures were analyzed. Overall, we identified 8 latent classes corresponding to distinct patients eGFR trajectories after transplantation (Fig 1). The determinants of the latent classes were the donor age and assessed at 1-year: allograft inflammation (i&t), microvascular inflammation (g&ptc), tubulo-interstitial fibrosis (ci&ct), MFI of anti-HLA DSA, the proteinuria and the first value of eGFR. The 8 profiles of eGFR trajectories, their determinants and their associations with end-stage renal disease were conserved in the validation cohorts.
Conclusions: In this international cohort of kidney transplant recipients, we identified for the first-time the long-term eGFR trajectories profiles and their main determinants. Our results provide the basis for eGFR trajectory-based assessment for improving risk stratification at early stage post-transplant.

MP018 CELLULAR BIOMARKERS TO PREDICT ALLOGRAFT REJECTION AND OUTCOME AFTER KIDNEY TRANSPLANTATION

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Background: Current immunosuppressive drugs (IS) used in clinical transplantation (Tx) mainly affect naive T cells with little effect on pre-existing memory T cells and the B-cell lineage, which contribute to acute and chronic rejection. Some protocols also interfere with the expansion of Treg. Therefore, long-term graft survival remains suboptimal, in particular in HLA-sensitized patients. Specific assays are thus needed to monitor the immune response and the effect of IS with time after Tx, in order to individualize treatments and improve patients care.
Methods: We used prospectively collected blood samples and clinical data from kidney Tx recipients, enrolled in the Swiss Transplant Cohort Study. Our aim was to analyze the immune repertoire during the first year after an allograft, correlating peripheral blood mononuclear cells (PBMC) subsets dynamics with graft outcome, in particular comparing non-sensitized (NS) vs. sensitized (S) recipients. For this purpose, we performed single-cell analysis using mass cytometry on PBMC of recipients at day 0, months 6 and 12 after Tx.
Results: Our data provide detailed PBMC characterization at phenotypic and functional levels, with dynamics during the first year, in patients with well-defined IS and clinical phenotypes, *i.e.* stable NS and S recipients, vs. patients who experienced an acute rejection episode. Comparing stable patients vs. patients with an acute cellular rejection episode, we observed a significant increase in effector Th1, CD8 T cells and CD4 memory T cells early after Tx, together with very low frequencies of Treg already at baseline, particularly in NS recipients. Interestingly, there was an important early increase in plasma cells in NS and S patients that experienced acute cellular rejection.
Conclusion: Overall, we believe that our work could contribute to the identification of predictive signatures of graft outcome and provide a basis for a simplified panel of biomarkers for routine individualized follow-up.

MP019 TIME-DEPENDENT LYMPHOPENIA INCREASES RISK OF POOR KIDNEY TRANSPLANT OUTCOMES

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Background: The transplantation field requires specific biomarkers to assess the level of immunosuppression. We aimed to analyze the independent correlation between the number of circulating lymphocytes, simply and routinely monitored by complete blood cell counts during outpatient visits, and patient and graft survival to explore its role as a potential biomarker of immunosuppression.
Methods: 3,002 kidney or combined kidney-pancreas transplanted patients between January 2000 and December 2016, from two University Hospitals, alive with a functioning graft at 1 year post-transplantation, were enrolled in the study. Clinical and biological information were extracted from the DIVAT data

base. We investigated the etiological relationship between time-dependent lymphocyte count after 1 year of transplantation and patient and graft survivals, viral infection and cancer risks using a time-dependent multivariate Cox model.
Results: A patient with a lymphocyte count below 750/mm^3 at a given time within the follow-up had a higher risk of graft failure (HR 3.08, $p < 0.001$) and death (HR 2.06, $p < 0.001$) when compared to a similar patient with a normal lymphocyte count (more than 1500/mm^3) at the same time, independently from other classical confounding factors. Patients with less than 750/mm^3 lymphocytes were more at risk of viral infections than comparable patients with a normal lymphocyte count (HR 1.62, $p < 0.001$).
Conclusion: Deep lymphopenia over time is highly associated with a risk of graft failure, death and occurrence of viral infection. These data suggest that the longitudinal lymphocyte count could be used as a simple routine biomarker of long-term graft and patient outcome.

MP020 ASSESSMENT FOR THE USEFULNESS OF ALBI SCORE AS A PREDICTOR OF SHORT- AND LONG- TERM SURVIVAL AFTER LIVING DONOR LIVER TRANSPLANTATION

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Background: Albumin-Bilirubin (ALBI) grade, which was stratified by ALBI score, was recently suggested to have prognostic value in patients with hepatocellular carcinoma. This study aimed to evaluate the prognostic impact of ALBI grade and score among living donor liver transplantation (LDLT) recipients.
Methods/Materials: We retrospectively collected data on 81 recipients who underwent LDLT at Kobe University Hospital between June 2000 and October 2018. Receiver operating characteristic curve analysis was performed to determine the cutoff value of ALBI score. To estimate the potential prognostic factors, both univariate and multivariate analysis were performed. The Kaplan-Meier analysis was performed to analyze post-transplant survival based on ALBI grade and cutoff value of ALBI score.
Results: Median follow-up period after transplantation was 78 months. The cutoff value of ALBI score was defined as −1.28. Multivariate analysis indicated that high-ALBI score (≥−1.28) (hazard ratio, 3.36; 95% confidence interval, 1.51–8.05; $p = 0.002$) and ALBI grade III (hazard ratio, 3.26; 95% confidence interval, 1.43–8.39; $p = 0.004$) were independently associated with post-transplant survival. The 1-, 5-year survival rate in the patients of ALBI grade III vs. I /II were 73% vs. 90%, 60% vs. 81% respectively (Log-rank test, $p = 0.023$). The 1-, 5-year survival rate in the patients of high-ALBI score vs. low-ALBI score (<-1.28) were 68% vs. 92%, 55% vs. 83% respectively (Log-lank test, $p = 0.005$).
Conclusion: Pre-transplant ALBI grade and score were significantly associated with both short- and long-term survival of LDLT recipient. And the cut off value of ALBI score (−1.28) better reflected prognosis than ALBI grade.

MP022 PREDICTION OF HEPATIC WARM ISCHEMIA AND REPERFUSION INJURY BY LYSOPHOSPHOLIPIDS - COMPREHENSIVE ANALYSIS BY IMAGING MASS SPECTROMETRY (IMS)

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Background: Hepatic warm ischemia and reperfusion injury (IRI), mainly progressing in the hepatocytes, is involved in the outcome of DCD liver transplantation. The present study was designed to screen possible candidates of predictive marker of IRI by Imaging Mass Spectrometry (IMS).
Methods/Materials: Male rats (200–250 g) were subjected to 70% partial hepatic ischemia (30 or 90 min) followed by reperfusion. Animals were sacrificed at 0, 1, 6, 24 h, and 7 days after reperfusion ($n = 5$ each). One-week survival rate, Serum ALT, Suzuki's score, TUNEL staining, and Ki-67 staining were evaluated. Frozen tissue sections were applied to lipidomics analysis by IMS (m/z range 183–2000).
Results: All animals survived for 1 week. IRI showed significantly severer in 90-min ischemia and reperfusion (IR) group than that of 30-min IR group evidenced by the peak serum ALT value (1830 vs. 987 IU/l) and Suzuki's score (4.4 vs. 1.4). Hepatic apoptosis and regeneration were identical in both groups. Among over 200 of peaks detected in IMS, lysophosphatidylinositol (LPI) (18:0) (m/z 599.3) significantly increased at 30-min warm ischemia, and maintained high value at 90-min of ischemia, whereas it was returned to the basal value after reperfusion in both groups. Phosphatidylinositol (PI) (18:0, 20:4) (m/z 885.5) was significantly decreased at 90-min of ischemia. (Fig)
Conclusion: LPI (18:0) appeared to be a sensitive marker of ischemic change regardless of the IRI thereafter, whereas PI (18:0, 20:4) reflected a severity of ischemic change. These results implied that combined evaluation of LPI (18:0) and PI (18:0, 20:4), by IMS, may become a possible diagnostic tool to know the upcoming IRI before transplantation using one piece of frozen section.

MP023 DCD KIDNEYS WITH PROLONGED DGF DURATIONS PRESENT WIDESPREAD PROTEIN TRANSLATIONAL DEFICIENCIES AT TIME OF ORGAN RETRIEVAL

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Background: Delayed graft function (DGF) is a consequence of acute kidney injury post-transplant and will remain a significant challenge due to the increasing use of extended criteria donors. Although many risk factors are associated with DGF, there is currently no way of predicting DGF or its duration. The present study investigated the biological pathways in DCD kidneys at time of donation that related to DGF in the recipient and could discriminate between different DGF durations.
Materials and methods: $N = 30$ DCD kidney biopsies were selected from the QUOD (Quality in Organ Donation) biobank and stratified according to outcome and DGF duration (immediate function, IF $n = 10$, short DGF (1–6 days), SDGF $n = 10$; long DGF (7–22 days), LDGF $n = 10$). Samples were matched for donor and recipient age, gender, BMI (<30), f-WIT, no donor AKI and CIT (≤18 h). Proteins were extracted and analysed by LC-MS/MS proteomics. Pathway analysis was run by Ingenuity Pathway Analysis. Correlations between protein levels and DGF duration in days were studied by Pearson correlation.
Results: 3,999 proteins were identified and $n = 418$, $n = 181$ and $n = 374$ were significantly different ($p < 0.05$, unpaired *t*-test) in SDGF vs. IF, LDGF vs. IF and LDGF vs. SDGF respectively. SDGF kidneys presented upregulation of stress pathways geared towards cell survival (eIF2 and autophagy signalling) when compared to IF, while LDGF kidneys presented impaired response to stress (downregulation of Nrf2-mediated oxidative stress response). eIF2, mTOR signalling and glycolysis were all downregulated in LDGF vs. SDGF. Histone H3.3, a protein that accumulates at sites of DNA injury, was increased in LDGF and its levels correlated with DGF duration (Pearson r 0.7224).
Conclusion: DCD kidneys with short duration DGF present acute cellular injury at time of donation, alongside upregulation of repair pathways (e.g. chaperone-mediated autophagy, eIF2-dependent protein translation). In contrast, DCD kidneys.

MP024 SERUM NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN IS A STRONG BIOMARKER OF DELAYED GRAFT FUNCTION WITH POTENTIAL PROGNOSTIC UTILITY FOR LONG-TERM GRAFT FUNCTION IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction and aims: The early prediction of delayed graft function (DGF) can facilitate timely intervention and prevent complications. We aimed to understand the predictive value of several biomarkers in predicting DGF and long-term graft function in kidney transplant recipients (KTx).
Methods: In a single-center, prospective cohort study of KTx recipients ($n = 40$), 7 biomarkers were measured serially between 8–12 h and 7 days after KTx. The performance of traditional serum creatinine (SCr) for predicting DGF (dialysis within 7 days of KTx) was compared with several "new" biomarkers: urinary and serum neutrophil gelatinase-associated lipocalin (uNGAL and sNGAL), and serum cystatin C (CysC), leptin, malondialdehyde (M.DA), and liver-type fatty acid-binding protein (L-FABP). Their performance was assessed singly or in combination, using logistic regression and receiver operating characteristic curves and areas under the curve (AUC-ROC). Linear multivariable regression was used to evaluate the ability of biomarkers to predict long-term graft function (one and 5-year graft function evaluated by SCr).
Results: Eighteen recipients developed DGF. On day-1, the AUC for SCr to predict DGF was 0.73, 0.76 for leptin, 0.81 for L-FABP, 0.88 for uNGAL, 0.90 for MDA, 0.91 for CysC, and 0.95 for sNGAL. Adding new biomarkers to SCr enhanced the performance of DGF prediction, and the best combination was achieved with SCr, MDA, and sNGAL (AUC = 0.97, sensitivity = 100%; specificity = 86%). However, this combined biomarker was not significantly superior to single sNGAL. Multivariable analyses revealed that sNGAL levels

measured shortly after KTx (8–12 h) were strongly associated with long-term graft function, after adjusting for the variables usually associated with long-term graft failure.
Conclusions: Serum NGAL measured few hours after KTx is an accurate predictor of DGF with potential prognostic utility for long-term graft function.

MP03 – CANCER

MP025 MANAGEMENT OF HCC-RECURRENCE AFTER LIVER TRANSPLANTATION: LESSONS FROM AGGRESSIVE AND TENACIOUS SURGICAL APPROACH

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Introduction: HCC recurrence (HCC-rec) after liver transplantation (LT) could lead to dismal prognosis due to rapid tumor progression. Even after establishments of reliable transplant criteria for HCC, some cases would incidentally recur after transplantation. Thus, management of HCC-rec after LT remains a significant problem in the clinical practice.
Aim and methods: To analyze clinical features of HCC-rec after LT and efficacy of various treatment modalities for them, 83 living donor liver transplantation recipients with HCC between 1996 and 2017 were retrospectively analyzed.
Results: Nine cases (10.8%) presented with HCC-rec. Median follow-up period was 104 months and cumulative recurrence rates were 2.5% at 1 year, 9.2% at 2 years, and 12.2% at 5 years after LT, respectively. These recurrent cases consisted of 5 cases of over-Milan criteria and 4 cases of within-Milan criteria which had mixed component of cholangiocarcinoma and /or microvascular invasion. HCC recurred at liver graft ($n = 2$, 22%) and extra-hepatic sites ($n = 7$, 78%) including bone, adrenal grand, lung, and IVC tumor thrombus. These HCC-rec were treated by surgical resection ($n = 5$) and non-surgical therapy ($n = 4$). Surgery groups showed single or oligo-recurrence, while non-surgery group showed multifocal recurrence. Surgery group comprised graft liver resection, lung or adrenal metastatectomy, and IVC resection. Subsequently, they were repeated multi-sites resection and multimodal therapies such as bone-RFA/TACE for further recurrence. The overall survival rates at 1/2/10 years after recurrence in surgery and non-surgery groups were 100/60/40% and 25/0/0%, respectively ($p = 0.003$). Consequently, a couple of HCC-rec cases conquered the progression of disease and led to long HCC-free survival. One survivor for 192 months underwent graft liver resection and the other survivor for 130 months was treated sequentially by adrenal grand resection, 8 times of RFA, 11 times of TACE, and graft liver resection.

MP026 METFORMIN THERPY AND RISK OF CANCER IN PATIENTS AFTER HEART TRANSPLANTATION

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Beckground: Diabetes mellitus (DM) and malignancy are recognized among the most common complications significantly increasing morbidity and mortality in patients after heart transplantation (HTx).

A number of clinical trials have shown a higher risk for different types of tumors in diabetics. This risk is further potentiated by immunosuppressive therapy in transplant patients. Biguanid metformin has been shown to exhibit anti- tumor activity. We therefore tried to find outwhether this systemic effect is valid also for heart transplant patients.
Methods: We retrospectively analyzed a group of 428 patients, who underwent HTx in our center between 1993 and 2017, who survived the first 6 months after transplantation. The analysis was divided into two parts, in the first part was the primary outcome any malignancy during the 15-year follow-up period, in the second part was the primary outcome the patient's death.
Results: Out of the 428 patients enrolled into the study, 225 (53%) had diabetes and 27 (12%) were treated with metformin. 15 years survival in metformin treated patients without malignancy was 93%, in the remainder fo the DM patients was 83%, survival in non-DM patients was 87%. According to Cox regression analysis, diabetics not treated with metformin had 1.6 timeshigher chance of malignancy than those on metformin ($p = 0.498$). Non-diabetic patients had a 1.2 times higher chance of getting malignancy ($p = 0.785$).

15 years survival in metformin treated patients was 66%, in other DM patients 42%, in non-DM patients 56%. Multivariate analysis showed that for DM patients, metformin therapy was independently associated with a significant better survival (hazard ratio = 2.1; $p = 0.049$).
Conclusions: Our analysis has shown that treatment with metformin may be beneficial even for transplant patients in case of better survival, however, we did not show statistically significantly lower incidence of malignancies in metformin-treated patients.

MP027 TREATMENT OF RENAL GRAFT RECIPIENTS WITH TUMORS OF DIFFERENT LOCALIZATION (A SINGLE-CENTER EXPERIENCE)

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Background: In cases of neoplasms in renal graft recipients effective surgical treatment of cancer, transfer to the optimal mode of immunosuppression using the mammalian target of rapamycin inhibitors (mTORIs) are considerable.
Methods/Materials: We followed 271 patients after kidney transplantation (KT) for 15 years, 2003–2018. 252 (93%) patients were without any malignances. The malignances of different localizations were found in 19 patients (7%): 6 (31.6%) females, 13 (68.4%) males. The tumor development in 47.4% of transplant recipients was less than 4.5 years after KT (77.8% of them was up to 60 years), in 52.6% – tumor development >4.5 years after KT (80% of them – up to 60 years). 13 patients received cyclosporine (CsA) + mycophenolic acide (MPA) + steroids, 5 patients – tacrolimus (Tac) + MPA+steroids, 1 patient–MPA+steroids therapy. Some patients underwent radical surgical treatment. 13 patients had the dosage of immunosuppressive therapy adjusted: Tac+EVE+steroids – 4 patients, CsA+EVE+steroids – 9 patients.
Results: Of the 12 kidney transplant recipients who received immunosuppression calcineurin inhibitors (CsA/Tac) + everolimus+steroids there were 8 survivals and 4 deaths. While in the group of the transplant recipients without everolimus all 5 patients died. Patients after surgical treatment, specific antitumor therapy in combination with modification of immunosuppression were alive.
Conclusion: The treatment of cancer determines life expectancy and is in the foreground. Radical, if possible, surgical treatment tactics, specific antitumor therapy in combination with the standard treatment, as well as transfer to the optimal mode of immunosuppression using mTORIs will increase the survival of renal graft recipients. We may also recommend to consider the risk factors for the development of tumors in patients after KT and to change in prevention the immunosuppression.

MP028 OUTCOMES OF LIVING DONOR LIVER TRANSPLANTATION, HEPATIC RESECTION AND LOCAL THERAPY FOR HCC OF LESS THAN THREE NODULES MEASURING LESS THAN 3 CM

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Introduction: The treatment for small hepatocellular carcinoma (HCC) was selected by the liver function test and tumor location and spread. The aim of this study was to compare the outcome between local therapy, hepatic resection (HR) and living donor liver transplantation (LDLT) for HCC within 3 nodules measuring less than 3 cm.
Patients and methods: We analyzed the outcome of overall survival, recurrence rate, cancer related survival rate in patients with HCC within 3 cm and 3 nodules in comparison with local treatment which contains radio frequency ablation (RFA), percutaneous ethanol injection (PEI) and transarterial chemoembolization (TACE), and surgical treatment of HR and LDLT.
Results: One hundred fifty patients with local therapy (72 RFA, PEI 23 and 67 TACE), 84 LR and 46 LDLT were enrolled in this study. The background of these patients was HCV/HBV/nonB nonC as follows 73%/14%/19% in local treatment, 42/30/28% in HR and 57%/30%/7% in LDLT. Child-Pugh A/B/C classification of this study was described as follows 67%/29%/4% in local therapy, 90%/10%/0% in HR and 11%/39%/50% in LDLT. The 1-, 3-, 5- years survival rate were 96.3, 85.9, 70.1% in local therapy, 95.3%, 83.0%, 71.8% in HR and 80.9%, 73.3% and 67.7% in LDLT respectively (not significant). The 1-, 3-, 5-, 7 years recurrence rate were 24.9%/61.9%/74.4%/76.7% in local therapy, 20.6%/43.5%/60.6%/65.7% in HR and 0%/2.7%/2.7%/2.7% in LDLT ($p < 0.001$). The 1-, 3-, 5-, 7 years cancer related survival rate were 96.3/ 87.5/ 71.4/ 63.9% in local therapy, 97.6%/89.9%/80.7%/65.2% in HR and 100%/ 97.2%/97%/2%/97.2% in LDLT ($p = 0.004$). The prognostic factor for survival was Child Pugh Grade B in local therapy and multiple tumors, elevated AST and PIVKAII in HR. The prognostic factor for recurrence was multiple tumors in local therapy and HR.
Conclusion: The cancer-related survival and recurrence rates of liver transplantation were superior to those of local treatment and hepatic resection. Among Child.

MP029 ACUTE LIVER FAILURE SECONDARY TO ACUTE LYMPHATIC LEUKEMIA: A RARE INDICATION TO LIVER TRANSPLANTATION IN ADOLESCENTS

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Background: Acute lymphatic leukemia (ALL) is a rare cause of acute liver failure (ALF) in adolescence. Underlying cause of ALF is a massive infiltration of leukemic cells, causing an acute viral infection and hepatocyte-necrosis. The diagnosis poses a dilemma for physicians involved, as liver transplantation (LT) remains the best therapy for ALF, but is regarded as contraindicated in ALL due to immunosuppressive therapy (IS). In the literature, there are only 11 cases of ALL presenting as ALF in children under 16 years of age and only 2 underwent succesfull LT.

Aim of this study is to report the 3rd case worldwide of LT in ALL in a pediatric patient and to share the gained experiences regarding decision making process and IS strategy under chemotherapy (CTx).

Methods: Case report.

Results: A 16-year old boy was referred to our pediatric department due to ALF of unknown origin. He was listed in HU status and was transplanted 1 day later with an extended right split-allograft. IS, consisting of basiliximab, tac and prednisolone, was started right away. Due to persistent leukopenia, a bone marrow biopsy was performed 8 days post LT and an ALL was diagnosed. CTx was started with CPM, he also received 4 cycles MTX. 7 months after transplantation, a therapy with Blinatumomab was started. He already experienced 1 cholangitis and severe sepsis with SIRS as well as recurrent hepatitis. Because of recurring temporary renal failure, IS was switched from mono tac to low-dose tac with MMF. 9 months after LT, the patient is still alive. Last liver biopsy was performed 4 months ago and revealed a hepatitis of toxic origin, a graft rejection was excluded.

Conclusion: ALL should be envisaged as cause of ALF of unknown origin. This 3rd case of LT in ALF secondary to ALL once more demonstrates that LT can be successful and should be considered in otherwise unmanageable ALF. To determine are the roles of living donor LT or the possibility of LT with combined bone marrow transplantation.

MP030 DOES RECIPIENT BODY MASS INDEX IMPACT HEPATO-CELLULAR CARCINOMA (HCC) RECURRENCE AFTER LIVER TRANSPLANTATION?

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Background: Obesity is associated with poor health and oncologic outcomes in the general population but the evidence surrounding the effect of body mass index (BMI) on post liver transplantation (LT) survival is contradictory. HCC recurrence is still the main complication affecting long-term outcome. The aim of this study is to assess the impact of the recipient BMI on patient survival and the recurrence of HCC after LT.

Patients and methods: Consecutive patients who underwent LT for HCC between 2000 and 2017 at our centre were recruited. Characteristics of patients, recurrence and outcome were collected retrospectively. Patients were divided according to their BMI at time of the transplantation into 3 groups: group 1: BMI ≤ 25 ($n = 166$), group 2: BMI 25–35 ($n = 239$) and group 3: BMI ≥ 35 ($n = 22$).

Results: 433 patients (mean age: 57.8 $\pm$ 8.5 years; 83.8% were males) underwent LT for HCC. Mean follow-up was 74.6 $\pm$ 58.6 months. Among patients characteristics, MELD score was comparable among the 3 groups, while group 2 and 3 patients had significantly more diabetes compared to group 1 ($p = 0.008$). Tumor characteristics were comparable among the three groups with no significant difference in number, size and site of nodules and AFP levels at time of LT. Also, the pathological tumour characteristics of the explant liver showed no significant difference among the 3 groups in terms of MVI, differentiation, size and number of the nodules.The 5 and 10-year patient survival of group 1 were respectively 74.0% and 58.6%, of group 2 were 75.1% and 68.7% and of group 3 were similar 77.6% (log rank $p = 0.852$). The overall 5 and 10-year recurrence free survival were respectively 86.9% and 75.1% in group 1, in group 2 they were 89.4% and 82.4% and were similar 74.7% in group 3 (log rank $p = 0.742$).

Conclusion: The fndings indicate that recipient BMI has no direct impact on the incidence of HCC recurrence after LT whatever the status of the patients and their tumor characteristic at time of transplant.

MP031 TRANSMISSION OF SYNOVIAL SARCOMA BY A SINGLE MULTIORGAN DONOR TO 3 TRANSPLANT RECIPIENTS

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The increasing use of marginal donors has carried a risk of donor-derived tumor (DDT). Here, we report the first case of DDT transmission of synovial sarcoma in China.

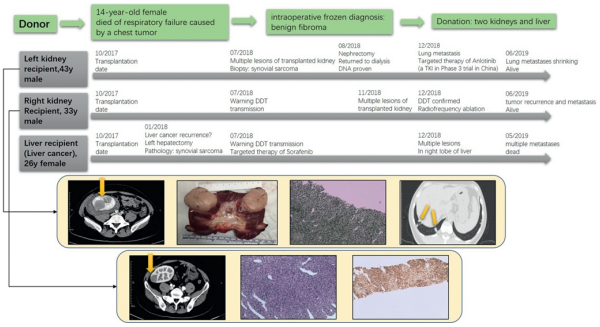
The 14-year-old female donor in this case was died of respiratory failure caused by a chest tumor, which was diagnosed as a benign fibroma during the organ procurement by the frozen pathology. However, the three recipients developed donor-derived synovial sarcoma (DDS) were proven by DNA microsatellite and the pathological diagnosis.

The first recipient confirmed the DDS was a male received the left kidney. 9 months after transplantation, a CT scan of abdomen showed multiple lesions in the transplanted kidney, and kidney biopsy revealed the diagnosis of synovial sarcoma. Then a transplant nephrectomy was performed, and the DDT was proven by DNA microsatellite. After nephrectomy, the hemodialysis was resumed and immunosuppression was stopped. 4 months later, a CT scan showed diffuse pulmonary metastases. After consultation, we recommended targeted therapy of Anlotinib.

After the warning of DDT transmission, regular tumor screening was performed for the right kidney recipient. Unfortunately, he was developed a single lesion in the transplanted kidney later. After consultation, it was decided to retain the transplanted kidney to maintain the quality of life and perform radiofrequency ablation to the tumor.

DDS was also found in liver recipient, which was considered to be a tumor recurrence and the left lobe of the liver was resected. But she did not receive Sorafenib therapy until the left kidney recipient was confirmed as DDT. 5 months later, a new lesion appeared in her right lobe of the transplanted liver.

This case describes the transmission of DDS from donor to 3 recipients within 1 year after donation. There was a misdiagnosis of tumors in the



donation process, which directly led to the occurrence of DDT. Precise diagnosis of potential malignancies before organ transplantation is essential.

MP032 COMBINED LIVER AND PANCREATIC ISLET TRANSPLANTATION FOR CYSTIC MALFORMATION OF THE BILIARY TREE: CASE REPORT

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IKEM

Background: Cystic malformation of the bile ducts comprises various pathological and clinical entities (modified Todani classification I–V). There is between a 9% and 25% chance that a malignancy develops into cholangio-carcinoma. Interventional therapy, hepatic resection, and liver transplantation are accepted treatments.

Clinical case: A 34 year-old diabetic woman (type 2 diabetes) was diagnosed with a cystic malformation and papillomatosis of the intra and extrahepatic bile duct (Todani IVa), including the intrapancreatic portion. A biopsy indicated high grade dysplasia. After 13 months on a waiting list, the patient underwent an en-bloc hepatectomy and total pancreatectomy (no splenectomy), a liver transplant with an aorto-hepatic bypass, and a hepatico-jejunostomy and pancreatic islet auto-transplantation via the portal vein. Surprisingly, the explant histology revealed perihilar invasive adenocarcinoma pT1pN0 (0/11) pM0, G2, stage I, with no angioinvasion. The post-operative course became complicated due to surgical site infection and sepsis, and a repeated laparotomy and debridement were required (Clavien IIIb). The patient was discharged 62 days after surgery. The patient has been followed up for 4 months with no tumor recurrence. She is in a very good health and her liver test results are normal. Immunosuppression consists of tacrolimus, prednisone and mycophenolate mofetil. The C-peptide and HbA1c levels were 0.488 and 57 mmol/l respectively. She is currently still on insulin and has experienced no hypoglycemia episodes.

Conclusion: Cystic malformation of the extra and intrahepatic bile duct is precancerosis. If we are not able to resect the liver or the biliary tree, a liver transplant combined with a total pancreatectomy and islet auto-transplantation is a feasible approach. In our case, the extended waiting time enabled progression to cholangiocarcinoma. A short-term follow-up is an insufficient means of predicting long-term oncological results in this patient.

MP033 IMPROVED DEATH-CENSORED GRAFT SURVIVAL IN PATIENTS WITH PRE-TRANSPLANT CANCER – A COLLABORATIVE TRANSPLANT STUDY REPORT

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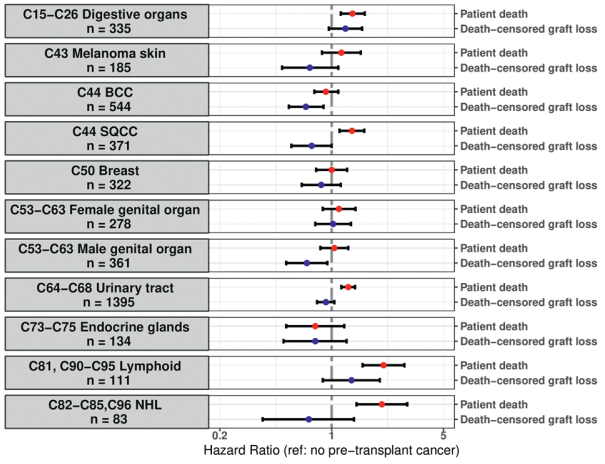
Background: A less effective immune control by the patient's T cells was claimed as a possible cause of cancer. We investigated whether kidney transplant recipients with pre-transplant (pre-tx) cancer show an improved graft survival due to a possibly suppressed immune state.
Methods: The influence of pre-tx cancer on 10-year outcome was analyzed in 4,547 patients with and 276,760 patients without pre-tx cancer transplanted between 1984 and 2016. Hazard ratios (HRs) were calculated in multivariable analyses.
Results: A significantly lower risk of death-censored graft loss was found in patients with pre-tx cancer at the cost of a significantly increased risk of death (HR = 0.86 and 1.18, $p < 0.001$ both). Figure 1 illustrates HRs for death-censored graft loss and patient death for different types of pre-tx cancer. With the exception of digestive and female genital organ and lymphoid cancer, all other cancer types had a lower risk of death-censored graft loss, reaching, however, significance only in the case of basal cell (BCC, HR = 0.69, $p = 0.005$) and squamous cell carcinoma of the skin (SQCC) (HR = 0.75, $p = 0.050$) and male genital cancer (HR = 0.70, $p = 0.019$). The risk of patient death was significantly increased in patients with pre-tx SQCC, digestive organ, urinary tract and lymphoid cancer and non-Hodgkin's lymphoma (NHL). In BCC patients, the odds ratios for rejection treatment during years 2 and 3 were with 0.89 and 0.58, respectively, also decreased, without reaching statistical significance. Importantly, in BCC patients, the risk of death was not increased and therefore overall graft loss risk was also decreased (HR = 0.84, $p = 0.031$).
Conclusion: Patients with a pre-tx BCC and to some extent also breast, endocrine glands and male genital organ cancer, which do not show significantly increased risk of death, appear to benefit from a lower risk of death-censored graft loss.

Figure 1. The risk for 10-year patient death and death-censored graft loss in patients with pre-tx cancer.



MP034 THE SURVIVAL BENEFIT OF COMBINING NEOADJUVANT THERAPY WITH LIVER TRANSPLANTATION FOR PATIENTS WITH UNRESECTABLE PERIHILAR CHOLANGIOCARCINOMA – A SYSTEMATIC REVIEW AND SURVIVAL-ANALYSIS

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Background: Liver transplantation for unresectable perihilar cholangiocarcinoma (PHC) remains controversial due to poor long-term survival. Several studies, however, have shown that strict selection and neoadjuvant therapy can improve patient survival after liver transplantation. The objective of this study is to determine the overall survival (OS) benefit of treating patients with PHC with liver transplantation combined with neoadjuvant therapy (nLT) compared to patients treated with liver transplantation without neoadjuvant therapy (LT).
Methods: Embase, Medline Ovid, Web of Science, Cochrane Central and Google Scholar databases were searched.
Results: The mean 1-, 3- and 5-year OS of the LT-group vs. the nLT-group was 71.9% vs. 87.9%, 47.3% vs. 72.9% and 31.5% vs. 65.4%, respectively ($p < 0.001$). Sub-analysis of the patients without lymph node involvement (N0) within the LT- and nLT-group showed a 1-, 3- and 5-year mean OS difference of 3.0%, 3.1%, and 6.7%, respectively, in favor of nLT ($p < 0.05$).
Conclusion: In conclusion, the results of this systematic review demonstrate that LT combined with neoadjuvant therapy has better OS rates than LT without neoadjuvant therapy for patients with unresectable PHC. Our sub-analysis shows that negative lymph node status explains most of the survival difference between nLT and LT.

MP035 DE NOVO MALIGNANCIES AFTER KIDNEY TRANSPLANTATION: A SINGLE CENTRE EXPERIENCE

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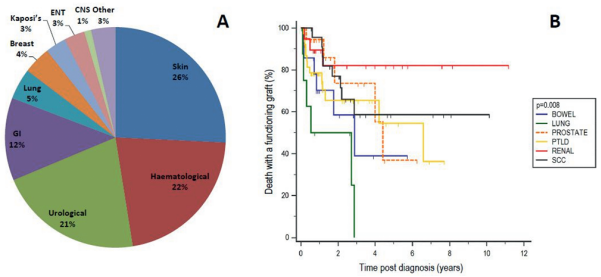
Background: The risk of developing cancer is two- to four-fold higher in kidney transplant (KTX) recipients compared to the general population. In this retrospective study we aimed to the identification of the most common de novo cancers in our transplant programme and the potential risk factors associated with their development.
Methods: We retrospectively analysed a cohort of KTX patients between 2005 and 2017. We excluded recipients of an ABO-i or HLA-i transplant, secondary organ transplants, immediate graft failures. Only histologically-proven de novo malignancies were considered for the analysis, whereas recurrent malignancies or pre-malignancy states were not.
Results: 1,667 patients were included. Of these, 198 (11.9%) were diagnosed with a de novo malignancy. The cancer incidence was 2.3 episode/100 patients/year. Multivariate analysis revealed that increasing age and re-grafting were risk factors for the development of cancer, whereas female gender, IL2-receptor antagonist induction and indoasian ethnicity were protective factors. Figure 1A shows the cancer prevalence according to body site. The 6 most common cancer types diagnosed were post-transplant lymphoproliferative disorder (19%), skin squamous-cell carcinoma (12%), renal native (10%), prostate (10%), colon (7%) and lung (4.5%). The group with cancer showed a reduced graft survival ($p = 0.008$) and an increased rate of death with a functioning graft ($p < 0.001$) compared to the group without cancer. No difference was seen in the graft survival after stratification for cancer type. Renal and lung cancer were associated with the lower and the higher rate of death with functioning graft respectively (Figure 1B).

Conclusions: Our results help us to identify patients at risk of developing malignancy. Utilisation of screening protocols to enable an earlier diagnosis may improve outcomes and should be explored in patients at risk.



CARDIOVASCULAR CHALLENGES IN RENAL TRANSPLANTATION

MP037 EXPLORING DIAGNOSTIC VALUE OF MRA FOR ARTERY COMPLICATION AFTER RENAL TRANSPLANTATION

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Backgroud: The incidence rate of vascular complication had increased since Jan. 1, 2015 in China, from when it came into the DCD (donation after citizen death) era. DSA (digital subtraction angiography) and exploratory surgery are golden diagnostic standards. However, doctors need a more simple and noninvasive imageological technique with less influence on kidney function to

predict the necessity of further examination. MRA (magnetic resonance angiography) can image blood vessels without contrast agent based on flow effects. This study aimed to explore the diagnostic value of MRA in artery complication after renal transplantation.
Methods: All kidney transplantation cases from Organ transplantation Department in Shandong University Qilu Hospital from Jan.1, 2015 to Mar.30 2018 were reviewed. Cases of infection, rejection or recurrence of primary nephropathy were excluded. Cases, in which artery complications were highly suspected and exploratory surgery or DSA were performed were included. The diagnostic results of MRA and golden standards were compared to analyze the diagnostic value of MRA.
Results: 14 cases were included. 13 patients were diagnosed with renal transplant arterial complications with the golden standards, and 1 was innocent. MRA revealed 7 arteriostenosis, 2 artery dissection, 1 arterial aneurysm, and 4 renal allograft with normal vessels. Therefore, the sensitivity of MRA was 76.9%, the specificity was 100%, the rate of missed diagnosis was 23.1%, the misdiagnosis rate was 0, the positive predictive value was 100%, and the negative predictive value was 25%.
Conclusion: As a simple, noinvasive angiography technique without enhanced agent, MRA plays an important role in diagnosis of artery complication after kidney transplantation. It was necessary to take exploratory surgery or DSA as soon as possible when MRA result was positive to decrease the risk of allograft loss and receptor death.

MP038 AMBULATORY BLOOD PRESSURE MONITORING PRIOR TO KIDNEY DONATION

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la rabta hospital

Introduction: In kidney transplantation, the *requirements* for organ *donation* has been extended to older donors or those with a history of cardiovascular disease such as hypertension that previously have been considered as contraindications.This study aims to determine the interest of ambulatory blood pressure monitoring ABPMprior to kidney donation.
Materiel/Methods: Our report is about a descriptive retrospective study of 6 living kidney donors who underwent casual clinic and ambulatory blood pressure measurement (ABPM).
Results: In our center, we report 73 living kidney donors who all underwent conventional office blood pressure measurements prior to kidney donation. In 6 donors ABPM was performed for evaluation blood pressure.

Our report is about these 6 kidney donors. Age ranged between 48 and 56 years old. The mean body mass index was 26.5 kg/m^2. The clinic systolic blood pressure (SBP) average was 138.5 mmHg [114–150]. For 4 cases with clinic BP the ABPM was used to diagnose high blood pressure. The diagnosis of hypertension was rejected in 2 patient aged < 50 y.o with a clinic BP at 140/90 mmHg and an ABPM daytime BP < 135/85 mmHg and also In 2 patient aged >50 y.o with normal BP in clinic BP measurement .The ABPM was used to check the blood pressure balance in 2 patients whom were treated by calcium channel blocker associated to an angiotensin II receptor antagonists in one case and confirmed a well-controlled hypertension. They had nephrectomy for successful kidney transplantation in the recipient and simple operative follow-up for the donor.
Conclusion: ABPM revealed white coat effect hypertension and confirm well-controlled hypertension. It should be more frequently used before and after kidney donation. T he Amsterdam Forum recommend the use of an ABPM considers that, if donors whose blood pressure exceeds 140/90 mmHg should be generally challenged, some candidates over 50 y.o whose hypertension is easily controlled may to be considered to kidney donation.

MP040 COST EFFECTIVENESS ANALYSIS OF DOBUTAMINE STRESS ECHOCARDIOGRAM OF ASYMPTOMATIC HIGH-RISK PATIENTS UNDERGOING TO KIDNEY TRANSPLANTATION

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Introduction: Coronary artery disease (CAD) is the leading cause of death in Kidney transplant recipients. We performed an economic study with Decision Tree to evaluate cost effectiveness of stress echocardiography, compared to coronary angiography, in the cardiac assessment of asymptomatic high cardiovascular risk renal transplant patients in a single center.
Material and methods: From August 2012 to December 2017, 726 patients were assed for their cardiovascular risk. 403 patients were submitted to kidney transplantation and 51 patients was assed as high-risk patients. Group 1: "Invasive Protocol" and Group 2: "Non-Invasive Protocol" were compared. Clinical outcomes were major cardiovascular events (cardiovascular death, acute myocardial infarction and stroke) and death from other causes.
Results: There were 8 major cardiovascular events (15%), with 6 events in Group 1 patients (20% vs. 9.5%, $p = 0.311$). Stratifying this outcome there were: cardiac death (13% vs. 0%, $p = 0.08$), nonfatal myocardial infarction (6.6% vs. 4.8%, $p = 0.796$) and stroke % vs. 4.8%, $p = 0.227$). Deaths from other causes were prevalent (33.3% vs. 38.1%, $p = 0.726$). In the economic analysis, the cost effectiveness plan demonstrated dominance relationship of the dobutamine stress echocardiogram on coronary angiography.
Conclusion: We concluded that the dobutamine stress echocardiogram is cost effective in relation to coronary angiography, in the stratification of cardiovascular risk before kidney transplantation, in asymptomatic high-risk patients.

MP041 PRE-OPERATIVE MYOCARDIAL PERFUSION SCANS AND POST KIDNEY TRANSPLANT COMPLICATIONS: A SINGLE-CENTRE ANALYSIS

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Introduction: Guidelines for cardiac imaging for asymptomatic kidney transplant candidates differ. At our centre, myocardial perfusion scans (MPS) are performed every five years for all asymptomatic candidates who are: 50 and over, diabetic, or symptomatic of ischaemic heart disease (and repeated every five years or more frequently per cardiology advice) but its utility has not been investigated. The aim of this study was to establish if routine pre-operative MPS are associated with post-transplant complications in asymptomatic high-risk candidates.
Methods: Electronic patient records for all transplant recipients from 2007 to 2018 including the latest pre-operative MPS were linked with national registry/administration datasets for clinical outcomes.
Results: We analysed 396 recipients comprising; median age 56 years (IQR 50–62), male 59.2%, non-whites 39.5%, median BMI 28.0 (IQR 24.2–31.7), diabetic 14.9% and previous myocardial infarct 4.4%. ECG changes and symptoms during the MPS occurred in 8.7% and 7.0% of recipients pre-operatively, respectively (both occurred in 0.8% of recipients only). Recipients with versus without previous myocardial infarct had increased symptoms during the MPS (18.8% vs. 6.5% respectively, $p = 0.091$). Recipients aged 50 + were more likely than younger recipients to have higher than median DUKE pre-test probability score (61.5% vs. 30.9% respectively, $p < 0.001$). No factor was associated with risk for re-hospitalisation within 90-days post-surgery, any post-transplant hospitalisation with a cardiac event, death or graft loss.
Discussion: We demonstrate incidental abnormalities detected on pre-operative MPS performed in asymptomatic high-risk transplant candidates are not linked to outcomes. Limitations include a possible underpowered sample and confounding factors. Further work is necessary to investigate the value of routine pre-operative non-invasive cardiac imaging in transplant recipients and whether more targeted assessment is warranted.

MP042 ENDOTHELIAL DYSFUNCTION MEASURED BY VASCULAR REACTIVITY INDEX IS ASSOCIATED WITH LOW GAIT SPEED IN KIDNEY TRANSPLANT PATIENTS

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Tzu Chi General Hospital

Introduction: Walking speed test is a usefulness tool for cardiovascular risk stratification in older adults. The present study evaluated the relationship between walking speed test and endothelial function in renal transplant recipients.
Methods: Fasting blood samples were collected from 94 renal transplant recipients. Gait speed was measured by walking 6 meters at the usual speed. Gait speed < 1 m/s was defined as low gait speed group according to the European Working Group on Sarcopenia in Older People (EWGSOP) criteria. The endothelial function and vascular reactivity index (VRI) were measured using digital thermal monitoring test.
Results: 35 renal transplant recipients (37.2%) had low gait speed, and they included a lower percentage of use of mycophenolate mofetil ($p = 0.003$), higher serum BUN ($p = 0.013$), creatinine ($p = 0.044$), while lower eGFR ($p = 0.020$) and VRI values ($p < 0.001$) compared with renal transplant recipients with normal gait speed. After multivariable logistic regression analysis, VRI values (Odds ratio (OR): 0.282, 95% confidence interval (CI): 0.133–0.598, $p = 0.001$), and mycophenolate mofetil used (OR: 0.209, 95% CI: 0.068–0.647, $p = 0.007$) were independently associated with low gait speed in renal transplant patients. The area under the receiver-operating characteristic (ROC) curve indicates the diagnostic power of VRI values at predicting low gait speed of renal transplant recipients was 0.692 (95% CI: 0.588–0.783, $p = 0.0009$). Multivariable forward stepwise linear regression analysis also showed that VRI values ($\beta = 0.324$, adjusted R^2 change: 0.123, $p < 0.001$) was positively associated with gait speed values in renal transplant recipients.

Conclusion: In this study, VRI value is found to be positively correlated with gait speed values and is identified as endothelial dysfunction is positively associated with low gait speed in renal transplant patients.

MP043 EVEROLIMUS AND TACROLIMUS COMBINATION FOR REGRESSION OF LEFT VENTRICULAR HYPERTROPHY IN STABLE RENAL TRANSPLANTS. PRELIMINARY RESULTS FROM ENHVIE: AN MRI HEART BASED STUDY

Edoardo Melilli[1], Giuseppe Cestone[2], Eduardo Claver[3], Nuria Montero[1], Maria Meneghini[3], Anna Manonelles[1], Oriol Bestard[3], JosepMaria Cruzado[1]
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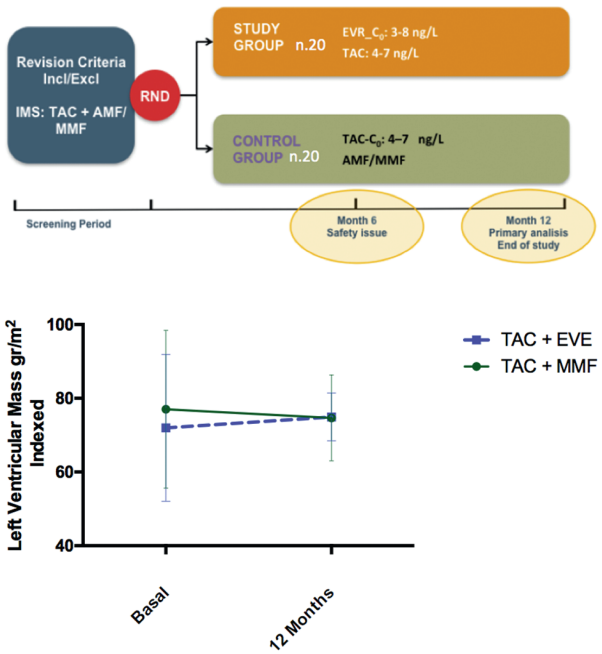
Introduction and aims: Left ventricular mass hypertrophy (LVH) is a common echocardiographic finding in patients in dialysis or waiting list. Although renal transplant, per se, ameliorates LVH, data on the effect of iMtor are conflicting. ENHVIE study is a small RCT evaluating the impact of a combination CNI + iMtor in stable kidney transplant with LVH evaluated with Heart MRI. Beyond of Left ventricular mass parameters, the study will analyse the globlal longitudinal strain. (data under analysis)
Methods: Trial design is depicted in figure 1. Inclusion criteria were: LVH confirmed with HeartMRI, time from KT superior to 1 year, No use of ACE-I or ARBS, GFR-CKD EPI >30 ml/min. All patients at study entry received immunosuppression with tacrolimus (TAC) plus micophenolate mophetil (MMF) and were randomized to follow with TAC + MMF or shift to TAC + EVR. Heart MRI will be performed at study entry and at 12 months.

Results: From the study start, we screened 32 patients with Heart MRI. Among them, just 16 patients had LVH confirmed and were enrolled in the study. At moment 8 patients completed the study, 4 in each arm. Figure 2 showed LVHi evolution for the two arms. No significant difference was observed (ΔLVH mass – 5.05 ± 9.2 g/m^2 vs. 0.3 ± 6.8 g/m^2 for *p*. 0.39). An analysis of global longitudinal strain is on-going.

Conclusions: This very preliminary analysis does not show any significant effect of MMF to iMtor conversion on LVH evaluated with Heart MRI. The analysis of GLS will show whether iMtor could be impact on this marker of cardiac dysfunction.



MP045 LOWER GLOMERULAR FILTRATION RATE ESTIMATED WITH NANKIVELL FORMULA AT 1 YEAR IN KIDNEY TANSPLANT RECIPIENT AS A PREDICTOR OF LEFT VENTRICULAR DIASTOLIC DYSFUNCTION

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Introduction: Chronic kidney disease is becoming a major health problem affecting the quality of life of millions of people. Kidney transplantation is the optimal treatment for patients with end stage renal disease.Successful transplantation may reduce cardiovascular risk in these patients, but still CV disease remains the leading cause of death with a functioning graft.
Aim: Our study investigated the association of left ventricular (LV) function changes with impaired kidney graft function expressed through a lower glomerular filtration rate (GFR) at 1-year.
Methods: A total number of 55 adult patients with LDKT were included in the study. The inclusion criteria were: first transplantation, use of living donor related or unrelated. Clinical and biochemical variables, s.creatinine, BUN, 24/h proteinuria were analyzed at 3, 6, 12 months. The GFR was estimated with Nankivell equation. All patients underwent a transthoracic echocardiographic investigation at 48 months. LV function was assessed using 2-dimensional echocardiography.
Results: Out of the total of 55 transplant patients, 50 (90.91%) were on HD prior to transplantation, and 5 patients have pre-emptive transplantation. The eGFR with Nankivell equation at 12 months was 67.81 ± 16.7 ml/min.

20% of patients have subclinical form of systolic dysfunction defined with reduced Global Longitudinal Strain (GLS < 19%) and 10.9% have LV diastolic dysfunction with preserved ejection fraction (E/e ' 8.55 ± 3.2 mean ±SD; 4.5–18.3 min-max)

Lower GFR at 1-year was associated with LV diastolic dysfunction. eGFR with Nankivell equation was significantly lower in the group of patients with diastolic dysfunction 62.66 ± 23.58 ml/min, compared to the group of patients with normal LF function 82.76 ± 15.78 ml/min, $p = 0.003$.
Conclusion: A lower eGFR at 1 year was associated with diastolic dysfunction, and increased risk for future development of eventual overt clinically manifested heart failure in kidney transplant recipients.

MP046 BETTER BLOOD PRESSURE CONTROL IN HCV-INFECTED KIDNEY TRANSPLANT RECIPIENTS AFTER EFFECTIVE TREATMENT WITH DIRECT ANTIVIRAL AGENTS

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Medical University of Silesia

Background: Recently, kidney transplant recipients (KTRs) with hepatitis C virus (HCV) infection are successfully treated with direct antiviral agents (DAA). However, the effect of HCV eradication on blood pressure (BP) control was not studied. The aim of our study was to analyze the management of hypertension and BP control after treatment with DAA in KTRs.
Methods: Thirty adult KTRs, who completed the sofosbuvir-based treatment of HCV infection were enrolled into the study. Before and at mean 15.2 ± 1.9 months after the start of DAA therapy the following measurements were performed: liver stiffness measurement (LSM), liver steatosis assessment (controlled attenuation parameter – CAP), pulse wave velocity (PWV), and systemic as well as central arterial pressure parameters. The better BP control was defined as the decline of systolic BP by at least 20 mmHg without changes of pharmacotherapy or the decline of the number of antihypertensive drugs used.
Results: In all patients, DAA therapy was successful with not detectable viremia after one month of treatment and sustained virologic response (SVR) after 12 and 24 months thereafter. In 14 patients (47%), the better control of systemic BP was observed (ΔSBP: −14.1 mmHg; ΔDBP: −14.5 mmHg, both $p < 0.001$). Those patients did not differ in regard to age, baseline BMI, time after kidney transplantation, kidney graft function and diabetes occurrence from patients without BP improvement. The difference in BP control was not explained by changes in PWV, eGFR and BMI, calcineurin inhibitors blood levels, or LSM. The only difference was noted in CAP trends after DAA treatment. There was significant CAP decline from 240 ± 56 to 209 ± 30 dB/m ($p = 0.01$) in patients with better BP control, while no changes occurred in patients with no improvement of BP (218 vs. 213 dB/m, NS).
Conclusion: Almost half of KTRs successfully treated for HCV obtained additional benefit related to the better control of BP.

MP048 CARDIAC COMPLICATIONS IN A KIDNEY-ONLY TRANSPLANT RECIPIENT WITH METHYLMALONIC ACIDAEMIA

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Objective: Report the outcome data of a paediatric renal transplant recipient with methylmalonic acidaemia (MMA), complicated by rapidly progressive cardiomyopathy.

Methods: Retrospective 21-month post-transplant follow-up of a 15-year-old female, diagnosed with MMA at 10 days old with seizures and acidosis. Pre-transplant history included a severe metabolic decompensation leading to cardiac arrest at 3 years old, multiple pancreatitis episodes, hypertension needing three medications, chronic enteropathy with gastro-jejunal feeds, insulin-dependent diabetes and haemodialysis requirement at 15 years of age. Echocardiogram showed mild concentric left ventricular hypertrophy (LVH) with a Left Ventricular Ejection Fraction (LVEF) of 81% and an Interventricular Septum diastole (IVSd) z-score of + 6.22. With extensive Multi-Disciplinary Team (MDT) planning, she received a living related donor kidney (EBV D+R− CMV D+R−) with mismatch 1,0,1, anastomosis of the renal vessels to the external iliac vessels.
Results: Within 24 h post-transplantation, her serum creatinine and MMA levels dropped from 423 and 3670 μmol/l to 42 and 287 μmol/l, respectively. Since then, she had multiple episodes of renal allograft dysfunction due to challenging fluid management and CMV viraemia. Renal allograft biopsies show no sign of antibody or T-cell mediated rejection. Her new baseline mean plasma creatinine was 200 μmol/l. At 14 months, although asymptomatic, she had prolonged QTc interval (495 m/s), worsening LVEF (60%) and new Left Atrial (LA) dilatation z-score + 3.2. In spite of optimised antihypertensives and serum MMA control, the cardiomyopathy rapidly progressed. By 20 months, her IVSd z-score was + 18 and LA dilatation z-score + 11. She was admitted to Intensive Care with severe pulmonary oedema, had two cardiac arrests and care withdrawn after MDT discussion with her family.
Conclusions: Concentric cardiomyopathy is a complication in MMA and as evidenced, a challenge to manage post-transplant. Debate continues around organ transplantation in MMA (kidney only, liver only or combin.

MP05 – ORGAN DONATION AND ALLOCATION: CHALLENGES, AWARENESS AND EDUCATION

MP049 RELIGIOUS INFLUENCES ON ATTITUDES ABOUT DECEASED ORGAN DONATION

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Background: Literature on the religious influences on people's decisions on Deceased Organ Donation (DOD) shows that the main faiths support organ donation. However, research has shown that people often associate negative attitudes towards DOD with the teachings of their faith. In our research project we recorded and studied religious beliefs that medical students, hospital administrative staff and renal patients in three European universities and their medical centres hold.
Methods/materials: Forty-four medical students, hospital administrative staff and renal patients participated in focus group discussions in London (UK), Rotterdam (Netherlands), and Santander (Spain). This categorisation allowed for homogeneity of the groups and presented people of similar background to discuss their experiences and opinions. The discussions were analysed using the thematic analysis, coding the transcriptions and reorganising them into themes.
Results: Religious influences on participants' attitudes about DOD varied. The majority of the religious participants had not discussed about DOD at the church, temple or mosque which they attended. According to some participants, religion could have a negative influence on donation attitudes of DOD. It was also seen through the discussions that for some of the more supportive of DOD participants religion was not a major aspect which shaped their perspectives. Some participants felt that the teachings of their faith were supportive of DOD and they hoped that more initiatives could be undertaken in the future which would send messages to their community that their faith endorsed DOD.
Conclusion: Religion is not a major concern for all people when it comes to them shaping their opinions and making decisions about DOD. However, personal interpretations of religious messages along with cultural traditions influence perspectives and it should be taken into serious consideration in health literacy initiatives.

MP050 HEALTH LITERACY AND INFORMATION RESOURCES IN DECEASED ORGAN DONATION: A COMPARISON IN THREE EUROPEAN CITIES

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[1]Imperial College London; [2]Oxford University; [3]Imperial College Healthcare NHS Trust; [4]University of Cantabria

Background: One of the main pillars of health literacy is the acquisition of accurate information about health issues, as it subsequently can lead to decision-making regarding those issues. There is a plethora of resources in various media which are mostly used in gaining information about Deceased Organ Donation (DOD), such as lectures, leaflets, documentaries, websites, portrayal in films and television shows.
Methods/materials: 1,309 medical students, hospital administrative staff and renal patients took part to an electronic survey regarding the resources they used to get informed about DOD. A deeper look into the target groups' practices was aimed through focus group discussions in which participants of the above mentioned groups took part.
Results: In all three countries there were similarities among the most frequently used resources. In the UK, the three preferred resources were stories from patients, medical documentaries, and family/friends. In the Netherlands, the participants got informed mostly through stories from patients, medical documentaries, awareness campaigns, brochures, and family/friends, while in Spain the most preferred choices of the participants were stories from patients, awareness campaigns, medical television shows, family/friends, and work colleagues.

The increasing importance of social media was a recurrent topic in the focus group discussions, based on their potential to raise awareness in short time and reach wide audiences. However, participants who expressed concerns about DOD preferred more traditional ways of gaining information, which were based more upon face-to-face interaction and allowed more time for reflection.
Conclusion: There are many available resources which help people become aware and get informed about DOD, but some are most frequently used over others. The potential of these resources should be more explored in order to show how they could reach different target groups and better accommodate the learning needs of these groups.

MP051 COMPARATIVE STUDY BETWEEN SPANISH VETERINARY AND NURSING STUDENTS ABOUT KNOWLEDGE OF THE BRAIN-DEATH CONCEPT

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Background: The knowledge and acceptance of the concept of brain death (BD) are fundamental. Health care science students represent a new generation of professionals thought.
Objective: To analyze the level of understanding of the BD concept among veterinary and nursing student from Spain.
Material and methods: A sociological, multicenter and observational study in Spain. Population: veterinary students (n = 9,000) and nursing students (n = 10,566) enrolled in a complete university academic year. Sample size: A sample of 2,815 veterinary students and nursing students (n = 8,955) (confidence of 99% and precision of ± 1%) were stratified by geographical area and academic year. The students' knowledge of BD was assessed using a psychosocial validated questionnaire (PCID-DTO Rios). The questionnaire was self-administered, completed anonymously and applied to each academic year at compulsory sessions. Veterinary and nurse schools were randomly selected. Statistical analysis: t test, χ^2 test and logistic regression analysis.
Results: Data from the Veterinary students: Response rate of 95%. Of respondents, 65% (n = 1,701) knew the concept of BD, which they considered to be an individual's death, 30% (n = 783) did not know the term, and 5% (n = 121) believed that it did not mean death. Variables related to knowledge of the BD concept: sex (p = 0.021), year of study (p < 0.001) and attitude toward deceased donation (p = 0.004).

Data from Nursing students: Completion rate: 94% (n = 1,237). Of students, 68% (n = 6,097) stated that they knew the correct BD concept, 28% (n = 2,462) had doubts, while 4% (n = 389) had a wrong concept. Variables related to a correct understanding were: being older (p < 0.001), sex (p = 0.021), year of study (p < 0.001), having discussed donation with family (P < 0.001) or friends (p = 0.003).
Conclusion: Only 65% in Veterinary and 68% of Nursing students know the concept of brain death. It is essential to carry out informative activities aimed at future healthcare professionals to improve their training.

MP052 OPTIMAL SYSTEM FOR ORGAN DONATION IN JAPAN

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Background: Japanese deceased organ donation was started later than other developed countries, so in order to establish proper system, Japanese medical society introduced European and USA models. However, the Japanese organ donation rate is still quite low.
Object: We survey recent Spanish and USA models and consider the optimal system for Japanese medical society and culture.
Method: In order to survey USA model, we had an interview with the CEO of Organ Procurement Organization (OPO) to investigate overview of USA model. Spanish model was surveyed by observation of the organ donation system in Cataluña.

[Result] USA model: Healthcare professionals are required to call the local OPO with any death. OPO coordinators detect potential donors from this information, evaluate the indication of donation, and care families. Every process is dealing with out-hospital coordinators.
Spanish model: Procurement professional team is in the donor hospitals. This team detects possible donors before the declaration of death, evaluates indication of donation, help to diagnose brain death, cares family with grief and talks with them about organ donation as a part of end-of-life care.
Japanese system: Japanese system is a mixture of these models. In order to obtain public confidence in transplant system, procurement procedure should be done by out-hospital organization in Japanese society. On the other hand, brain death is diagnosed only when the family agrees with organ donation, end-of-life family care is essential for organ donation. End-of-life care team in donor hospitals is important to raise organ donation rates. Under the Japanese present condition, end-of-life care in critical care medicine is undeveloped.

[Conclusion]: In Japan, in-hospital team has a key role in not only the organ donation process but end-of-life care. It is essential to establish the education system for hospital staff related to organ donation and end-of-life care like Spanish system.

MP053 DEMOGRAPHIC ATTRIBUTES OF ALTRUISTIC KIDNEY DONORS IN ISRAEL – A UNIQUE SOCIAL PHENOMENON WITH IMPORTANT UNIVERSAL IMPLICATION

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Background: Altruistic kidney donors (AKD) have become a dominant feature in the practice of kidney transplantation in Israel. This has given rise to ethical, legal and organizational challenges for the medical institutions and the National Center for Transplantation. This is a preliminary study providing insight to the composition of this unique donor population.The demographic makeup of this group is important if we are to understand the phenomenon and try to expand it.
Methods: Demographic data was collected for 630 donors over 6 years (2012–2019). Statistics – Student *T* test.
Results: AKD rate in Israel is currently 22 per million. 99% of AKD were recruited by a single NGO (Gift of Life) established by a Rabbi who had undergone a kidney transplant. 84% were males ($p < 0.01$). Mean age for males was 40 ± 7 and 50 ± 6 years ($p < 0.01$). 96% were married with children. 100% were Jewish and of them 74.5% orthodox, 24% ultra-orthodox and 3.5% secular. 100% had 12 years of education. The most common professions were teacher followed by Yeshiva scholar and home maker. None voiced any financial hardship before or after donation. 95% live in religious communities.
Conclusions: AKD in Israel are a major source of kidneys. They are largely confined to the religious Jewish community. Male preponderance is probably the result of women being pregnant or saddled with young children or being the main breadwinner. Female donation is generally restricted to post child bearing age. The data reflect the domicile, professions and values of this community. The typical AKD is a mature married adult, faith motivated, highly educated, middle class or lower middle class and often involved in teaching, studying or caring for others. AKD's have strong community ties and family support. Efforts must be made to accommodate the needs of these donors and provide them with maximum safety, comfort and protection. Similar NGO's should arise in the Muslim, Christian and secular communities leaning on similar principles.

MP055 INCREASING DEMAND ON MASTER EDUCATION FOR DONATION AND TRANSPLANTATION: A 15 YEARS EXPERIENCE

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Background: Transplant Procurement Management and the University of Barcelona offer a Master in Donation and Transplantation since 2004. Until 2010, 3 Spanish, 3 English and 4 Italian editions were held. Since 2011 it has been in English with a modular structure including: Donation, Transplantation, Management, Training for Trainers and Tissue Banking. The aim is to analyse the number of students, profile and the scores to evaluate improving measures.
Methods: Data are organized in 2 periods (2004–2010 & 2011–2018). For the scores, the first period evaluates the final grade, and the second the modules.
Results:
***Number & profile*:** 96 and 184 participants were registered in the master in the first and second period respectively. The most common background was "medicine" in the first period (47.91%) and in the second (60.33%). According to the specialization of the MD, Transplantation was the most frequent (56.14%), followed by Donation (42.98%).

In the 2014–2010 period, the nationalities according to the language were: 1 European for Italian edition, 14 from American countries in the Spanish edition, and 4 in the English edition, mostly from Asia (3). In the 2011–2018 period, students were from 48 different countries, mostly European and American.
***Scores*:** In 2005–2010 students were qualified on an on-site and online course on Donation & Transplantation, an internship and a Dissertation. The Master's final grade was Pass/Fail. 100% of participants passed.

In 2011–2018, students were evaluated through modules, as well as an internship and a Dissertation. Donation has the lowest score (7.71/10) and Transplantation the highest (8.30/10).
Conclusion: As the main characteristics of the master are the students' internationality and heterogeneity, the improving measures must focus on flexibility in the module selection and promoting online modality. There is a direct impact in the increasing of the scores when the program is designed according to the needs and background of the participants.

MP056 THE PORTRAYAL OF ORGAN TRANSPLANTATION IN THE BRITISH MEDIA

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Background: This study investigates the depiction of transplantation in British newspapers.
Methods: A comprehensive search of the six most popular British newspapers was performed. All articles containing the terms "transplant$" or "organ donation" published during the three month period 15th November 2018 – 15th February 2019 were considered for analysis.
Results: A total of 171 articles were identified. Only 16 (9%) of these reports were published in broadsheet newspapers, the rest in tabloids. One newspaper did not publish any transplant related stories (range: 0–114). 59% ($n = 91$) of articles published in the tabloid press portrayed transplantation in a positive light with terms such as "live-saving" frequently applied. Negative accounts related to donor transmitted infection or malignancy ($n = 5$), the recent US case of a heart left on a plane ($n = 12$), the Macchiarini scandal ($n = 3$) and organ harvesting/ trafficking ($n = 8$). The vast majority of tabloid stories were personal accounts or public interest stories. 12% ($n = 19$) discussed celebrities who had been transplanted. Several articles (14%) discussed the use of social media for directed donation or made a direct appeal to readers. Conversely, the broadsheets tended to have a more neutral tone. Articles predominantly contained hard news or editorials. Xenotransplantation ($n = 4$), normothermic liver perfusion ($n = 4$), ex-vivo heart perfusion ("heart in a box") ($n = 3$) and the use of hepatitis C positive organs ($n = 2$) were all reported on with relative accuracy, albeit varying depth. One article that suggested that the disappearance of flight MH370 was the result of organ trafficking!
Conclusion: The popular media is overwhelmingly supportive of transplantation. Personal anecdotes capture public imagination. As transplant professionals, we need to be aware of the influence that the media can have over public opinion and strive to ensure the accuracy of information quoted.

MP057 CHALLENGES IN THE DECEASED ORGAN DONATION PROGRAM IN UNITED ARAB EMIRATES (UAE)

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Introduction: Self-sufficiency in organ donation is every nation's goal as stated by the Third Global Consultation on Organ Donation and Transplantation (Madrid, 2010) Understanding organ donation as every patient's right is the first step towards achieving the goal of self-sustainability in organ donation The United Arab Emirates (UAE) started their deceased organ donation program in 2017, after the UAE. Ministry of Health and Prevention issued the Decree No 550 on declaration of death, covering brain death diagnosis Acknowledging the complexity and singularities of the UAE society is essential to understand its capacity to grow No other country in the world has 88.5% of foreign population with more than 200 nationalities, creating a multi-ethnic-faith-cultural nation

The main barriers to be faced in the UAE are unbalanced healthcare infrastructure and coverage, complex political policies, insufficient public awareness, low religious engagement and shortage of trained healthcare professionals. The DTI Foundation has been cooperating with the UAE National Transplant Committee over the last three years for the establishment and consolidation of a deceased organ donation program with a SEUSA program.
Methodology: SEUSA is a consultancy program addressed to countries, regions/local institutions to ensure self-sufficient transplant programsSEUSA prioritise its action plans in:

- diagnosis study/organisational framework/donor detection maximization/health professional training and awareness/quality control and auditing.

Result: Between July 2017 and February 2019, 70 possible brain death donors have been identified and 50 patients have been diagnosed dead by neurological criteria. During this time 14 potential donors have become actual brain-dead organ donors.
Conclusion: Establishing a self-sufficient and sustainable organ donation program is a multifaceted process. The main elements are supportive hospitals' governance, governmental endorsement, a robust educational program and international collaboration.

MP058 ORGAN DONATION AND TRANSPLANT PUBLISHING ETHICS IN CHINA: A 10-YEAR FOLLOW UP STUDY

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China does not publish any "transplant journals", rather content pertaining to organ donation and transplantation are published in medical and surgical journals. We conducted a 10-year follow up study of 11 Chinese journals (9 are Medline-indexed) regarding their publishing ethics guidelines. Compared to our 2008 results, in 2018 we found that most journals explored had somewhat heightened their ethical requirements for publishing but critical omissions remain. Specifically, all 11 now require their publications to have data integrity. Ten of 11 (90.9%) journals now require research ethics committee approval and informed consent for the publication of research studies, whereas in 2008 only 2 journals evidenced these requirements. Nine of 11 (81.8%) journals now have criteria for authorship, require conflict of interest disclosure, and forbid duplicate publishing practices. Notably, only 4 of 11 (36.4%) journals require patient consent for the publication of descriptive case studies and/or their associated images. Unlike several USA and European journals, none of the Chinese journals assessed have a policy to exclude data obtained from unethical organ donation practices. This is a notable omission due to the conflicts of informed consent, freedom of coercion, and prisoners as organ donors. Chinese journals avoid addressing the ethical complexity of publishing works pertaining to organ donation and transplant. We pose several reasons for this distressing finding and call upon Chinese journals to enhance their moral courage.

MP059 INDIVIDUALS WITH DIAGNOSED BRAIN DEATH SUITABLE TO ORGAN PROCUREMENT. RESULTS OF PROJECT D.A.R.

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IKEM Prague

Introduction: The main limit of transplant medicine is shortage of cadaver organ donors. The target is to consider each individual with diagnoses of brain death as potential organ donor.

The aim of study was to find real potential of organ donors in ICU, to find out how many potential donors were not referred to transplant centre (TC) and to analyse the causes why it did not happened. Another profit of the study was to discover the areas where is possible to improve the cooperation between TC and donor hospitals.
Methods: Prospective study contained data of all death patients from 22 ICUs in 10 years period (2009–2018). In all the cases were monitored basic demographic and clinical data and above it also the brain damage and clinical signs of BD. We monitored, if individuals with clinical dg. of BD were referred to TC and if organ procurement was realised. Investigators were 22 intensivists from donor hospitals and monitor was 1 physician of the TC. The regular monitoring of the study took place directly in ICU with original patient document folders.
Results: The total amount of deceased patient was 2744. 1169 of them had severe brain damage and 400 (15% of all death) had presence of clinical signs of brain death. 167 of them were reported to TC, 102 of them became organ donor and 65 did not accepted – 14 foreigners, 8x family refusal, 34x TC refusal (HCV positive, very marginal donors over 75 years of age, total aortal dissection), 9x circulatory failure before BD instrumental confirmation. 233 BD individuals were not referred to TC. 131 of them were not suitable for donation (malignancy, multiorgan failure. . .) but 76 cases were supposed to be considered as organ donor. The main reasons were organisations issues and subjective consideration.
Conslusion: The results of the study indicate that the pool of organ donors is almost twice higher than number of realised procurements.

MP06 – HISTOCOMPATIBILITY

MP061 TREATMENT OF ANTIBODY MEDIATED REJECTION AFTER LIVER TRANSPLANT. WHAT DO WE KNOW?

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Acute antibody-mediated rejection (AMR) is having been well reported in the literature however the adequate treatment remains controversial and not extensively studied. We herein report two cases of AMR after liver transplantation (LT) with different two different approaches.

The first case is a 46 years-old female who underwent ABO compatible LT for hepatitis C with negative viral load. Donor-recipient crossmatch was negative. Nine days after LT, liver dysfunction due to de novo donor-specific antibody (DSA)-driven AMR was diagnosed. Liver biopsy revealed signs of expansion of the portal tracts with an intense plasma cell infiltrate, bile duct injury and focal C4d staining in 20% of the portal microvascular endothelial. Luminex® was used for testing DSAs. The result was positive for HLA class II DSA anti-DPB1 and mean fluorescence intensity (MFI) over 20,000. She he was treated with plasmapheresis and 100 mg/kg of iv immunoglobulin (7 courses) without retuximab. Progressive improvement of liver function was observed achieving normal function 4 months post-LT.

The second case is a 69 years-old male transplanted due to HCC and hepatitis C with positive viral load. He received antiviral treatment one month after LT with sustained viral response. Seven months after LT, he presented severe liver dysfunction and liver biopsy showed also signs of AMR with a C4d deposition in 20% of the portal endothelial and HLA class II DSA DQB1*03 with MFI over 20,000. Despite of 9 sessions immunoadsorption and iv immunoglobulin, no response was observed and he was retransplanted with a negative crossmatch and a PRA rate of 21%. He received induction immunosupression with policlonal antibodies and conventional triple therapy (TAC+MMF+steroids). Outcome was uneventful and DSA DQB1*03 were over 6,000 two months after retransplant.

The rapid decision to carry out specific strategies overcoming AMR, including retransplantation, was crucial to achieving success in these cases.

MP062 EXPERIENCE IN THE CONVERSION TO TACROLIMUS PLUS EVEROLIMUS REGIMEN IN KIDNEY TRANSPLANTATION: EFFICACY, SAFETY AND POSSIBLE SIDE EFFECTS

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Background: Combination tacrolimus plus everolimus (TE) is a regimen very used in kidney transplantation. Recently, some studies have shown similar results between the classical regimen (tacrolimus plus mycophenolate mofetil -MM-) and TE regimen. We present our experience.
Methods: Retrospective study of 20 kidney trasplants, who changed to TE regimen between 2015 to 2017. We counted causes that led to the change of immunosuppression, causes of abandonment after conversion and adverse effects. The dialy dose of tacrolimus was quantified. We measured blood count (hemoglobin, hematocrit, leukocytes and platelets), creatinine, cholesterol, levels of tacrolimus in blood and proteinuria for 24 h. Changes in blood pressure or weight of patients were assessed. All this was analyzed before conversion, and at four months and a year after conversion. It was used SPSS 15 Statistical program.
Results: The mean age was 64 $\pm$ 13.87 years. Conversion was made by viral infection (8 patients -pts-), neoplasia (6 pts), and digestive intolerance to MM (2 pts). 4 patients had positive HLA donor-specific antibodies before conversion, but none developed it after conversion. At one year, only 9 patients continued with TE regimen (45%). The causes of the suspension were increase in proteinuria (3 pts), diarrhea (1 pts), allergic reaction (1 pts), uncontrollable hypercholesterolemia (1 pts), edema (1 pts) and pancytopenia (1 pts). 2 patients had to restart dialysis. One patient died. One year after conversion, proteinuria was increased (0.43 vs. 0.73 g/24 h $p = 0.08$ not significant -ns-). The dose of tacrolimus was reduced (3.23 vs. 2.76 mg/day $p = 0.04$), but levels of tacrolimus in blood were not modified (5.83 vs. 5.07 ng/ml ns).

Cholesterol levels increased (188.2 vs. 206.4 mg/dl $p = 0.01$). None of the patients suffered infections during follow-up.
Conclusion: TE regimen may be useful in selected patients. It is neccesary to monitor side effects. Some cases require stopping TE regimen.

MP063 DE NOVO DONOR SPECIFIC ANTIBODIES (DNDSA) AND KIDNEY TRANSPLANTATION (KTX) OUTCOME: A SINGLE CENTER EXPERIENCE

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Purpose: To investigate which risk factor affects the development dnDSA.
Methods: 315 patients (pts) with available antibodies study and follow up greater then 6 months (who underwent KTx from January 2005 to December 2017) are object of our study. Mean recipients age was 52 years (range 24–71), mean donors age was 50 years (range 15–81). Mean follow up post KTx was 59 months (range 10–60).

Post transplant sera were studied at months 3 and then yearly, (or by clinical needs) to access the presence of dnDSA. Screening was obtained with class I and II Flow PRA test, in positive sera class I and II Luminex single antigen beads was performed.

Patients were divided in groups depending of immunosuppressive protocol: tacrolimus and mycophenolic acid (MPA) (n = 153), cyclosporine (CsA) and MPA (n = 37), CsA and Proliferation Signal Inhibitor (PSI) (sirolimus or everolimus) (n = 99), PSI and MPA (n = 18), other (n = 8).

Development of dnDSA was correlated with known risk factors : pre transplant class I and II PRA, donors age, recipients age, immunosuppressive protocols.

Lastly 10 years graft survival and renal function (assessed by creatinine) was compared for pts with and without dnDSA.
Results: In our study 59 patients (19%) developed dnDSA after a mean time of 32 months (range 1–136) since KTx.

Immunosuppressive protocols showed similar incidence of dnDSA: tacrolimus+MPA = 26 pts (17%), CsA+MPA = 10 pts (27%), CsA+PSI = 17 pts (17.2%), PSI+MPA = 6 pts (33%). (p=ns).

Ten years graft survival was adversely influenced by dnDSA (78.0% vs. 90.7%) ($p = 0.017$).

Median last serum creatinine level was higher in patients with dnDSA positivity (2.0 vs. 1.5 mg/dl) ($p = 0.045$).

Among all the variables examinated, dnDSA is positively influenced only by recipients age: patients under 50 years of age more prone to develop dnDSA ($p = 0.013$).
Conclusion: In our experience the only variable influencing development of dnDSA is the recipient age minor of 50 years.

MP064 ABO-INCOMPATIBLE KIDNEY TRANSPLANTATION (ABOI-KT): 3-YEAR OUTCOME OF A SINGLE CENTRE

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Introduction: The primary cause of graft loss in ABO-incompatible kidney transplant is antibody-mediated rejection (AMR). Reported incidence of AMR is 18% up to 30%.The objective of the study were to measure the rate of acute antibody mediated rejection (AMR), graft survival, patient survival, rate of CMV and BK infection.
Methods: A retrospective analysis of 20 cases of ABOi-KT performed from November 2008 (first case of ABOi performed) till June 2017. Five cases were excluded as have not completed 3 year follow-up. Our desensitization protocol is pre-transplant administration of rituximab (375/m^2), maintenance immunosuppression with tacrolimus and mycophenolate mofetil and steroid avoidance, immunoadsorption (IA) aiming antibody titre of 1:8 or less and intravenous immunoglobulin infusion and upto three IA sessions post-transplant with the fredom of less sessions if titre is 1:8 or less associated with favurable graft function. Induction Immunosuppression was campath for re-transplant and "2DR" mismatch otherwise Simulect.
Results: Graft survival was 93.4% and patient survival was 100%. Only (6.6%) one graft loss due to septic complication and compliance issues. The rate of biopsy-confirmed acute rejection was 20%, all cases were acute cellular rejection (ACR) and all cases has responded to methylprednisolone treatment.Only one patient had recurrent ACR and is on triple immunosuppression therapy.The rate of CMV and BK viremia were 22% and 6.6%, respectively.
Conculsion: A 3-year follow-up results showed that, there was no graft loss due to AMR neither ACR.Our experience has been encouraging so far. ABOi-KT has the advantage of expanding living donor pool and excellent graft survival comparable with ABO-compatible kidney transplant.Overall, the outcome of ABOi –KT is more than satisfactory despite lack of control trails in ABOi-KT.

MP065 ANTI-HLA ANTIBODIES ARE ASSOCIATED WITH LONG-TERM RENAL FUNCTION DETERIORATION AFTER KIDNEY TRANSPLANTATION INDEPENDENTLY OF DONOR SPECIFITY

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Background: Knowledge of the association of donor-specific antibodies (DSA) with late renal allograft loss motivates screening with Luminex assay. However, a substantial number of patients additionally show non-donor specific anti-HLA antibodies (NoDSA) in Luminex assay with unknown clinical relevance.
Methods: Retrospective single-center study including all patients receiving a first kidney transplant at the University hospital of Zurich between 01/2006 and 02/2015 with maximal follow-up until 03/2016. Patient stratification into the following groups: no anti-HLA antibodies (NoAB) and anti-HLA antibodies (AB) with sub-analysis of patients with antibodies including DSA (DSA) and without DSA (NoDSA). To investigate the clinical relevance of Luminex results, eGFR slope was calculated by linear regression, starting from 12 months post transplantation and compared between the groups.
Results: Out of 238 patients analyzed, a total of 132 patients (56%) showed no anti-HLA antibodies (NoAB) during the median follow-up time of 2047 days, while 106 patients (44%) developed anti-HLA antibodies (AB) during a median follow-up time of 1781 days. Allograft function remained stable or improved slightly in NoAB patients but deteriorated significantly in AB patients, in whom those with DSA (DSA, $n = 73$) a significant functional deterioration could be detected already during months 12 to 24 (-1.3 ml/min/m^2/year, $p = 0.015$), whereas in those with NoDSA ($n = 33$) significant allograft function deterioration was detected only in the long term [months 12–48: 0.7 ml/min/m^2/year; DSA: -1.5 ml/min/m^2/year ($p = 0.015$), NDSA -1.6 ml/min/m^2/year, $p = 0.019$)].

Those with DSA deteriorate already in the early period, in contrast those with Abs but without DSA deteriorate, but only in the long-run.
Conclusion: DSA and NoDSA are similarly associated with long-term kidney allograft dysfunction.

MP066 EFFICACY AND SAFETY OF LOW-DOSE INTRAVENOUS IMMUNOGULOBULIN THERAPY FOR DESENTIZATION IN KIDNEY TRANSPLANT RECIPIENTS EXHIBITING ANTI-HLA ANTIBODIES

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Background: The existence of Donor-specific anti-HLA antibodies (DSA) prior to kidney transplantation (KTX) may leads to antibody-mediated acute rejection (AAMR). Although various methods for pre-sensitized KTX recipients have been reported, no widely confirmed treatment protocol has been established. We performed low-dose IVIG therapy (0.4 g/kg) as a desensitization treatment methodology in combination with plasma exchange and rituximab prior to kidney transplantation for DSA-positive recipient candidates, and report here findings of efficacy and safety.
Patients/Methods: From 2010 to 2018, 159 live-donor kidney transplant candidates underwent pre-transplant crossmatch examinations at our hospital. Six of the 159 patients were DSA positive. Two different protocols were employed; rituximab and plasma exchange (non-IVIG group, $n = 3$), or rituximab, plasma exchange, and IVIG (IVIG group, $n = 3$). Treatment effects were evaluated using direct-crossmatch and DSA titer testing. Transplantation was determined when the DSA titer was below a mean fluorescence intensity (MFI) of 3,000 on the day before surgery. Pre- and post-transplantation DSA titers, graft function, acute rejection episodes, and adverse effects were evaluated.
Results: The antibody titer was not sufficiently decreased and transplantation was abandoned in all patients in the non-IVIG group. In contrast, those in the IVIG group underwent low-dose IVIG therapy along with plasma exchange, which resulted in a sufficiently decreased antibody titer and kidney transplantation was performed for each. AAMR occurred following transplantation in 1 patient, though was relieved, and kidney functions were stable and engraftment was obtained in all. There were no complications encountered during low-dose IVIG therapy in any patients in that group.

Conclusion: The present results suggest that low-dose IVIG therapy is a safe and effective desensitization therapy method for DSA-positive patients scheduled for kidney transplantation.

MP067 DUAL INDUCTION WITH RABBIT ANTI-THYMOCYTE GLOBULIN (ATG) AND RITUXIMAB (RTX) IN SENSITIZED KIDNEY TRANSPLANT (KT) PATIENTS

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The secondary immune response that is expected in sensitized KT recipients having memory cells is characterized by the development of donor-specific plasmablasts and subsequently circulating secondary-memory B cells within days to weeks after transplantation. RTX can deplete plasmablasts, which retain CD20 on surface before maturation into long-lived plasmacytes, and also deplete circulating memory cells. ATG can abrogate T-cell help for germinal-center B response and may diminish the generation of secondary memory cells and plasmacytes. Peritransplant administration of both these depleting-induction agents may be a reasonable way to efficiently reduce the number of donor-specific clonal cells, albeit not abolish the clones.

We used both ATG and RTX as induction agents in KT patients having pretransplant donor specific anti-HLA antibodies (DSA).

Since February 2014, 18 patients were treated with dual induction. To reduce the risk of infection, ATG dose was limited to 3 or less (median 2 doses) daily doses of 1.5 mg/kg. RTX dose was 100–300 mg/body (median 200). CDCXM and FCXM was positive in 8 patients, CDCXM negative but FCXM positive in 1 patient, and pre-KT DSA without positive XM in 9 patients. Eight patients also had ABO incompatibility. Both class I and II DSAs were detected in 6 patients, class I only in 7, and class II only in 5. All patients received pre-KT plasmapheresis for desensitization.

Six (33.3%) patients developed acute AMR, which were all recovered by treatment. DSA, measured by SAB assay, became undetectable after KT in 7 patients, and persisted, although significantly reduced in MFI in 11 patients. Five patients developed infections that required hospitalization. No patients developed CMV disease or BKV nephropathy. No patient or graft was lost.

Although our study lacks control group, we think that the dual induction with a moderate dose of rATG and RTX is a safe and effective strategy to improve the graft outcome of sensitized KT patients.

MP068 A CASE OF ABO INCOMPATIBLE KIDNEY TRANSPLANTATION WITH A VERY HIGH ANTI-ABO ANTIBODY TITER ALONG WITH POSITIVE B-COMPLEMENT DEPENDENT CYTOTOXIC CROSSMATCH

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Patients with high anti-ABO titer such as >1:1,024 are precluded in some centers for ABO incompatible (ABOi) kidney transplantation (KT) because of the concern of higher risk of humoral rejection. Complement dependent cytotoxic (CDC) crossmatch (XM) positivity due to donor specific anti-HLA antibody (DSA) is also challengeable. We report a case of ABOi living donor KT with dual incompatibility, where anti-ABO titer was 1:4,096 and B-CDC/flowcytometry XM were also positive due to class II DSA.

A 67-year-old man received a kidney from his 61-year-old wife. The cause of ESRD was diabetic nephropathy. The donor/recipient blood group were B/O. The number of HLA mismatch was 5. PRA I/II was 0%/14%. A DSA (DR12, epitope 37L) was identified by the single-antigen bead assay and HLA-matchmaker software. The MFImax of the DSA was 4,648, and MFIsum was 7,960 (DSA was spread over 2 beads by epitope sharing). The MFIs in neat and 1:8 diluted serum were similar, suggesting the presence of prozone effect.

He was treated with glecaprevir/pibrentasvir for hepatitis C, with the negative conversion of HCV-PCR at 2 months prior to KT. Desensitization comprised of 17 plasma exchanges (PEs) before KT and 3 additional preventive PEs after KT. The ABO titer on the day of transplantation was 16. Rituximab 200 mg/body and two doses of ATG 1.5 mg/kg/day were administered as induction.

On day 9, he developed acute antibody mediated rejection (AAMR), which was reversed with steroid pulse and 2 PEs. MFIsum of DSA was 650 on day 2 (decreased from 7,960 before desensitization), but it rose to 2,500 on day 10. The anti-ABO titer at the time of the onset of AAMR was 32. This serological data suggests that the AAMR was caused by DSA rather than by anti-ABO. Graft biopsy on day 16 showed resolving process of AAMR (g1, ptc1, c4d2). He was discharged on day 21 with the serum creatinine of 1.47 mg/dl.

A case of ABOi KT with a very-high anti-ABO titer along with positive CDC crossmatch was successfully done.

MP069 THE DIAGNOSTIC AND THERAPEUTIC CHALLENGE OF JAUNDICE DURING THE EARLY PERIOD AFTER LIVER TRANSPLANTATION

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Background: Jaundice during early post liver transplantation (LT) period is very frequent. Although in most cases it is related to an identifiable aetiology, sometimes multiple causes may coexist and differential diagnosis could be challenging.
Case report: We present the case of a 47-year-old male, Rh negative, with hepatitis B virus plus alcoholic cirrhosis and a splenomegaly of 21 cm, who underwent LT on October 2018, from a Rh positive donor. In the following days afterwards he experimented an increase in bilirubin level that was associated with a respiratory infection, which markedly improved with empiric antibiotic therapy. Nevertheless, a week later bilirubin started to increase again, reaching 60 mg/dl. Hepatic arterial thrombosis and biliary tract obstruction were discarded. Cytomegalovirus reactivation was evidenced and a liver biopsy was performed, showing cholestasis changes in probable relationship with pharmacological toxicity. However, despite Valganciclovir treatment and the withdrawal of most toxic drugs, there was not a decrease in bilirubin. Due to imaging findings, splenic steal syndrome was suspected, so we carried out partial splenic embolization. Besides, as immune haemolysis was also noticed, we started steroid treatment and plasmapheresis, given the possibility of minor Rh incompatibility. Afterwards, bilirubin level began to decrease, reaching normal values after 6 weeks.
Discussion: Post-LT jaundice can be due to multiple causes. After ruling out the most frequent aetiologies (infections, rejection, hepatic arterial thrombosis, biliary obstruction or drug toxicity), other causes must be taken into account. More uncommon aetiologies of hyperbilirubinemia have been described, such as splenic steal syndrome or immune incompatibilities between donor and receptor. Moreover, in some patients jaundice may be secondary to the coexistence of several disorders, which hinders the diagnosis and makes the combination of different treatments neccessary.

MP070 A NATIONAL SURVEY ON POST-TRANSPLANT BLOOD TRANSFUSION PRACTICES IN ADULT RENAL TRANSPLANT UNITS

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Introduction: Post-transplant blood transfusions are associated with allosensitisation and inferior allograft outcomes. By assessing blood component use and policies across the transplant units within the UK, we aimed to help inform national guidelines on blood transfusion avoidance. The study is in collaboration with NHS Blood and Transplant (NHSBT), British Transplant Society (BTS) and a national working group.
Methods: An electronic survey was sent to all 23 adult renal transplant units in the UK.
Results: The questionnaire assessed three domains:

1. Current guidelines: Only 9/23 (39%) found the current post-transplant anaemia guidelines useful, compared to 6/23 (26%) who did not and 8/23 (35%) who didn't know. 6/23 (26%) units had their own post-transplant anaemia protocols.
2. Transfusion Rates: All units believed that they transfused sparingly; with 16/23 (70%) estimated transfusing < 10% of their cohort, 6/23 (26%) estimated 11–33% and 1/23 (4%) estimated 33–50%. The majority (18/23; 78%) believed that transfusions commonly occurred in the peri-operative phase.
3. Transfusion Practices: 7/23 (30%) units had an agreed minimum acceptable haemoglobin (Hb) acutely post-transplant (median 70 g/l). 14/23 (61%) had a minimum acceptable Hb prior to an invasive procedure (median 80 g/l).

There was no consistent use of EPO. Only 17/23 used it: 9 for all patients who were anaemic and 8 only in circumstances such as suboptimal function.
Discussion: Differences in practice suggest the absence of a strong evidence base for optimal management and scope for reduction/avoidance. Peer review may help inform management in units with higher transfusion rates and the development of more robust guidelines.

MP071 HLA I AND II CLASS ASSOCIATION AT ALLELIC LEVEL ALONG SEVEN LOCI WITH CHRONIC RENAL FAILURE AMONG THE KAZAKH POPULATION

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Summary: The distribution patterns of HLA- A, B, C, DRB1, DQA1, DQB1, DPA1, DPB1 antigens in patients with chronic renal failure (CRF) were studied. Associated with CRF are HLA-DQA1*01:02, *03:01. Phenotypes with antigens HLA-DQA1*05:05 have a protective effect.
Relevance: The first association between HLA and diseases was described almost 50 years ago; technological and conceptual advances in biology and HLA typing led to an improved understanding of HLA associations with various diseases, including kidney diseases.
Research objective: To study the distribution of genetic polymorphism of histocompatibility antigens at high resolution in patients diagnosed with CRF and donors (healthy individuals) among the Kazakh population.
Materials and methods: The frequency of occurrence of HLA antigens of class I (HLA-A, B, C) and class II (HLA-DRB1*, DQA1*, DQB1*, DPA1*, DPB1*) was studied in patients with chronic renal failure living in Kazakhstan.
72 people were examined: 36 healthy blood donors and 36 patients with a diagnosis of CRF. The average age of donors (control group) was 36 (range from 20 to 57 years). The average age of patients (experimental group) was 53 (range from 25 to 82 years). The distribution by sex among patients was as follows: men 16 (44.4%), women 20 (55.5%). Among donors, females prevailed 35 (97%) and 1 (3%), respectively.
Results of the research: The analysis revealed a characteristic distribution profile of the HLA system specificity in patients with renal failure in the Kazakhstani population.
Studying the distribution of antigens of the HLA system in patients with chronic renal failure suggested the existence of associative links between the presence in the phenotype of patients HLA-DQA1 * 01: 02, * 03: 01 and the development of renal pathology. A supposedly protective role of antigens HLA-DQA1 * 05: 05 against renal pathology has also been established.
The obtained data can be used in the study of various diseases associated with HLA antigens.

MP072 ABO-INCOMPATIBLE LIVING DONOR KIDNEY TRANSPLANTATION IN AN HIV POSITIVE RECIPIENT FROM AN HIV POSITIVE DONOR

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Background: An HIV Infection is no longer a contraindication for organ transplantation, yet the setting is still challenging and unexplored due to general reservation. This is the first report of an ABO-incompatible kidney transplantation from an HIV-positive donor to an HIV-positive recipient in Europe.
Methods: We describe a 51 year old Caucasian male with end-stage renal failure due to polycystic kidney disease who underwent an ABO-incompatible (A + to B+) kidney transplantation from his 49 years old male partner. Both donor and recipients are HIV positive and had an undetectable viral load pre-transplantation. A hand-assisted retroperitoneoscopic nephrectomy of the donor's right kidney with two arterial braches was performed to harvest the graft.
Results: Immunosuppression consisted of simulect, tacrolimus, mycophenolate mofetil and prednisone. Prior to transplantation, rituximab was given and two plasmaphereses followed by IVIG application were performed. A left-sided native nephrectomy was performed simultaneously to transplantation. During early postoperative course, a suspected episode of acute rejection on day three was successfully managed with corticosteroid. Anti-A titer remained low throughout the course. Both donor and recipient continued to have an undetectable viral load after adjusting the antiretroviral medication for renal function. Donor was discharged on POD 3 (eGFR: 59 ml/min), whereas recipient had a stabile graft function (eGFR: 51 ml/min) at discharge on POD 13 and at two months follow-up (eGDR: 54 ml/min).
Conclusion: To our knowledge, this is the first report of a successful ABO–incompatible living donor kidney transplantation from an HIV positive donor in an HIV positive recipient in Europe, a valuable approach with good intermediate-term results.

MP07 – INFECTIONS

MP073 THE EXAMINATION OF HEPATITIS E AFTER RENAL TRANSPLANTATION -A REPORT OF 4 CASES-

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Hepatitis E virus (HEV) infection attracted close attention in Japan after the fatal case of patient with hepatitis E was reported in 2002, and after that reports of clinical HEV the hepatitis E infection increased rapidly. Infection via blood transfusion leads to further increased medical concerns. Subclinical infection is the most common situation, while rare cases of HEV infection developsubacute hepatitis, whichresultsedin complete recovery. There were no data on chronic hepatitis E until recentlynow. However, in organ-transplantedationpatients receiving immunosuppression therapy there is a possibility of chronicityzationand these patients need close attention.

Here we report on 4 cases who developedin whichhepatitis E developed after kidney transplantation and were diagnosed inatour institution. 2 cases of those remitted as acute hepatitis immediately. However 2 cases (case3 and 4) that take become the chronic hepatitis and do not heal.

Chronic hepatitis cases that used an intensive immunosuppressive drug such as Rituximab and FTY720 compared with induction immunosuppressive therapy of the standard cases. Furthermore 2 cases that became the E type chronic hepatitis, lymphocyte counts of the peripheral blood and immunoglobulin were lighter than the standard acute hepatitis cases. For episode time, all cases are 3–6 years after renal transplant. The case that became the chronic hepatitis needed time-temperature tolerance until diagnosis was turned on.Therefore infection time and the route of infection are not clear.

It is more difficult a treatment of chronic hepatitis cases than the standard acute hepatitis cases.When the patients of particularly intensive immunosuppression show the increase of the mild liver enzyme, we suspect HEV infection positively and should check HEV RNA.

	case1	case2	case3	case4
Age, gender	20y, male	43y, male	24y, male	33y, male
Basic diseas	hypoplasia kidneys	Nephrotic syndrome	VUR	unknown
ABO type	ABO missmatch	ABO missmatch	ABO compatible	ABO incompatible
donor	mother	mother	father	mother
clinical history	Sudden liver enzyme increase symptom (—)	Sudden liver enzyme increase symptom (—)	Chronic liver enzyme increase symptom (—)	Chronic liver enzyme increase symptom (—)
food history	Wild boar meat	wine lever	(—)	(—)
Induction immunosup pressive therapy	FK→CYA, MP, MMF、Bax	CYA, MP, MMF, Bax	FTY720 clinical study case CYA, MP, MMF, Bax	Rituximab CYA, MP, MMF, Bax
Episode therapy	CYA, MP, MMF	CYA, MP, MMF	CYA, MP, (MMF off by anotherAE)	CYA, MP, MMF

MP074 CAN THE UNUSED OF THE INDUCTION THERAPY, IN KIDNEY RECIPIENTS WITH STANDARD IMMUNOLOGICAL RISK, REDUCED THE INCIDENCE OF INFECTIONS?

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Introduction: Few trials have examined the incidence of infections in kidney recipients receiving induction therapy with interleukin-2 receptor monoclonal antibody (IL2RA) or rabbit antithymocyte globulin (rATG). Data shows a higher risk in patients treated with rATG. However, no trials have examined if the risk of the infections is different in patients, with standard immunological risk, that do not receive any induction therapy.
Objectives: The aim of our study is to evaluate the rate of Cytomegalovirus (CMV) and not CMV infections after kidney transplant, in patients with low immunological risk receiving standard maintenance therapy (prolonged release tacrolimus, mycophenolate, steroids) without induction therapy.

Methods: Data were collected from September 2016 since November 2018. We enrolled 98 patients (74 male, with a median age of 54, 73 ± 22) with a Panel Reactive Antibody (PRA) less than 10%. In all these patients we did not use any induction therapy.
Results: We recorded a 75.5% of total infections (62.24% of CMV related infections and 14.28% of non CMV infections). A total of 20% of CMV infections at the first month after transplantation and 13.26% and 2.04% at 6th and 12th month respectively. 6 patients had urinary tract infections and 2 patients lung infections. 3 patients died due infections disease.
Conclusion: Data showed that the no induction treatment in patients with standard immunological risk is safe and efficacy and the rate of non-CMV related infections is lower than patients treated with any induction therapy.

MP075 HERPES SIMPLEX ENCEPHALITIS EARLY AFTER ABO INCOMPATIBLE LIVING DONOR RENAL TRANSPLANTATION: A CASE REPORT

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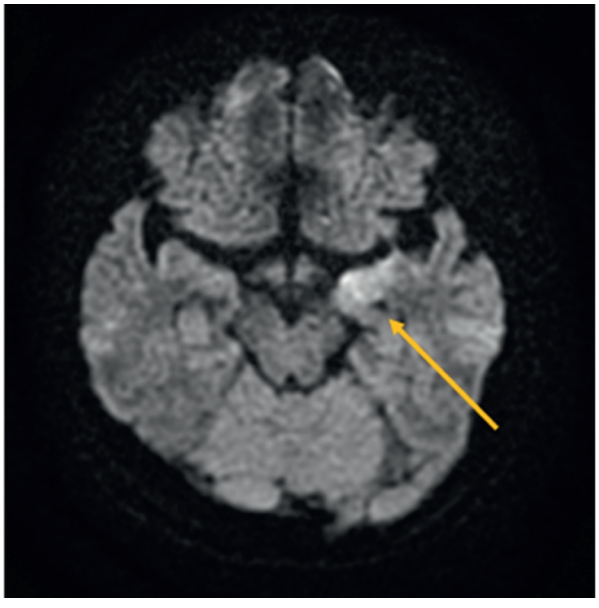
ABO incompaticble (ABOi) renal transplantation has been widely adopted in many transplantation centers in order to expand the living donor pool. However, intensified immunosuppression protocol used for desensitization in ABOi transplantation may increase the risk of early infectious complications.

We herein present a case of a 69 year old woman who developed herpes simplex encephalitis (HSE) early after receiving a renal allograft from her ABOi daughter (B+ to A+). The patient had an initial anti-B isoagglutinin titer of 1:512, and was treated preoperatively with rituximab and 8 session of plasmapheresis. Tacrolimus, mycophenolate mofetil, and steroid were also initiated 7 days before transplantation, and basiliximab was used as an induction agent on the day of the operation. Her postoperative graft function was good, reaching estimated glomerular filtration rate of 70–80 ml/min/1.73 m^2 by the first postoperative week.

However, on postoperative day 8, she started to develop fever, headache and altered mentality. Anogenital ulcerative lesion was found through a thorough physical examination. A diagnosis of HSE was suggested based on the positive Tzanck test of the skin lesion, and magnetic resonance imaging findings that showed focal parenchymal swelling and diffusion restriction at left medial temporal lobe (Fig. 1). Polymerase chain reaction analysis of the cerebrospinal fluid confirmed the presence of herpes simplex virus type 2 (HSV-2) DNA. Review of her serology examination showed that she had been herpes simplex virus IgG positive and herpes simplex virus IgM negative preoperatively. Her symptoms improved gradually after acyclovir treatment. However, mild cognitive impairment persists at 5 months after transplantation.

While HSE is a rare infectious complications after renal transplantation, a high degree of suspicion is necessary in patients showing abrupt cognitive change especially in patient with a history of intensified immunosuppression.



MP077 PREEMPTIVE THERAPY VERSUS UNIVERSAL PROPHYLAXIS WITH VALGANCICLOVIR IN MINIMIZING THE RISK OF CYTOMEGALOVIRUS DISEASE IN KIDNEY TRANSPLANT RECIPIENTS

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Objectives: The aim of this study is to compare the preemptive therapy versus universal prophylaxis with valganciclovir in minimizing the risk of cytomegalovirus (CMV) disease in kidney transplant recipients.
Methods: This cohort study was conducted at Renal Transplant Unit, Dow University of Health Sciences, Karachi, Pakistan. A total of 94 kidney transplant recipients were enrolled in the study. Of them, 40 (42.6%) patients (high risk kidney transplant recipients) were treated with universal prophylaxis with valganciclovir for the early months of transplant with the daily and alternate dosage and remaining 54 (57.4%) patients (low risk kidney transplant recipients) were given preemptive therapy by regularly monitoring the CMV viremia which is defined as positive antigenemia (DNA PCR or phosphoprotein 65 [pp65]) for CMV disease without symptoms.
Results: The mean age of recipients was 38 ± 1.23. The variables that could affect the CMV disease development were introduced into the regression model: gender, age, immunosuppressive therapy, lymphocyte depleting antibodies at transplantation and underlying disease. Significant differences were found in the use of universal prophylaxis with valganciclovir versus preemptive therapy ($p > 0.05$). The occurrence of CMV disease was found to be 7.40% (4 of 54) in the low risk group with preemptive therapy and no incidence of CMV disease; 0% (0 of 40) in the high risk group with universal prophylaxis of valganciclovir within one year of kidney transplant was observed.
Conclusion: In conclusion, universal prophylaxis with valganciclovir in high risk group is the effective treatment modality to reduce the burden of post-transplant CMV disease compared to preemptive therapy in low risk group. Therefore, it is highly recommended to initiate universal prophylaxis with valganciclovir in the low risk group as well, apart from high risk group, due to the occurrence of CMV disease and to prevent rejection of tra.

MP078 COMPARATIVE ANALYSIS OF BILE MICROBIOLOGY AND ANTIBIOTIC SUSCEPTIBILITIES BETWEEN LIVER TRANSPLANT RECIPIENTS AND NORMAL POPULATION: MULTICENTER COHORT STUDY

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Biliary complications are still unresolved problems after liver transplantation (LT), up to 28–32%, especially in living donor LT. Effective antibiotics should be administered to control the cholangitis, however immunosuppression after LT may have changed the microbiology of infected bile. The aim of this study was to compare bile microbiology and antibiotic susceptibilities between liver transplant recipients and normal population.

Between 2008 and 2017, the microbiologic culture and antibiotics sensitivity tests were compared on the patients who underwent percutaneous trans-hepatic biliary drainage because of biliary complications after LT ($n = 59$) and cholecystectomy under the diagnosis of gallbladder disease ($n = 271$) at multiple centers.

The most frequently isolated microorganisms were similar between two groups; Enterococcus (42.4% vs. 29.4%) followed by Escherichia (22.0% vs. 19.0%), Pseudomonas (16.9% vs. 8.8%), and Klebsiella (10.2% vs. 10.1%). For Enterococcus and Escherichia, two most frequently isolated organisms, gentamycin and imipenem showed similar high sensitivity for both organisms in two groups. According to the period, within or after 6 month of LT, Enterococcus (23.7% vs. 18.6%) was consistently frequently isolated, but others were different; *Klebsiella* (8.5% vs. 1.7%), *Escherichia* (3.4% vs. 18.6%) and *Pseudomonas* (3.4% vs. 13.6%).

The microbiologic culture and antibiotics sensitivity tests were similar between liver transplant recipients and normal population, however there was some difference of frequent isolated microorganisms by the period after LT.

MP079 IDENTIFYING THE CONTRIBUTING FACTORS FOR CYTOMEGALO-VIRUS (CMV) INFECTION POST KIDNEY TRANSPLANTATION. SINGLE CENTRE DATA ANALYSIS

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Introduction: CMV is the most common and dangerous infection for transplant patients. The objective of the study was to identify the risk factors for CMV viremia.
Method and material: A retrospective study of 395 kidney transplantation carried out between April 2010 and March 2014.
Results: The rate of CMV viremia was 24%. According to CMV serological mismatch between the donor (D) and the recipient (R). D+/R+ subgroup had higher rate of infection than D+/R− and D−/R+, which were 44.2%, 26.3% and 26.3%,

respectively. While for D−/R− subgroup it was 3.1%. CMV viremia occurred more frequently when alemtuzumab is used for induction when compared with basiliximab, which 64.2% and 35.8%, respectively (p = .0017). Cadaveric donor kidney transplant recipients had higher rate of viremia than live donor kidney transplant (LDTx) recipients, which 80% and 20%, respectively (p = .0104). Donation after cardiac death (DCD) recipients 47.3% had higher rate of CMV viremia than donation after brain death (DBD) recipients 32.6% (p = .0118). Recipients of kidneys from 55 years of age or older had higher rate of CMV viremia than those had kidneys from younger donors, which 13.4% and 8.6%, respectively (p = .0001). Cold ischaemic time (CIT) 12 h or more was associated with increased rate of CMV viremia, 14.2% vs. 9.8% (p = .0345).Donor history of alcohol abuse associated with higher rate of viremia than non-alcohol abuse, which 22% and 11.7%, respectively (p = .0172). Recipient and donor history of diabetes mellitus had no significant impact on CMV viremia.
Conclusion: CMV serological mismatch was the main factor for CMV viremia. D+/R+ were high risk group, D+/R− and D−/R+ pose intermediate risk and D−/R− were very low risk group. Other statistically significant contributing factors for CMV viremia in our cohort were alemtuzumab induction, cadaveric kidney transplantation especially DCD, prolonged CIT, donor history of alcohol abuse, and elderly donors.

MP080 RISK FACTORS FOR URINARY TRACT INFECTION AFTER KIDNEY TRANSPLANTATION: A RETROSPECTIVE ANALYSIS

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Background: Urinary tract infection (UTI) is the most common cause of infections in kidney transplant (KT) recipients. It is also an important factor of increased morbidity and mortality in KT patients. The aims of this study are to evaluate the number, to identify possible donor/receiver based risk factors for the development of UTIs. And, UTIs impact on the graft function.
Methods: Medical records of patients who have undergone KT between 2010 and 2017 have been retrospectively analyzed.
Results: The study included a total of 145 patients, 49 (%33.8) female, 96 (% 66.2) male, aged 35.2 ± 12.4 years. Episodes of UTI (n:105) were recorded in 55 of 145 patients (37.9%) during the first year after the transplantation. Female sex (p: 0.001), glomerulonephritis as primary kidney disease (p: 0.04), pretransplant diabetes (p: 0.05), and presence of ureteral stent (p: 0.03) were significant risk factors for UTI. Recurrent UTI has been seen in 32.7% (n:18) of UTI patients. Diabetes was also a risk factor for recurrent UTI development, compared with the control group (no UTI) (p: 0.03). Most frequent pathogens identified were *Escherichia coli and Klebsiella pneumonia*. Mean glomerular filtration rate at 12 month was significantly lower in patients with UTI compared to the control group (80 ± 25 vs. 68 ± 28 ml/dk, p: 0.006). In Recurrent UTI group, significant differences were found between the baseline and first year serum creatinine (0.08 ± 0.35 vs 0.26 ± 0.41, p: 0.03) and eGFR levels (−4 ± 22 vs. −16 ± 15, p: 0.02).
Conclusion: Urinary tract infection is a common complication and has negative outcome for graft function in KT patients. It remains to be an important disease that requires frequent investigation and new ways of approach for prevention. Multicenter randomized controlled trials are needed to assist treatment guidelines in this area.
Keywords: urinary tract infections (UTIs), kidney transplantation, risk factors

Risk Factors	UTI Grup (n:55)	Control Grup (n:90)	p
Recipient age (year)	34.3 ± 12.2	36.6 ± 12.8	0.28
Recipient gender (female, %)	50.9	23.3	0.001
BMI (kg/m^2)	25 ± 4.7	23.9 ± 4.2	0.25
Glomerulonephritis (%)	%32.7	%16.7	0.04
Pretransplant Diabetes (%)	10.9	2.1	0.05
Posttransplant Diabetes (%)	12.7	16.7	0.63
Vesicoureteral reflux (%)	23.6	24.4	1.00
Urological disorder (%)	9.1	7.8	0.76
Pretransplant dialysis time (months)	36 (n:48)	24 (n:71)	0.43
PRA I > 10%	%9.1	%5.6	0.50
PRA II > 10%	%9.1	%4.4	0.30
Rejection attack n (%)	21 (38.2)	15 (27.8)	0.20
Ureteral stent n (%)	11 (16.4)	2 (4.4)	0.03
Stenting time (weeks)	3.8 (1.2–10.8)	4 (2.8–4.6)	0.58
Donor age (years)	43.9 ± 12.6	47.6 ± 13.3	0.10
Donor gender (female, %)	63.6	48.9	0.08
Cadaveric (n, %)	30.9	18.9	0.10

MP081 ANALYSIS OF MIRNA EXPRESSION PROFILES BY NEXT GENERATION SEQUENCING IN POST-TRANSPLANT PARAFFIN EMBEDDED LIVER BIOPSIES FROM HCV MONO- AND HCV/HIV CO-INFECTED LIVER RECIPIENTS

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Background: The interaction of HCV and HIV with the miRNA pathways of the host hepatocytes represents an important pathogenic mechanism in liver damage even after liver transplantation (LT), with potential pro-fibrotic, pro-inflammatory and pro-oncogenic effects.
Methods: Paraffin embedded liver biopsies from 3 healthy controls, 3 HCV mono-infected and 3 HCV/HIV co-infected LT recipients were used. Time interval between LT and biopsy was a median of 6 months. miRNA expression profiles were analyzed by next generation sequencing (NGS) using the illumina HiSeq2500 platform. The DIANA-miRPath web-server was used to characterize the functions of differentially expressed miRNAs based on the predicted miRNA targets provided by the DIANA algorithm. Up- and down-regulated miRNAs were analyzed separately, using the KEGG and Gene Ontology-Biological Process databases.
Results: NGS highlighted 36 differentially expressed miRNAs in controls vs. HCV mono-infected livers (padj < 0.05), 8 in controls vs HCV/HIV coinfected (padj < 0.05) and 15 in HCV mono vs. HCV/HIV co-infected (p < 0.05). Gene-ontology analyses showed that in HCV monoinfected livers, the up-regulation of miRNAs such as miR18a, miR382-3p, miR65 was tightly related to viral infection and immune system signaling while the down-regulation of miR423-3p, miR-193a was associated with DNA damage pathways and HCV-induced carcinogenesis. In HCV/HIV co-infected compared to HCV monoinfected, the upregulation of miR125a and miR675-3p was involved in immunological and apoptotic processes, while the down-regulation of miR29-3p, miR374a-3p, miR660, miR190a and miR409, was implicated in the extra cellular matrix remodeling with profibrotic effect.
Conclusion: As early as 6 months after LT, HCV and HIV determined a significant dysregulation of the hepatocytes miRNA expression. Such results may provide new insight on the pathogenesis of viral induced liver damage and may potentially become novel prognostic markers and therapeutic target.

MP085 CLINICAL AND PATHOLOGICAL DIFFERENCES BETWEEN YOUNG AND OLD LIVING DONORS IN YOUNG KIDNEY TRANSPLANT RECIPIENTS

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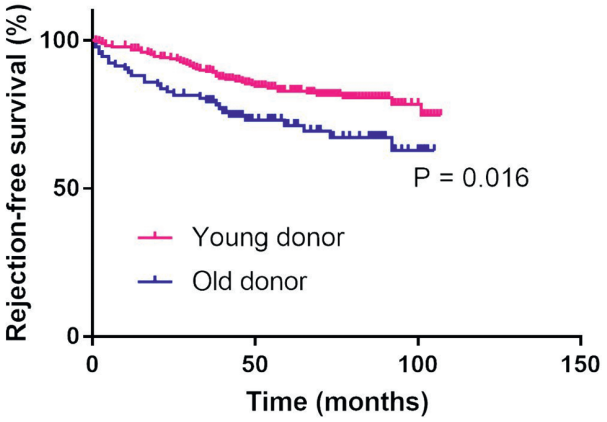
Introduction: Due to increasing number of patients with renal failure and lack of donors, old donors are also important contributors to kidney transplantation (KT). Conventionally, old donor is known as a detrimental factor in clinical outcomes
Methods: We reviewed KT recipients who received operation between January 2010 and December 2015. Among 1749, 374 were young (18 ≤ age < 40) recipients who received living-donor KT from old (age ≥ 55, n = 92) or young (age < 55, n = 282) donors. Allograft biopsies were performed when clinically indicated. We compared clinical outcomes and pathologic findings between two groups.
Results: Graft survival and patient survival was not significantly different between young and old donors (P = 0.904 and 0.520 by Log-rank test).



However, rejection-free survival was better in young donor group than old donor group (P = 0.016 by Log-rank test). In allograft biopsies, T-cell mediated rejection and calcineurin inhibitor toxicity was more frequently diagnosed in old donor group (18.1% vs. 30.4%, $p = 0.018$). The incidences of antibody-mediated rejection, thrombotic microangiopathy and recurrent glomerulonephritis were not significantly different between two groups. The creatinine level on last follow up was higher in old donor group (1.12 ± 0.54 vs. 1.37 ± 0.84 mg/dl in young and old donor groups, $p = 0.001$). Follow up duration was 67.93 ± 24.05 months.
Conclusions: Acute rejection, especially T-cell mediated rejection, occurred more often in old donor KT. However, old living donor showed comparable graft outcome with young living donor in young KT recipients. Therefore, old donor KT might be a reasonable option for young end-stage renal disease patients.

MP088 A LIVING KIDNEY TRANSPLANTATION PERFORMED WITH THE CROSSOVER PAIR DONATION COMBINED WITH DESENSITIZATION TECHNIQUES

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Introduction: Living donor exchange program and desensitization techniques help to make possible living kidney transplants in patients who cannot receive a kidney donation from the direct intended donors due to AB0 blood type incompatibility and/or cross match serological positivity. Both the described techniques can be safely used to lead to an increased number of living transplants and to a more favorable post transplant outcomes in incompatible donor-recipient pairs. We experienced the combination of these two different techniques in living kidney transplants.
Materials and methods: Two couples, donor-recipient AB0 incompatible and with a positive cross match, were evaluated and included in the national exchange program. The couple AB was AB0 incompatible with a positive cross match. The couple CD was incompatible for positive donor – recipient cross match test. After matching the donors, the new combined couple AC had a negative cross match and AB0 compatibility; the new combined couple BD also was cross match negative but still persisted AB0 incompatibility. The crossover living kidney transplantations were performed using for the first time in our country kidney paired donation in combination with the desensitization technique for the recipient with persistent AB0 incompatibility after matching with the new intended donor.
Results: The living transplants resulted in well functioning kidneys for both the recipients in the early post operative period and without complications during the hospital stay after surgery and none of the recipients and the donors presented complications after a median follow up of 6 months.

MP089 THE EFFECT OF A 24 HOURS FAST IN LIVING KIDNEY DONORS (LKD)

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Background: Living kidney donation is widely practiced and short and long term outcomes are acceptable. Issues that affect post donation kidney function *i.e.* blood pressure, proteinuria and metabolic issues have been studied at length. There is scarce information about habits such as short term fasting in LKD's. In Judaism, YOM KIPPUR (Day of Atonement), is a 24 h fast practiced yearly. This fast, revered and practiced by secular and religious Jews, has enormous cultural significance. There are no studies that describe the effect of this fast on LKD's. We aim to describe the short-term effects of a 24 h fast among LKD's.
Methods: LKD's were approached via e-mail. Exclusion criteria were conditions considered prohibitive of fasting. Controls were potential LKD's that have been approved by the standard medical evaluation but have not yet donated. Blood and urine samples were obtained at three time points: Baseline – 3 months before fast, Fasting: 1 h after 24 h fast, Follow up – 14 days after fast. Statistical analysis: Student T-test
Results: 85 LKD's & 27 controls were included. Donors were older (42.8 vs. 38.8 years) and had a higher baseline creatinine (103 vs. 72 μmol/l). All other parameters were the same. The change between fasting and non-fasting creatinine was *smaller* in LKD's than in controls (0.12 vs. 0.21% change $p = 0.04$). Values of sodium, albumin & osmolarity were not different between groups. Time from donation did not influence these results.
Conclusions: LKD's practicing a 24 h fast show a different pattern from controls regarding the change in creatinine levels. This pattern cannot be considered hazardous for LKD's. The emotional wellbeing of LKD's is of utmost importance and this first report of the safety of a 24 h fast is reassuring. These findings may be of interest to other religious groups, *e.g.* the Muslim community who practice RAMADAN.

Further follow-up is needed to explore the long term effects of a daily fast in the LKD population.

MP091 THE HEALTH STATUS OF LIVING KIDNEY DONORS AFTER DONATION

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The guiding principle in transplantation should be saving health of living organ donors and the necessity of their further monitoring in order not to let potential adverse effects of living organ donation negatively influence on donor health and life (K. L. Lentine, 2017). Some authors (N. Boudville, 2014; G. Mjøen, 2017) give data of the increasing risk of post-nephrectomy end-stage of renal disease, especially among donors of the elderly age (J. L. Wainright, 2018).
Materials: It was analyzed 37 familial kidney donors. The average age of patients was 48.3 ± 9.7 years: 19 men (51%) and 18 (49%) women. According to the age classification of the World Health Organization (2015), the donors were divided into 3 groups: young age (22–44 years) – 8 (21%), middle age (44–60 years) – 24 (65%), elderly age (60–75) – 5 people (14%). The follow-up was 1.9 ± 1.1 years. Levels of proteinuria, azotemia and glomerular filtration rate (GFR) (calculated using the Cockcroft-Gault formula) were studied. The quality of life of kidney donors was assessed using the Medical Outcomes Study-Short Form-36 questionnaire.
Results: Table 1 Analysis of the results of clinical and laboratory studies

Indicators, units of measurement	Donors of a young age ($n = 8$)	Donors of a middle age ($n = 24$)	Donors elderly ($n = 5$)
Protein content in urine, g/l	0.00 (0.00–0.02)	0.00 (0.00–0.01)	0.00 (0.00–0.02)
Protein content in urine, g/l	93.5 ± 20.9	91.7 ± 21.6	92.3 ± 20.3
GFR ml/min/ 1.73 m^2	77.6 ± 22.2	77.8 ± 23.7	74.8 ± 23.9
Physical component of health	51.3 ± 6.7	51.5 ± 7.1	50.6 ± 7.2
Psychological component of health	54.2 ± 7.9	55.2 ± 7.9	54.8 ± 7.5

The difference between the groups are statistically non-unreliable ($p > 0.05$).

In our opinion, in case of adequate pair selection of donor-recipient, on the basis of a complex examination, kidney transplantation is not only an effective method for treating of end-stage renal disease, but it is also safe for health and the subsequent renal function of the donor during follow-up 1.9 ± 1.1 years. However, further study of this issue with the inclusion of more respondents is required.
Conclusions: Decapitation of renal function in living donors in the late period after nephrectomy is preserved. Physical and mental health of donors of different age groups are comparable.

MP092 FATIGUE IN LIVING KIDNEY DONORS

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Introduction: Living kidney donation has become an important treatment of end-stage renal disease.The clinical outcome and health-related quality of life (HRQoL) of living kidney donors is generally not impaired, but some donors experience increased levels of fatigue or even a chronic fatigue syndrome (CFS). CFS is a complex disease involving profound dysregulation of the central nervous system and immune system with abnormalities in physical and cognitive function after donation. The aim of our study is to investigate fatigue and chronic fatigue syndrome (CFS) in living kidney donation.
Methods: Six months after donation 25 living kidney donors (20 females, 5 males, mean age 52 (25–74) years) were tested with the semi-structured interview Short Form 36 (SF-36), a questionnaire to measure HRQoL containing the subscales: general health perception, physical functioning, physical role, bodily pain, general mental health, vitality, emotional role and social functioning. To measure chronic tiredness and the clinical diagnosis "Fatigue", we employed the *Multidimensional Fatigue Inventory (MFI)* and the *CFS-Interview* for the Exploration of "*Chronic Fatigue Syndrome*". Clinical diagnosis was made based on 5 symptom domains (neuroskeletal pain / fatigue, neurocognitive problems, inflammation, sleep disorder / fatigue and

mood disorder), where CFS was defined by the presence of ≥ 5 criteria for at least 6 months.
Results: 15 donors showed no significant difference in the General Fatigue Score compared to the normative value of general population. 10 donors were found to have a significantly higher symptom load for fatigue but none of whom fulfilled the criteria for chronic fatigue syndrome.
Conclusion: All living donors participating in our study were satisfied with the decision to donate a kidney. Our explorative findings did not detect CFS in our study population, however we found occurrence of fatigue.

MP093 PATTERNS OF ABROAD COMMERCIAL KIDNEY TRANSPLANTATION AMONG KUWAITI PATIENTS AND THE EFFECT OF DECLARATION OF ISTANBUL

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Introduction: Like most countries Kuwait suffers from organ shortage despite establishment of organ procurement from deceased since 1996. Many Kuwaiti patients with kidney failure and no living donors travel to certain countries where commercial kidney transplantation is available to receive transplants from unrelated donors. The pattern of this activity before and after the Declaration of Istanbul was studied.
Method: There is a single transplant center in Kuwait in which all kidney transplants are followed up. Records of all patients coming back from abroad after commercial kidney transplantation from January 1993 till end of December 2018 were collected and analyzed.
Results: A total of 492 patients received commercial unrelated kidney transplantation abroad in the study period compared to 1,574 patients who were transplanted in Kuwait in the same period (23.8%).

Two thirds of the patients (67.9%) received their transplant in Egypt (204 patients) and Pakistan (130). Other countries included India, Iran, Syria, Phillipines and Iraq.

Between 1993 and 1998 the number of patients seeking unrelated transplantation abroad was limited (around 10 yearly) after which it started increasing reaching 30 in the year 2000 and 60 in 2005. With international concern shown in multiple meetings prior to the Istanbul summit in 2008, leading to the Declaration of Istanbul, the numbers dropped steadily to reach less than 5 in 2010.

This effect was short lived and the numbers started to rise again in 2012 reaching over 35 in the years 2015–2017 but did not reach previous peaks before the declaration.
Conclusions: The Declaration of Istanbul was effective in increasing awareness and decreasing organ commercialism.

As long as organ shortage persists it is difficult to eradicate transplant commercialism.

MP094 EXPERIENCES AND CHALLENGES IN ESTABLISHING NOVEL RENAL TRANSPLANTATION SERVICES IN THE GAZA STRIP

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Introduction: End stage renal failure (ESRF) has a devastating impact on both morbidity and mortality in Gaza; with huge social and financial burden on patients and their families.

Due to limited equipment, scarcity of transplantation training and lack of funding, renal transplantation had never been attempted.

We present our experiences in establishing renal transplantation services in Gaza.
Methods: Since January 2013, 61 patients underwent renal transplantation. All transplants have been from live related donors, with HLA tissue typing and virtual crossmatch carried out at the Royal Liverpool University Hospital (RLUH).

There was thorough medical and psychosocial evaluation of donors and recipients, in line with protocols used at RLUH. All donor nephrectomies were laparoscopic, with Soltran perfusion used.

Recipients all underwent Campath induction, at time of transplant, with intravenous methylprednisolone. Maintenance immunosuppression was with tacrolimus and mycophenolate mofetil.
Results: 75.4% (n = 41) of recipients were male with 24.6% (n = 20) female, mean age at transplantation was 34 years (8–62). There is a 95.08% (n = 58) total survival rate of all transplant recipients with 2 deaths from cardiovascular disease, and one from drug reaction. There is a one year allograft survival rate of 98.3% (n = 60).

Median serum creatinine at 1 year is 101.66 μmol/l (69.8–139.7), the median of the last measured serum creatinine is 99.00 μmol/l (54.8–530.4).
Conclusion: This study looks at the difficulties and challenges faced in establishing novel renal transplant services in Gaza. Many of the challenges faced, such as lack of established local protocols, equipment, medication, expertise and infrastructure are disadvantageous to our programme. With effort and guidance, successful transplantation services have been established; although in small numbers. There is still improvement to be made in many areas, however with continued leadership and direction, this can be achieved.

MP095 COMBINED LIVER-KIDNEY TRANSPLANTATION: IMPACT OF HEPATIC OR RENAL RE TRANSPLANTATION

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Fundación Favaloro

Background: Combined liver-kidney transplant (CLKT) may include a liver (L) or kidney (K) retrasplantation. Our aim is to report the results of CLKT with a second L or K transplant.
Methods/Materials: We perform a retrospective study of CKLT in our Institution, between March/1999 and March/2018. Immunological and etiological variables, function and causes of loss of both grafts were analyzed. Statistical Analysis: Test of Chi2, T test and survival by Kaplan-Meyer
Results: We perform 49 CKLT, 8 with second L transplant (CK2LT) and 9 with second K transplant (C2KLT). The other 32 patients (p) received a first CLKT (Control group, CGr).

In CK2LT, the indication for L re-transplantation was ductopenic rejection of first L graft in 6 p, reactivation of hepatitis virus B in 1 and thrombosis of Hepatic Artery in another. The etiology of renal disease was calcineurin inhibitor toxicity in 7 and polycystic kidney disease in 1.

In C2KLT, indication for K re-transplantation was chronic rejection in 8 p and recurrence of Focal Segmental Glomerulosclerosis in 1. The etiology of L disease in this group was hepatitis C cirrhosis in 8 p and polycystic liver disease in 1.

In CK2LT 2 p and in C2KLT 3 p presented positive panel reaction antibodies at transplantation. All transplants were performed with negative specific donor-recipient cross match.

Survival of p and both grafts in the CGr was 88% at 1 year (y) and 78% at 5 and 10 years.

In CK2LT, survival was 50% at 1, 5 and 10 years. These were significantly lower in all periods versus the CGr (p = 0.0001 at 1 year and $p \leq 0.00035$ at 5 and 10 year). The time on transplant waiting list (TWL) was 6 (1–32) days.

In C2KLT, survival was 89% at 1 year and 77% at 5 and 10 year. These findings were not statistically significant compared with the CGr. The TWL was 225 days (6–1809).
Conclusion: C2KLT group has a similar survival to primary CKLT, and CK2LT has a higher mortality at 1 year due to patients' clinical status at transplantation evidenced by the different TWL.

MP09 – Kidney Immunosuppression-Clinical Challenges

MP097 TRANSCULTURALLY ADAPTATION AND VALIDATION OF THE BASEL ASSESSMENT OF ADHERENCE TO IMMUNOSUPPRESSIVE MEDICATION SCALE (BAASIS®) INTERVIEW QUESTIONNAIRE AMONG TURKISH KIDNEY RECIPIENTS

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[1]Uludag University School of Medicine, Department of Nephrology; [2]Uludag University School of Medicine, Department of Biostatistics; [3]Uludag University School of Medicine, Department of Internal Medicine

Aim: Kidney transplantation provides better survival and quality of life for patients with end stage renal disease. Non adherence to immunosuppressive treatment is a prognostic indicator for poor long-term post-transplantation outcomes. We aimed to transculturally adapt and validate BAASIS® Interview Questionnaire to investigate immunosuppressive treatment adherence among Turkish kidney recipients.
Materials and method: The BAASIS® Interview Questionnaire was applied to 125 recipients. The questionnaire consisted 5 questions (Q) (Q 1a, 1b, 2, 3 and 4) and a 10 cm Visual Analogue Scale (VAS) assessing overall medication adherence over the last 4 weeks except Q 4. Item 4 assessed the adherence over the last 1 year. Guillemin protocol was applied for translation and transcultural adaptation. Psychometric tests were performed for reliability (intraobserver and interobserver reproducibility, agreement, Kappa coefficient, and the Cronbach's alpha) and validation (content, and construct validities).
Results: A total 125 adult kidney recipients, followed for at least 1 year after transplantation were included the study. The mean following time was 63.9 ± 44.8 months. Mean serum creatinine level was 1.45 ± 0.77 mg/dl. The participants were on tacrolimus (60.5%), cyclosporine (26.6%) and everolimus (12.9%) based immunosuppressive regimen. The transculturally adapted questionnaire has a Kappa coefficient of 0.915 that indicates excellent reliability, a Cronbach alpha coefficient of 0.454 that indicates moderate internal consistency. For construct validity, factorial loads were 0.756, 0.779, 0.829, 0.393 and 0.032 for Questions 1a, 1b, 2, 3 and 4, respectively

Conclusion: We conclude that validated Turkish version of the BAASIS® Interview Questionnaire with satisfactory psychometric tests can contribute a practical approach to determine immunosuppressive treatment adherence in Turkish kidney recipients.

MP098 THE EXPOSURE TO CYCLOSPORINE AND RISKS OF DEVELOPING FIBROADENOMAS IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction: Fibroadenomas are the most frequent benign neoplasms of the breast that usually present as multiple or bilateral masses in women. Exposure to estrogens (hormonal therapy or oral contraceptives) or antiestrognic substances (cigarette smoking) has shown to affect the risks of developing these lesions. Cyclosporine has longer been used in post-transplant immunosuppression protocols. In some case reports, there was found to increase risks of developing fibroadenoma in kidney transplant recipients, while there is still lack of a large-scaled study to explore this issue.
Method: From 2008 to 2017, we conducted a hospital-based study in a tertiary medical center. For these patients, we reviewed the results of breast sonography and mammography to identify the lesions of breast. In addition, patients were divided into cyclosporine users and nonusers. The primary outcomes were death and fibroadenomas. The secondary outcome was breast cancer. Odds ratios were calculated to compare risks of developing fibroadenoma in cyclosporine users and nonusers.
Result: A total of 545 female kidney transplant recipients were included in this study. There were about 146 (26.7%) patients have ever received cyclosporine as maintenance immunosuppressive therapy. Compared with cyclosporine non-users, cyclosporine users were associated with higher risks of developing fibroadenomas (odds ratio [OR], 1.58; 95% confidence interval [CI], 1.07–2.32; $p = 0.020$). However, no significant association was found in the risks of developing breast cancer between these two groups.
Conclusion: In conclusion, our findings support that the exposure of cyclosporine may increase risks of developing breast fibroadenomas in kidney transplant recipients.

MP099 DEVELOPMENT OF VIDEO EDUCATION MATERIALS ACCORDING TO PATIENT EDUCATION NEEDS OF PATIENTS WITH RENAL TRANSPLANTATION

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Introduction: Adherence of treatment has been evaluated as a major predictor of long-term outcome, and the importance of education has been suggested to improve adherence. Depending on the characteristics of adult learners, it is necessary to try educational programs that meet the needs of transplant patients. Multimedia education can be an alternative to this. The purpose of this study is to develop video education materials in accordance with the educational needs of self – care of transplant patients.
Methods: This study is a methodological study to develop video education materials after examining the educational needs of self-care of 10 patients who underwent renal transplant surgery in one university hospital in Seoul. A review of literatures and interviews were conducted to identify the need for self – care education in patients with renal transplantation. After verifying the validity of the experts, the video scenarios were produced and videos were developed and the satisfaction surveys were conducted.
Results: There were 11 self – care education data items identified through interviews and literary interviews with 10 kidney transplant patients. Expert validity CVI was 0.94 points. Based on the theory of adult learning, the video scenarios were created and the validity of the expert was verified (CVI = 0.92). The results of the 10 patients' satisfaction evaluation of the completed 7 – min video instructional materials were 4.55 out of 5.
Conclusion: It is expected that the video education materials will meet the needs of the adult learners and will improve the limitations of the existing education programs by inducing interest and contribute to enhancement of the 'adherence' and ultimately have a positive effect on the maintenance of the transplantation status of the new transplant patients .

MP100 EVALUATION OF LOW-DOSE QUADRUPLE SIROLIMUS-BASED IMMUNOSUPPRESSIVE PROTOCOL IN RECIPIENTS WITHIN THREE MONTHS FOLLOWING ALLOGENEIC RENAL TRANSPLANT SURGERY: A SINGLE-CENTER EXPERIENCE

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Our center has enrolled a cohort to administrate recipients with a low-dose quadruple immunosuppressive protocol including sirolimus, CNIs, MMF and glucocorticoid within the first three months after renal transplantation surgery. This study is to evaluate the efficacy and safety of this novel protocol in this cohort. We prospectively enrolled a cohort containing 90 recipients and randomly divided these recipients into two groups (2:1) :(Group 1) treated with immunosuppressive regimens consisting of SRL (concentration of 5–6 ng/ml in first month, then 3–5 ng/ml after first month), CNIs, MMF and glucocorticoid in early phase (3 months) of follow-up, while (Group 2) with a conventional immunosuppressive protocol containing of CNIs, MMF and glucocorticoid. Medical records related to the efficacy and safety were collected and analyzed by the logistic regression analysis. A total of 60 recipients were divided into Group 1 and 30 subjects in Group 2. There was no significant difference on serum creatinine (Scr), blood urea nitrogen (BUN), estimated glomerular filtration rate (eGFR), serum calcium, serum potassium, aspartate transaminase (AST), alanine transaminase (ALT), white blood cell count,platelet (PLT), hemoglobin (Hb), urine protein, triglyceride (TG), cholesterol (TC), fasting blood glucose (FBG) and urine protein between two groups ($p > 0.05$). In addition, significant difference was observed in trough concentrations of CNIs between two groups ($p < 0.05$). Acute rejection occurred in one patient in group 1 (1.6%) and in three patients (10%) in group 2. The two regimens had similar toxicity profiles (infection, wound complications, and metabolic complications). In conclusion, switching low-dose quadruple immunosuppressive maintenance therapy protocol with sirolimus, CNIs, MMF and glucocorticoid in recipients within the first three months following renal transplant.

MP101 THE PLACE OF INDUCTION THERAPY IN LOW RISK KIDNEY TRANSPLANT PATIENTS

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Objective: This retrospective study discuss the place of induction therapy in low immunological risk kidney transplant patients.
Material and methods: Records of 218 adult kidney transplantation patients were reviewed with 3 years follow up. All patients had PRA < 20%, DSA 0% with their living donors. The patients were divided into 2 groups according to the use of induction therapy during kidney transplantation (KT). Eighty two patients did not receive any induction therapy (Group I) and 136 patients received induction therapy either Anti-IL2 receptor antibodies or anti-Thymocyte globulin (Group II). The first endpoints were acute rejection rate and severity as well as graft function and survival at 3 years. The second endpoints were: rate and type of infections and surgical complications at 1 year as well as malignancy rate and patient survival at 1, 6 and 12 and 36 months after KT.
Results: Baseline demographics of all groups were similar, including: recipient gender, cause of the original kidney disease, dialysis duration and type of maintenance immunosuppression. However, there were significant differences between the 2 groups according to: recipient age and BMI, donor age and gender, donor-to recipient HLA antigens matching, pre and post-transplant hemoglobin and platelets blood levels and anti-CMV prophylaxis regimen. The rate of bacterial infections at 1 year and the frequency of CMV disease were significantly higher in Group II patients without any difference in the hospital stay, the rate and severity of acute rejection, the occurrence of delayed graft function, the rate and type of surgical complications at 1 year as well as the GFR and the patient and graft survival at 1 and 3 years.
Conclusion: Induction therapy in low-immunological risk kidney transplant patients is not a must. However, good selection of patients should be done.

MP102 THE EFFECT OF TACROLIMUS METABOLISM RATE ON EARLY OUTCOMES AFTER RENAL TRANSPLANTATION

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Introduction: Calcineurin inhibitors (CNI) are the mainstay immunsupression therapy for renal transplantation. However, CNIs are associated with significant short and long-term toxicity that adversely impacts outcomes following transplantation. Recent literature suggests that rapid metabolism of Tacrolimus is a risk factor for inferior graft function. The aim of this study was to explore the impact of tacrolimus metabolism rate on CNI side effects and short-term outcomes after renal transplantation.
Methods: This retrospective study included all recipients that underwent deceased donor kidney transplantation with local follow up in 2018. Data was collected from electronic records and included Tacrolimus doses and trough levels within the first three months of transplantation. Concentration/dose (C/D) ratios were measured upon achieving a stable dose and patients were divided into fast and slow metabolisers based on a cut-off value of 1.05. Short term graft outcomes were compared between the two groups.
Results: The study included 38 recipients of which 15 were classed as fast metabolisers. Mean Tacrolimus doses were significantly higher in this group compared to slow metabolisers (10.5 mg ±2.1 vs. 4.3 mg ± 1.8 respectively; $p < 0.0001$). No significant difference was demonstrated in mean creatinine at 2-months post transplantation between fast and slow metabolisers

(155.1 μmol/l ±91.9 vs. 126.7 μmol/l ±42.6 respectively; $p = 0.2$). There was a trend towards improved diabetic control and neurological symptoms in the slow metaboliser group although this did not reach statistical significance.
Conclusion: We could not identify any significant difference in CNI side effects or short term graft function based on Tacrolimus C/D ratios. A larger sample size may be necessary in order to provide adequate power to detect significant changes in these outcomes.

MP103 THE NATIONWIDE SURVEY OF THE DESENSITIZATION WITH INTRAVENOUS IMMUNOGLOBULIN THERAPY IN KINEY TRANSPLANTATION FOR THE RECIPIENTS WITH DSA

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The Japan Society for Transplantation conducted the nationwide survey of the desensitization with intravenous immunoglobulin (IVIG) therapy in living kidney transplantation for recipients with donor specific antigen (DSA), to aim for the insurance coverage in Japan. We report the result.

From 2014 to 2016, desensitization therapies were performed for 640 living kidney transplant recipients in Japan. And 50 cases of them received kidney transplantation after desensitization with IVIG. The single dose of IVIG was less than 1 g/kg body weight. And IVIG was used 1 to 4 times before the transplantation. Also, Rituximab and plasma-exchange were used as the combination therapy for the desensitization. Usual immunosuppressants (CNI, MMF and steroid) were started few weeks before the transplantation.

Excepting one death, which was no related with the transplantation, two years graft survival rate was 100%. The no rejection rate was 59.7% and the no antibody related rejection rate was 65.7%. All rejection was recovered by the treatment. Total dose of IVIG as the initial desensitization was from less than 1 g/kg body weight (12 cases) to 4 g/kg (11 cases). The total dose over 2 g/kg improved the no rejection rate and the dose dependency was shown. Also, the total dose over 3 g/kg improved the negative rate of FCXM-T before the transplantation.

MP104 SWITCH FROM PROLONGED RELEASE TACROLIMUS (PR-TAC) TO EXTENDED RELEASE TACROLIMUS (ER-TAC) BASED IMMUNOSUPPRESSION AFTER KIDNEY TRANSPLANTATION (KTX)

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Background: ER-Tac is a new formulation of tacrolimus focused on MeltDose technology that improves solubility and bioavailability of tacrolimus.
Methods: Sixteen patients (pts) with KTx underwent conversion from PR-Tac to ER-Tac after 29.5 months (range: 1–149) from transplantation, due to fluctuations ($n = 4$ pts) or malabsorption ($n = 12$ pts). All patients were under steroids and mycophenolic acid concomitant immunosuppression. Patients had the following tacrolimus induced side effects: alopecia ($n = 2$), tremor ($n = 4$). Moreover 2 other patients experienced T cell mediated acute rejection after 1 and 3 months after KTx.

Conversion from PR-Tac to ER-Tac was performed with a 20% total daily dose reduction.
Results: Follow up after the switch was 13.3 months (range 7–32). Pre conversion mean tacrolimus daily dose was 10.2 mg (SD ± 4); after 1, 3, 6, 9 months from the switch, mean mg dose was (SD): 7.8 (±3.8), 6.6 (±3.4), 6 (±3.5), 6.4 (±3.6). ($p < .05$). Tremors improved in all patients. Mean renal graft function considered by creatinine, improved from 2.6 mg/dl (SD ± 2) to 2.3 mg/dl (SD ± 1) at 1 month and 1.6 mg/dl (SD ± 0.4) at 6 months after the conversion ($p = 0.015$).

Patients with fluctuation of tacrolimus trough level, reached stability within 1 month from the conversion. Pre conversion mean tacrolimus daily dose was 6.25 mg (SD ± 2.7) vs. 3.25 mg daily dose (SD ± 1.5) after 1 month and 3.1 mg (SD ± 2.2) at 3 months.

Patients with malabsorption reached target trough blood level already after 1 month from the switch Pre conversion mean trough blood level was 3.5 ng/ml (SD ± 1.2) vs. 5.9 ng/ml (SD ± 2.3) after 1 month.

Moreover mean daily dose of ER-Tac was further decreased for the first 3 months since the switch (11.8 mg vs. 9.3 mg at 1 month and 7.8 mg at 3 months).
Conclusion: Our results indicate that conversion from once daily PR-Tac to once daily ER-Tac is safe. Conversion is effective in improving tremor and in achieving target tacrolimus trough level.

MP105 INDUCTION THERAPY IN ELDERLY KIDNEY TRANSPLANT RECIPIENTS WITH LOW IMMUNOLOGICAL RISK: A COHORT BASED-STUDY

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Introduction: Thymoglobulin (ATG) and Basiliximab (BSX) lead to similar rejection rates in low immunological risk patients. ATG could be benefit on Delayed Graft Function (DGF) and allow corticosteroid avoidance, supporting its use in elderly recipients. In contrast, it seems to be associated with infectious and malignancy risk, supporting the use of BSX, especially in recipients with low immunological risk. The benefit-risk balance remains unclear. We thus compared post-transplantation outcomes in elderly recipients with low immunological risk according to their induction therapy.
Methods: We conducted a French multicentric study on non-immunized ≥ 65 years patients receiving a first kidney transplant between 2010 and 2017 and an induction therapy by ATG or BSX. The principal outcome was patient and graft survival. We also studied the cumulative probabilities of infection, first acute rejection episode, malignancy; de novo DSA and eGFR at 1-year post transplantation; and occurrence of DGF. Cox, logistic or linear models were used depending on the studied outcome. To consider possible confounding variables, we weighted the models on the propensity scores.
Results: 204 (53.3%) patients were included in the BSX group, 179 (46.7%) in the ATG group. Average age was respectively 71.0 and 70.5 years. Patient and graft survival at 3 years post-transplantation were 74% (95%CI from 65% to 84%) in the ATG group, and 68% (95%CI from 60% to 78%) in the BSX group. The corresponding HR (Hazard Ratio) equalled 0.96 between the BSX group compared to the ATG group (95%CI from 0.58 to 1.60). The probability of infection at 1-year post-transplantation were 52% (95%CI from 59% to 44%) in the BSX group versus 51% (95%CI from 59% to 42%) in the ATG group, without significant difference. There was no difference in all the others evaluated outcomes.
Conclusion: In elderly recipients, induction therapy by ATG does not seem to lead to poorer outcomes compared to BSX.

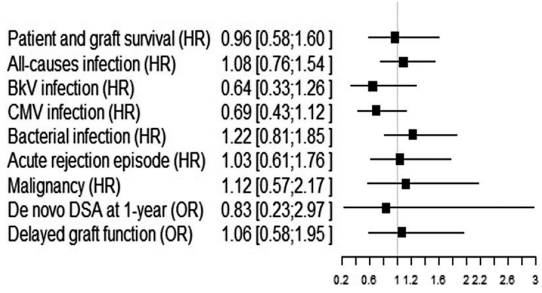

Figure 1. Risk of using Thymoglobulin compared to Basiliximab for the various outcomes

MP106 EFFICACY AND SAFETY OF THYMOGLOBULIN IN KIDNEY RECIPIENTS FROM CONTROLLED DONATION AFTER CIRCULATORY DEATH

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Background: ATG/Thymoglobulin induction is routinely utilized in donor after circulatory death (DCD) kidney recipients (KR) but little data compares induction strategies in this population and optimal dosing is not well defined. The aim was to evaluate the efficacy and safety of ATG in DCD KR (Maastrich category III donors) and compare outcomes with KR from donor after brain death (DBD) induced with basiliximab (BAS).
Methods/Materials: Retrospective study including 30 adult KR from type III DCD donors receiving ATG (group A) compared with 30 from DBD that received BAS (group B), all of them had low inmunologic risk profile and no differences in age, sex, dialysis type and waiting time on list between groups. We collected data from donors and recipients and performed descriptive statistics and logistic regression on 1, 6 and 12 months outcomes.
Results: 47 deceased donors (23 men, 48.9%) generated 60 kidneys with a cold ischemia time of 12.9 (9.7–16) vs. 15.5 (13.5–19) hours in group A vs. group B ($p = 0.002$). Delayed graft function reached 40% in both. Better graft function was observed in group A at first month (43.8 [22.1] vs. 36.1 [15.5] ml/

min; $p = 0.296$) but they converged on the sixth (38.2 [32.9–57.9] vs. 38.4 [12.7] ml/min; $p = 0.276$). Total ATG cumulative dose was 7.75 (2.23) mg/kg for first group which showed higher frequency of bacterial infections in the first six months (46% vs. 40%; $p = 0.793$) and appeared sooner with longer stays (18.9 [13.5] vs. 15 [6.5–26] total days; $p = 0.965$). Mycophenolate mofetil needed to be reduced in the first three months due to leucopenia (70% group A vs. 36.6% group B; $p = 0.013$). There were 4 deaths in early post-transplant period secondary to sepsis (3 in group A vs. 1 in group B; $p = 0.301$). Unadjusted analysis presented in table 1.
Conclusions: ATG is effective in type III DCD KR and did not impact negatively on grafts and receptors survival. We recommend reducing total cumulative ATG dose as well as adjusting precociously antimetabolite.

	OR	95% CI	*p* value
Infection	3.05	1.12–8.25	0.022
Death	2.32	0.238–22.77	0.467
Hospital readmission	1.23	0.461–3.27	0.681

MP107 FREQUENCY OF PNEUMONITIS ASSOCIATED WITH THE USE OF MAMMALIAN TARGET OF RAPAMYCIN INHIBITORS IN RENAL TRANSPLANT RECIPIENTS: A SINGLE CENTER EXPERIENCE

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Background: Interstitial lung disease is occasionally found among patients with solid organ transplantation, who are medicated with mammalian target of rapamycininhibitors (mTOR) inhibitors.
Objectives: We aimed to estimate the frequency of pneumonitis associated with the use of the use of mTOR inhibitorsin our population of kidney transplant (KTx) recipients and study the characteristics of these patients.
Methods: We reviewed the medical charts of all patients with established pneumonitis associated with the use of mTOR inhibitors after KTx. Patients were eligible to be included in this study if they had a history of interstitial lung disease attributed to the use of mTOR inhibitors, a diagnosis which was given with 2 criteria: (i) an extensive workup, including bronchoscopy and bronchoalveolar lavage, had excluded all other causes, (ii) subsequent switch from the mTOR inhibitorto another immunosuppressive agent resulted in resolution of all related symptoms and the radiological findings.
Results: During the period 1971–2018, 2,509 KTx were performed in our unit. After the initiation of mTOR inhibitors in our practice in 2003, 547 (21.8%) patients have been medicated with this type of agents. Among those, 4 patients (0.73%) were proven to have pneumonitis associated with the use mTOR, 1 with sirolimus and 3 with everolimus. The mean age of these patients was 54.7 years and the mean time from KTx to disease onset was 48.7 (17.3) months. The main symptoms were low grade fever, and coughing, while imaging studies revealed pulmonary infiltrates in all cases. The clinical picture was completely reversible within days of the discontinuation of the mTOR inhibitor.
Conclusion: The frequency of mTOR associated pneumonitis is noticeably low and thus insignificant, while the clinical picture is fully reversible after cessation of the offending drug.

MP108 A META-ANALYSIS FOR INDUCTION THERAPY OF KIDNEY TRANSPLANTATION: COMPARISON OF ANTITHYMOCYTE GLOBULIN AND INTERLEUKIN 2 RECEPTOR ANTAGONIST

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Objectives: To compare the efficacy and safety of antithymocyte globulin (ATG) and interleukin 2 receptor antagonist (IL2Ra) in induction therapy of kidney transplantation.
Method: A literature search was performed in Aug 2017. The primary sources were the randomized controlled trials from electronic database of PubMed, EMBASE and CENTRAL. Patient survival, graft loss and death, death censored graft loss, delay graft function (DGF), biopsy-proven acute rejection (BPAR), steroid-resistant rejection, all-cause infection, CMV infection, malignancy, post-transplant lymphoproliferative disease (PTLD), post-transplant diabetes mellitus (PTDM), leucopenia and thrombocytopenia were brought into analyses. Risk ratios with 95% confidence interval were reported as results.
Result: We included 12 trails and analyzed the 1-year post-transplant outcomes. The meta-analysis showed the risk of biopsy proven acute rejection (BPAR) and steroid-resistant rejection were reduced by 24% and 62% in patients receiving ATG respectively. (BPAR: RR 0.76, 95%CI 0.61–0.95, $I^2 = 0$; Steroid-resistant rejection: RR 0.38, 95%CI 0.20–0.71, $I^2 = 7\%$). Patients receiving ATG showed 286% increment in malignancy (6 trials, RR 3.86, 95%CI 1.38–10.81, $I^2 = 0\%$). All-cause infection and CMV infection were increased by 9% and 28% in patient receiving ATG respectively (All-cause infection: RR 1.09, 95%CI 1.00–1.19, $I^2 = 8\%$; CMV infection: RR 1.28, 95%CI 1.06–1.55, $I^2 = 62\%$). More adverse reaction occurred in ATG treated recipients, the incidence of leucopenia and thrombocytopenia were increase 149% and 191% respectively (leucopenia: RR 2.49, 95%CI 1.78–3.49, $I^2 = 0\%$; thrombocytopenia: RR 2.91, 95%CI 1.96–4.33, $I^2 = 40\%$).The pooled analyses showed no significant differences in 1-year patient survival, Graft loss or death with a functioning allograft, Graft loss censored for death, delay graft function, PTLD and PTDM.
Conclusions: Compared with IL2Ra, patients receiving ATG had lower risk of rejection but suffered more infection.

MP10 – Kidney Ischemia and Reperfusion:

MP109 ASSESING THE EFFECT OF VASODILATOR IN AN EX-VIVO NORMOTHERMIC KIDNEY PERFUSION PORCINE MODEL

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Introduction: Normothermic perfusion (NP) can be used in the assessment of kidney graft viability prior to transplantation, but organ behavior during NP is conditioned by the composition of the perfusate. We have assessed the influence of the vasodilator in preservation and resuscitation NP.
Methods: After retrieval, porcine kidneys were exposed to 30 min of warm ischemia. Kidneys were then either directly subject for 3 h to ex vivo NP with the ARK NP system (preservation group) or stored at 4°C for 22 h before the 3-h NP (resuscitation group). Alprostadil 180 ng/h or verapamil 0.25 ng/h were used during NP period. The ARK system developed by EBERS is formed by a portable preservation unit, which peristaltic and infusion pumps, heating and oxygenation systems, sensors and a control unit; and a disposable closed circuit with sterile conditions
Results: The ARK NP system was able to maintain physiological levels of temperature (38°C), mean arterial pressure (80 mmHg) and arterial O2 saturation (99%) in all cases during NP. In both, preservation and resuscitation groups, kidneys perfused with alprostadil exhibited stable flow rates during NP, whereas organs preserved with verapamil experienced increasing flow rates in time, which were significantly higher than those obtained with alprostadil (197.7 $\pm$ 144.8 vs. 47.4 $\pm$ 30.4 ml/min/100 g, respectively; $p < 0.05$). Conversely, urine output was not significantly different between the alprostadil and verapamil groups (15.6 $\pm$ 12.1 vs. 18.9 $\pm$ 27.2 ml/min). No significant difference was found between groups in tissue damage parameters (GGT, LDH) and histological analysis.
Conclusions: Verapamil led to lower values of intrarenal resistance and higher flow rates than alprostadil, without increased diuresis. Hemodynamic parameters during NP are determined by multiple factors and do not directly correlate with integrity of the organ. The ARK system was able to preserve kidneys in NP under controlled con

MP110 EVALUATION OF NEW BASKENT UNIVERSITY PRESERVATION SOLUTION FOR LIVER, KIDNEY AND INTESTINE GRAFT DURING COLD ISCHEMIA: PRELIMINARY EXPERIMENTAL ANIMAL STUDY

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Background: Despite significant advances in organ transplantation, damage caused to organs due to long cold ischemia time and perfusion solutions remains a serious hurdle. The objective of this preliminary experimental animal study was to compare the efficacy of the new Baskent University Preservation Solution (BUPS) with UW, HTK and saline solutions.

Methods: In addition to the electrolytes (Na, K, Cl, Mg) used in BUPS: raffinose, the trisaccharide composed of galactose, glucose and fructose was used as an energy source; mannitol as an osmoregulator; N-acetylcycteine as an antioxidant, an antiapoptotic, and a microsomal glutathione transferase substrate increasing the cellular pools of free radical scavengers; taurine, a sulfonated amino acid, as a membrane stabilizer, an antioxidant protecting against ischemia-reperfusion injury, an intracellular calcium regulator, and an osmoregulator; adenosine, a purine riboside composed of adenine molecule attached to a ribose sugar molecule, as an energy source, a blood flow regulator, an antiplatelet, an anti-inflammatory agent, and a neuromodulator; ascorbic acid, a cofactor for multiple enzymes, serving as an electron donor for mono- and di-oxygenases, and as a strong antioxidant.

50 Male Sprague Downey rats, weighting 350–450 g, were randomized into 4 groups (Group B: BUPS, Group H: HTK, Group W: UW, and Group C: Saline) corresponding to the 3 solutions tested. Under general anesthesia, the rats were perfused with 50 cc (+4 C) BUPS, UW, and HTK perfusion solutions from the distal part by connecting the proximal of the intra-abdominal aorta after laparotomy. To assess cold ischemia injury, both kidneys, liver and intestine were removed and placed in the same solution. Samples were taken from these organs for pathological evaluation at 0, 1, 3, 6, 12, 24 and 48 h.

Results: Neither group had shown significant cellular injury at 0, 1, 3-h perfusion. At 6.12, 24 and 48-h perfusion.

MP111 THE REASON WHY IT'S IMPORTANT TO REDUCE TO THE MINIMUM COLD ISCHEMIA BEFORE A KIDNEY TRANSPLANTATION

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Introduction: The delayed recovery of renal function (DGF) after renal transplantation is one of the most important predictors of functional survival, even in recent times. The aim of the study is to evaluate the relationship between the duration (hh: mm) of the cold ischemia time (IF) and the incidence of DGF after deceased donor transplantation.

Material and methods: We reviewed the clinical-demographic variables of 1,075 donors and 925 kidney transplant recipients performed between 2000 and 2016, homogeneous by immunosuppressive protocol. The analysis was carried out by means of logistic regression and study of the probability of DGF as a function of the time values of IF.

Results: The incidence of DGF was 17.5% (187 cases). In the logistic regression model only cold ischemia ($p = 0.000$), duration of dialytic therapy ($p = 0.001$) and warm ischemia time ($p = 0.003$) were associated with the appearance of DGF, not the age of donor ($p = 0.48$) or the age of the recipient ($p = 0.08$). However, the probability of DGF was not linearly associated with the time of IF: in fact, with a 15-h IF the probability of DGF is 19%, at 30 h it is 60%.

Conclusions: From these data, the duration of IF proved to be the largest predictor of DGF with an *exponential* relationship. It is therefore important to have a cold ischemia duration as short as possible. The organizational and temporal aspects of the renal transplantation and transplant procedures assume relevant significance in this context.

MP113 EFFECT OF OPERATION TIMELINE ON FREQUENCY OF SURGICAL COMPLICATION IN DECEASED DONOR KIDNEY TRANSPLANTATION

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The prominent treatment of end stage kidney disease is kidney transplantation. The improvement of surgical techniques has reduced the frequency of postoperative complications in recipients. We investigated the effect of operation time interval on the frequency of postoperative surgical complications in deceased donor kidney transplantation.

Methods: This retrospective study conducted in consecutive 247 patients (108 females, 139 males) who underwent kidney transplant surgery from deceased donor at our center in 10-year period. The patients were divided into three groups according to surgery time interval as 08–16 (Group 1, $n = 84$), 16–24 (Group 2, $n = 126$) and 24–08 (Group 3, $n = 37$).

Results: The duration of operation (5.02 ± 1.4, 5.04 ± 1.2 and 5.06 ± 1.2 hours), recovery time (63.2 ± 40.6, 56.7 ± 31.9 and 57.9 ± 27.3 min) and hospitalization duration (21.2 ± 10.9, 22.7 ± 15.1 and 19.7 ± 16.1 days), respectively were similar. The changes of pre- and post-operative blood pressure, central venous pressure, pulse and weight, and isotonic fluid and erythrocyte (14 persons in Group 1, 15 in Group 2 and 1 in Group 3) replacements were not significant. The frequencies of post-operative surgical complications were 53.6% ($n = 45$), 47.6% ($n = 60$) and 35.1% ($n = 13$) in Group 1, 2 and 3, respectively (Table 1). The frequency of urinary leak in Group 3 was statistically higher than those of other groups ($p = 0.008$). Graft nephrectomy was required in 5 patients (6%) in Group 1 and 10 patients (7.9%) in Group 2. There was significant difference between serum creatinine levels at hospitalization (1.76 ± 1.13, 1.54 ± 0.83 and 1.22 ± 0.39 mg/dl) and postoperative 1st month (1.82 ± 1.14, 1.49 ± 1.01 and 1.39 ± 0.76 mg/dl) of Group 1, 2 and 3, respectively ($p < 0.001$).

Conclusion: We concluded that operation time interval did not affect the frequency of postoperative surgical complications in deceased donor kidney transplantation except urinary leak complication.

Variables n(%)	Group 1	Group 2	Group 3	p value
Hemorrhage	8(9.5)	8(6.3)	1(2.7)	0.372
Hematoma	8(9.5)	14(11.1)	2(5.4)	0.587
Perirenal collection	1(1.2)	1(0.8)	-	0.797
Renal artery thrombosis	3(3.6)	-	-	0.053
Renal vein thrombosis	1(1.2)	1(0.8)	1(2.7)	0.647
Renal artery stenosis	2(2.4)	2(1.6)	-	0.633
Delayed wound healing	8(9.5)	13(10.3)	4(10.8)	0.972
Wound infection	3(3.6)	4(3.2)	2(5.4)	0.816
Urinary leak	4(4.8)	2(1.6)	5(13.5)	0.008
Lymphocele	21(25)	30(23.8)	7(18.9)	0.762
Urinary obstruction	2(2.4)	4(3.2)	1(2.7)	0.943
Ureteral stenosis	1(1.2)	-	-	0.378

The distribution of post-operative surgical complications in three groups

MP115 EFFECT OF CONTINUOS HYPOTHERMIC MACHINE PRESERVATION AND TIME OF PERFUSION IN THE OUTCOMES OF MARGINAL KIDNEY GRAFTS

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Background: Hypothermic machine preservation (HMP) reduces the risk of delayed graft function (DGF) in marginal donors and improves 1 year-graft survival (1yGS) in ECD.

Objective: To assess the effect of end ischemic (eHMP) vs. continuos HMP (cHMP) and time of HMP in the outcomes of marginal donors.

Materials/Methods: Prospectively collected data from a cohort of marginal donors. Recipients of a 1st kidney transplant, minimum follow up 6 months. *Primary endpoints*: DGF (no decrease in Cr levels >10% during the first 48 h) and 1yGS (Graft loss = return to dialysis or GFR < 15 ml/min). *Secondary endpoints*: primary non-functioning (PNF), vascular thrombosis (VT) and acute rejection (AR). Endpoints, donors and recipients variables were assessed for univariate differences by Wilconxon test, Student's *t*-test or χ^2. Multivariate logistic regression was applied to estimate the influence of cHMP and time of HMP in DGF. A predictive multivariate Cox proportional hazards model was applied to detect variables that influence DGF duration. 1yGS was analysed with log-rank test. A multivariate Cox proportional hazards model was applied to estimate the influence of cHMP and the time of HMP in 1yGS.

	UNIVARIATE ANALYSIS			MULTIVARIATE ANALYSIS		
	eHMP (%)	cHMP (%)	*p*	OR	HR	*p*
DGF	40 (32.8)	16 (20.5)	0.05	2.09 (0.89–4.90)		0.09
1yGS	112 (83.4)	74 (92.5)	0.05		1.81 (0.67–4.86)	0.023
PNF	0 (0.0)	1 (1.3)				
VT	10 (7.5)	4 (5.0)	0.48	1.53 (0.46–5.06)		0.48
AR	14 (10.4)	9 (11.4)	0.73	1.24 (0.37–4)		0.73

Results: 0 cHMP grafts (74 ECD, 6 DCD), 134 pHMP grafts (119 ECD, 15 DCD). For baseline characteristics there were differences in donors age (cHMP: 64.9 years/ pHMP: 75.8 years), recipients age (cHMP: 56.6 years/ pHMP: 60.2),cold ischemia time (cHMP:15.6 h/pHMP:17.3 h),time of HMP (cHMP:14.5 h/pHMP:7.3 h).In univariate analysis cHMP improved DGF and 1yGS.In multivariate analysis cHMP tended to reduce the risk of DGF but did not influence 1yGS.Time of HMP reduced the risk of DGF (OR:0.93, *p*: 0.06), but did not influence 1yGS (HR:0.96, *p*: 0.33). Only DCD was related to DGF duration (aHR: 0.34, *p*: 0.00).
Conclusions: HMP and time of HMP are related to DGF incidence but not to 1yGS.

MP116 RECONDITIONING EFFECT OF THE HYPOTHERMIC MACHINE PERFUSION ON KIDNEY GRAFTS WITH COLD ISCHEMIA TIME OVER 24 HOURS

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Introduction: In deceased donor kidney transplantation (KT), long cold ischemia time (CIT) has been identified as a risk factor for delayed graft function (DGF), acute rejection and poor graft survival. The hypothermic machine perfusion (HMP) seems to improve the graft outcome when compared to static cold storage (SCS). The aim of the present study was to evaluate the reconditioning effect of HMP on grafts with a CIT over 24 h.
Materials and methods: Prospective study on 21 single kidney grafts suitable for KT. The indication for HMP was an expected CIT over 24 h. Two groups according to the median CIT value were created: A group (CIT range 24–28 h, $n = 10$) and B group (29–33 h, $n = 11$)
Results: The study groups were homogeneous in terms of donor and recipient characteristics. The B group showed a statistically longer SCS time than the A group (857.7 $\pm$ 217.7 min vs. 536.2 $\pm$ 73.5 min, p .01) but similar HMP time (1001.2 $\pm$ 213.8 min vs. 1133.8 $\pm$ 133.8 min, p 0.1). At the beginning of HMP, the B group recorded a statistically higher arterial resistance (.53[.32-.75] vs. .25[.19-.33], p .01) and lower flow (53.7 $\pm$ 29 vs. 88 $\pm$ 39.3, p .03). However, such differences subsided (p .07, p .16) at the end of HMP. Despite no differences were noted between A and B group, a statistically significant increase of lactates and decrease of pH, pO_2 an glucose were measured in the perfusion liquid at the end of HMP, compared to the beginning. Furthermore, in renal biopsies immediately before and after HMP, no significant changes of nuclear and cytoplasmic injuries were noted. Clinically, no differences between A and B group were recorded at KT in terms of DGF, acute rejection, diuresis, creatinine serum levels, and 24 h creatinine clearance in the first three months after KT.
Conclusions: HMP reconditioning does normalize the increased vascular resistance associated with prolonged SCS and prevent any further worsening of the ischemic damage, even maintaining some metabolism.

MP117 EMERGENCY LAPAROSCOPIC NEPHRECTOMY AND AUTOLOGOUS RENAL TRANSPLANT FOLLOWING URETERIC AVULSION IN A PATIENT WITH A SINGLE-FUNCTIONING KIDNEY

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Introduction: The purpose of this case is to highlight outcomes of autologous transplant in patients with a single-functioning kidney sustaining a high ureteric injury during routine renal calculi retrieval surgery. We discuss the acute surgical management, post-operative morbidity and length of hospital stay.
Methods: Proximal ureteric injury is a rare (0.06–0.45%) yet associated complication of ureteric stone surgery, of which 0.2% of patients require major surgical intervention. A 70 year old patient was transferred into renal transplant care after sustaining a high ureteric injury following rigid URS for a right-sided pelvico-ureteric stone. A urogram demonstrated no contrast excretion from the remaining left atrophic kidney. Autologous transplant was performed following laparoscopic donor nephrectomy.
Discussion: Imaging revealed complete avulsion of the ureter. Past medical history included an atrophic left kidney, incompetent of providing a dialysis-free existence. Initial management involved insertion of a transurethral urinary catheter and an attempt at nephrostomy insertion under radiological guidance. Extravasation of urine into the retroperitoneum rendered the collecting system non-dilated. Nephrostomy attempts were abandoned. Following asessment, the decision was made to perform laparoscopic donor nephrectomy and autologous transplant attempting to preserve native renal function and avoid the need for dialysis. Surgical intervention was uncomplicated. The patient experienced primary graft function. Post-operative recovery period was complicated by pneumonia and acute kidney injury, which resolved.
Conclusion: The patient was successfully discharged on day 51. Discharge creatinine was 100 μmol/l, eGFR 62. At 4 months creatinine was 84 μmol/l. Emergent laparoscopic nephrectomy and autologous transplant is a credible method of preserving native renal function, avoiding long term renal replacement in the elderly population with a single functioning kidney.

MP118 PHYSIOLOGICAL FUNCTION IN VESSELS FROM DCD AND LIVE DONOR KIDNEYS

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Background: Apart from live donors organ donation after brain death (BDB) as well as after cardiac death (DCD) increases donation numbers. As part of the organ donation vessels are retrieved and stored at +4°C for up to 14 days in case the recipients will need a vascular repair after transplantation. In the present study we analyze and compare physiological conditions and contractile ability of renal arteries from porcine live donor and DCD donor as well as renal arteries stored with Krebs-Ringer solution at +4°C for 10 h.
Methods/Materials: Pig renal arteries were obtained from live donor pigs, diseased donor pigs with cardiac arrests and from live donor pigs which were later stored in Krebs solution at +4°C for 10 h.
Each group consists of renal arteries ($n = 7$) with pig iliac arteries used as controls. Rings of arteries (diameter 2.5–3 mm) were used for organ bath experiment which was designed to trace the contraction of smooth muscle cells induced by cumulative noradrenalin dose stimulation. The intactness of endothelial layer was studied by Substance *p* dose response. Complete muscle fibers relaxation was promoted by high dose of Papaverine (300 μmol/l) which was done at the final stage of experiments.
Results: Passive and active tension as well as maximum active stress was calculated after preliminary experiment. The optimal circumference with strongest active force was found for groups of fresh renal and fresh iliac arteries. Contraction and relaxation capacity induced by noradrenalin and Substance *p* followed by Papaverine in isolated arteries didn't show significant difference among the tested groups.
Conclusion: Our findings suggest that neither cold storage for 10 hours nor cardiac arrest of the donor affect the smooth muscle function of the arteries and should not play a critical role during kidney transplantation or use of stored vessels for later surgical repair.

MP11 – Liver donation, allocation and ischemia-reperfusion

MP120 FREQUENCY OF AND REASONS BEHIND NON-LISTING IN ADULT PATIENTS REFERRED FOR LIVER TRANSPLANTATION

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Background: The aim of this study is to assess the frequency of and the reasons behind the decision of non-listing for liver transplantation.
Patients and methods: A single-center retrospective study was conducted on adult patients with liver diseases, which entailed a formal multidisciplinary assessment for liver transplantation eligibility. The predictors for listing were evaluated using multivariate logistic regression.
Results: From January 2015 to December 2017, 314 patients completed evaluation for liver transplantation at our center. The reason behind evaluations was acute liver failure in 34 (10.8%) patients, hepatocellular carcinoma in 112 (35.7%) patients, decompensated cirrhosis in 162 (51.6%) patients, and other indications in 6 (1.9%) patients. 145 patients were waitlisted; out of them, 108 (34.4%) patients were transplanted, 21 (6.7%) were still on our waitlist as of 31 December 2017 and 16 (5.1%) have dropped out. The non-listing rate was 53.8%.
For 30 patients, there was more than one reason behind non-listing. Therefore, we recorded 205 reasons behind non-listing. The contraindications accounted for 91 (44.4%) reasons and the most common ones in our cohort were psychological (9.3%), cardiovascular (6.8%) and surgical (5.9%). Incorrect indication accounted for 76 (37.1%) cases and included 33 (16.1%) patients having a MELD-Na score below 15. Moreover, 16 (7.8%) patients refused transplantation, 6 (2.9%) chose another center and 3 (1.5%) were lost to the follow-up. Finally, 13 (6.3%) cases developed complications during evaluation process.
On multivariate analysis, referral from another hospital (OR 2.113; 95% C.I. 1.259–3.548) served as an independent predictor of non-listing.
Conclusions: A final decision regarding ineligibility for liver transplantation was taken by about half of our cohort and it was based on an early referral in one case out of three. The referral from another hospital was taken as a strong predictor of non-listing.

MP121 IMPACT OF TEMPORARY CARDIAC ARREST IN BRAIN DEAD LIVER DONOR ON LIVER TRANSPLANTATION RESULTS

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Background: The use of hepatic allografts from donors who have suffered a temporary cardiac arrest (TCA) is considered as a risk factor of liver failure following liver transplantation (LT) because he could lead to graft dysfunction. Conversely, some studies suggested a protective effect.

The objective of this work is to study the influence of TCA in brain dead donors on LT outcome.

Material and methods: Single institutional retrospective study on 429 consecutive LT (01/2008–06/2017). Exclusion criteria: retransplantation, multiorgan transplantation, splits and domino graft, controlled cardiac dead donors. A group of LT frome TCA donor (n = 111) was compared to a group of no TCA (n = 318). Primary end point: arteriobiliary complications free survival (ABC free survival) during the first year post-LT.

Results: Patients of the TCA group were younger than patients of the no-TCA group. Main cause of death was anoxia in the TCA group and vascular in the no-TCA group. The following donor characteristics were higher in the TCA group: AST and ALT levels (peak), γGT and ALP at day 1 after ICU admission, creatinine, PT and peak of lactate and bilirubin. Patient survival, graft survival and Early Graft Dysfonction were not different between the 2 groups. AST and ALT level at postoperative day 2 were lower in the TCA group. The ABC free survival was significantly higher in the TCA group compared to the no-TCA group (81% vs. 70% at 1 year, p = 0.044) at univariate analysis. However, this difference disappeared at multivariate analysis.

Conclusion: We failed to observe any deleterious effect of a TCA in brain dead donors on LT outcome. On the contrary, some results were suggestive of a protective influence.

MP122 IMPLEMENTATION OF NORMOTHERMIC REGIONAL PERFUSION IN EXTENDED CRITERIA DONORS IN THE NETHERLANDS

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Introduction: Organ shortage still causes waiting list morbidity and mortality in the Netherlands. Increasing donor utilisation and donor organ quality may lead to a decrease in waiting lists. Normothermic Regional Perfusion (NRP) of abdominal organs may achieve this, by allowing macroscopic and laboratory value assessment of extended criteria donation after circulatory death (DCD) organs during perfusion. A program for NRP was initiated in the western part of the Netherlands.

Methods: A project organization was established by the combined Erasmus MC and LUMC procurement team, supported by the Ministry of Health. Organ perfusion specialists and procurement teams were trained in dedicated training programs. A perfusion and assessment protocol was developed for a selected group of extended criteria DCD donors of whom liver and pancreas normally would not be procured.

Results: Since the start of the project in late 2018, seven extended criteria donors were eligible for NRP. In three cases the donor did not decease in time. From the four donors on whom NRP was performed, eight kidneys were transplanted. DGF rate was 50%, PNF rate 0%. One graft was lost after four months due to infectious complications. Two out of four livers were positively assessed during NRP and successfully transplanted. Two other livers were negatively assessed and declined for transplantation. One out of four pancreases was retrieved for islet isolation. No adverse events were noted during NRP. The duration of the procedures was comparable to regular donation after brain death (DBD) procedures.

Conclusion: Establishment of an extended criteria donor NRP protocol in the Netherlands was successful. Despite the short duration of the project, already two livers were transplanted that otherwise would not have been used for transplantation. These promising first results may ultimately lead to an increase in donor utilisation up to 10%, leading to less waiting list mortality.

MP123 DOMINO LIVER TRANSPLATATION FROM PEDIATRIC PATIENT WITH CRIGLER NAJJAR TO ADULT PATIENT WITH EPITELOID HEMANGIOENDOTHELIOMA

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Background: Crigler Najjar is a genetic disorder which results in increased unconjugated bilirubin level. Hepatic epitheloid hemangıoendothelioma is a rare malignant tumor of vascular origin and uncertian biological behaviour.

Materails/Method: Here we presented our adult patient with epiteloid hemangıoendothelioma without a living donor in relatives and unable to enter cadavaric waiting list. The tumor was in all lobes of the liver. Whole body evaluation showed no metastasis. Meanwhile our pediatric case who is 13 years old with Criglar Najjar came to us for living donor liver transpalantation from her mother. We performed domino transplantation from pediatrci Crigler Najjar to epitoloid hemangıoendothelioma.

Results: The total weight of the pediatric liver was 750 g. After performing domino transplantation, both patients went good and discharged on the 12. Postoperative day. Harvested liver from the adult patient was reported liver full of epitheloid hemangıoendothelioma lesions. Total bilirubin levels were increased up to 20 mg/dl. Phenobrbital treatment was given in order to control the bilirubin levels. On the 10 month, there's no metastasis

Conclusion: Crigler Najar liver can bu used in selected adult cases with phenobarbital.

MP124 MAXIMIZING TRANSPLANTATION RATE THROUGH INCREASED DONATION AFTER CARDIAC DEATH (DCD) AND LIVING DONOR LIVER TRANSPLANT (LDLT) WITHOUT JEOPARDIZING OUTCOME

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Introduction: Supply demand mismatch from a limited supply of brain dead donors (DBD) continues to limit liver transplantation, and expanding DCD and LDLT could be a way to augment the donor pool. We propose that this expansion can increase the SRTR measured transplantation rate, while still maintaining survival outcomes

Materials & Methods: Starting 01/2012, the option of performing DCD and LDLT became available at our center. All 806 pts from 01/2012–10/2018 were retrospectively reviewed using a prospectively obtained database, stratifying by procedure type and analyzing demographics and outcomes. Further data regarding waitlist mortality and transplantation rate was obtained from SRTR database.

Results: The 806 OLT pts were stratified to DBD (n = 709), DCD (n = 81), LDLT (n = 75), with LDLT and DCD livers representing 22% of the DBD livers. Overall MELD score was 19.3 (DBD 19.8, DCD 18.1, LDLT 15.7). As the LDLT and DCD number increased, the transplantation rate has steadily increased from 45.5% in Jun 2016 to 88% in Jan 2019 – double the SRTR expected rate. 1-year and 3-year patient survival for DBD was 92% and 88% and was no different vs. DCD (94% and 82%) or LDLT (92% and 85%). 1-year and 3-year patient survival for DBD was 91% and 86% and was no different vs. DCD (88% and 82%) or LDLT (90% and 82%). Looking specifically at the LDLT from the last 3 years, the 1-year patient and graft survival was 100% and 97% for 35 consecutive cases.

Conclusions: The use of DBD should not preclude DCD and LDLT, and all 3 modalities should be available for all patients– accepting limitations of LDLT. Expanding the role of DCD and LDLT can increase the transplantation rate without jeopardizing the patient outcomes.

MP125 THE TREATMENT STRATEGY OF PEDIATRIC ACUTE LIVER FAILURE AIMING FOR THE INTACT SURVIVAL: SINGLE CENTER RETROSPECTIVE STUDY

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Background: Acute liver failure (ALF) requires intensive care including blood transfusion, hemodiafiltration and liver transplantation (LT). The treatment strategy is therefore quite important. We herein report our experience to promote the intact survival of pediatric ALF patients.

Methods/Materials: We retrospectively investigated the ALF patients aged less than 16 years old between January 2013 and December 2017. ALF was diagnosed according to the Japanese guideline as follows: Preexisting symptomless liver disease is absence; Prothrombin time is less than 40% or INR more than 1.5 with or without encephalopathy within 8 weeks. We usually conducted continuous hemodiafiltration (CHDF) and plasma exchange (PE) as a hemodiafiltration.

Results: Seventeen patients were included. The background diseases were as follows: hemophagocytic lymphohistiocytosis (HLH) (n = 4); transient abnormal myelopoiesis (TAM) (n = 2); neonatal hemochromatosis (NH) (n = 1); the others (n = 3); unknown (n = 7). In neonatal group (n = 7), all patients received blood exchange, and LT was performed in 4 patients (57%). In non-neonate group (n = 10), hemodiafiltration including CHDF and PE was performed in 8 patients, and 6 of them (75%) had LT following the hemodiafiltration with median duration of 6 days. As an outcome, Overall survival was 58% and 80% in neonatal and non-neonatal group, respectively. Of 17 patients, 2 patients had neurological disorder, who received LT following long internal care more than 20 days.

Conclusion: In neonatal group, the treatment of ALF is still challenging issue. In non-neonatal group, LT tends to be required in patients requiring hemodiafiltration, indicating that these patients should be immediately transferred to the transplantation center. Based on our results and the previous reports, the

decision of performing LT aiming for the neurologically intact survival should be done within 5–6 days from starting the hemodiafiltration.

MP126 RIGHT PSOAS MUSCLE AREA EVALUATION IN CIRRHOTICS – PREDICTOR OF BOTH PRE AND POST-LIVER TRANSPLANT DEATH

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Fundeni Clinical Institute

Background: Malnutrition and sarcopenia are frequent complications in cirrhosis and contribute to increased risk of sepsis-related mortality, poor quality of life, post-liver transplant (LT) adverse outcomes. Sarcopenia is defined also by cross-sectional imaging-based muscular assessment, however computed tomography (CT) scan determinations vary as well as cutoff values.
Aim: To study the association of muscle psoas evaluation with death both pre and post-LT.
Methods: All cirrhotic patients admitted on the waiting list (WL) for LT in our Hepatology Unit between years 2016–2017 underwent anthropometric assessments and abdominal CT scan including L3 and umbilical levels for measuring transverse psoas muscle thickness. AUROC curves were constructed to define the best cut-off values to predict death while on the WL as well as post-LT.
Results: One hundred thirty two patients with liver cirrhosis were included. The average age was 53.9 ± 10.7 years, and 66% of patients were men. Child C class was encountered in 29.3% of patients and associated hepatocellular carcinoma (HCC) was present in 17.8%. Large ascites (8–10 litres) was present in 27.7%. Liver transplant (LT) was performed in 26 patients. Patients with sarcopenia (defined as arm circumference < 22 mm and hand-grip < 45dyne) and Child Pugh Class C cirrhosis had a significantly lower right psoas muscle area compared to patients with Child Pugh class A/B cirrhosis (624 cm^3 vs. 931.3 cm^3, $p = 0.04$). There was no difference regarding right psoas muscle area between patients with and without HCC ($p = 0.29$). The value of the AUROC right psoas muscle area for predicting 1-year mortality was 0.73 for a cut-off value of 608 cm3, while for predicting post-LT death the AUROC was 0.83 for a cut-off value of < 736 cm^3 (Se = 100%, Sp = 77.8%).
Conclusions: Psoas muscle area can be used as screening factor for risk of death after LT and should be included in the scores evaluating transplant benefit.

MP127 BEYOND CLINICAL FACTORS: IMPACT OF ORGANIZATIONAL VARIABLES ON OUTCOME OF LIVER TRANSPLANTATION AT A SINGLE CENTER

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Background: The aim of the current analysis was to assess the impact of organizational, resource, and human-related variables on patient and graft survival after liver transplantation (LT).
Materials and methods: This was a retrospective analysis on 1475 consecutive LT at a single center from 2001 to 2016. The outcome variables were 90-day graft survival (primary endpoint) and overall patient and graft survival (secondary endpoints). The explored organization variables included: surgery starting time; LT duration; procedures performed by surgeons in training, and number of senior surgeons (≥100 procedures) by era.
Results: At multivariate analysis, better 90-day graft survival was associated with a higher number of senior surgeons ($p = 0.001$) and shorter procedures ($p = 0.001$). Higher overall patient and graft survival was associated with senior surgeons ($p = 0.001$), in-training surgeons ($p = 0.014$), and shorter procedures ($p = 0.001$, 0.004). Transplant starting time was not associated with any of the outcome variables.

Clinical/organizational variables	B	*p* -value	HR
Recipient age	−0.023	0.203	0.978
HCC	0.094	0.760	1.099
HCV infection	−0.013	0.962	0.987
MELD	−0.008	0.804	0.992
Donor age	0.025	0.011	1.025
LT starting time	0.014	0.414	1.014
LT Duration	0.006	0.001	1.006
Tutoring	−0.566	0.121	0.568
# senior surgeons	−0.294	0.001	0.745

Conclusions: Beyond clinical variable, graft and patient survival rates may be affected by organizational issues. While transplant starting time does not seem to impact on outcome, better early and late survival was associated with shorter procedures and availability of higher number of senior surgeons. In-training staff surgeons performed as senior surgeons.

MP128 WAITLIST MANAGEMENT IS A PRIMARY DRIVER OF OBSERVED REGIONAL DIFFERENCES IN US LIVER TRANSPLANT DISTRIBUTION

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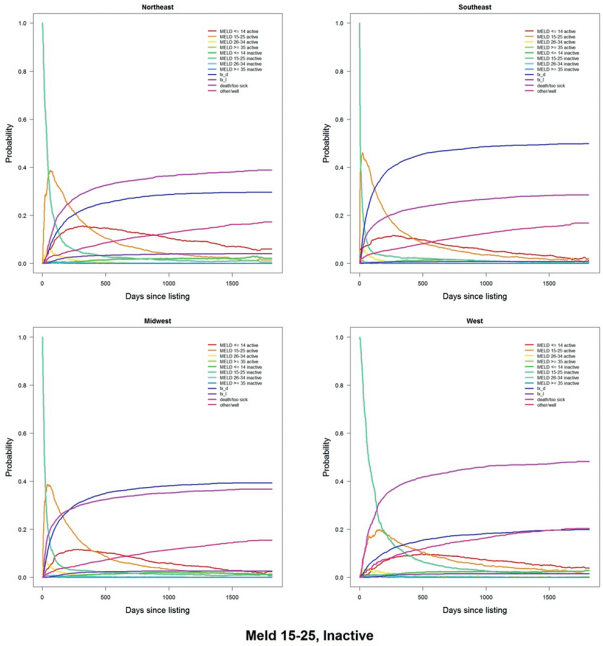
Background: Regional variations in waitlist mortality and median MELD scores at transplant have prompted proposals to change the liver allocation system. One factor that has not been considered is how regions manage waitlisted patients and if known regional disparties in median MELD at transplant could be explained by differences waitlist managment.
Methods: A multistate model was contructed from the OPTN database (06/18/2013 to 06/08/2017) incorporating activity status and MELD combinations to measure transition probabilities between MELD categories and the following competing risk outcomes: deceased donor transplant, living donor transplant, or death/other. Status 1 and MELD exceptions were excluded. The 11 OPTN Regions were broadly classified as follows: Northeast (1,2,9), Southeast (3,4,11), Midwest (7,8,10), and West (5,6).
Results: There were 25,218 subjects in the model structured with the following initial listing states: MELD < 15 active (2.0%)/inactive (1.9%), MELD 15–25 active (23.9%)/inactive (19.4%), MELD 26–35 active (10.6%)/inactive (13.7%), and MELD >35 active (12.0%)/inactive (16%%). For inactive patients, the Southeast (HR 3.65 (95% CI 3.35–3.96)) and Midwest Regions (HR 3.18 (95% CI 2.86–3.49)) had a statistically greater chance of resolving issues of inactivity, resulting in waitlist activation compared to the Northeast (HR 2.06 (95% CI 1.79–2.33)) and West (HR 0.93 (95% CI 0.76–1.10)) regions. As only active patients are able to receive deceased donor organ offers, this led directly to higher transplant probabilities (Figure).
Discussion: Resolving issues of inactivity, be they medical, social, or financial are key to increasing the probability of getting a transplant. There are significant differences in how regions successfully resolve these issues in lower MELD patients which is likely a critical factor in higher rates of transplant in lower MELD patients and contributes to the observed regional differnces in the median MELD at transplant.



MP129 INTENTIONAL POSTPONING OF WITHDRAWAL OF LIFE SUSTAINING THERAPY (WLST) IN POTENTIAL CDCD DONORS WITH EVOLVING INTRACRANIAL HYPERTENSION INCREASES DONOR ORGAN YIELD, A SINGLE CENTER EXPERIENCE

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Introduction: In potential controlled donation after circulatory death (cDCD) donors with evolving intracranial hypertension, WLST is selectively postponed in our practice. This allows an evolution towards donation after brain death resulting in better transplant outcomes than cDCD and a potential extra organ yield (heart and liver). However, this strategy increases ICU stay and costs. We compared the number of organs transplanted from DBD donors in whom the interval between decision of futility and brain death diagnosis >24 h delayed DBD (dDBD) versus standard DBD (sDBD) with a shorter interval of < 24 h.
Methods: Retrospective, single center analysis of all DBD donors (2009–2018). Donor demographics, cause of brain injury, time between ICU admission and decision of futility and between decision of futility and brain death, number of transplants were compared between sDBD and dDBD. Data presented as median+IQR.
Results: 73 sDBD and 27 dDBD were referred for organ donation. Age was similar between sDBD and dDBD: 62 year (48–76.5), vs. 71 year (46–76); $p = 0.5$. Cause of death for sDBD/dDBD was trauma (18/73 vs. 5/27), post-anoxemic (9/73 vs. 2/27), meningitis (3/73 vs. 0/27), ischemic (3/73 vs. 0/27) and intracranial bleeding (40/73 vs. 20/27). The interval between admission and decision of futility was 6 h37 (1 h55–26 h55) for sDBD vs. 15 h31 (4 h30–60 h16) in dDBDs, $p = 0.1$. The interval from decision of futility to brain death for sDBD: 13 h08 (6 h26–18 h02) as for dDBD: 30 h (26 h11–45 h36), $p < 0.001$. Number of organ transplants was 3 (1–4) in sDBD vs. 3 (1–3.75) in dDBD group, $p = 0.1$ (including a gain of 6 hearts and 12 livers).
Discussion and conclusion: Postponing WLST and prolonging organ care in selected donors with evolving intracranial hypertension allows evolution towards brain death. This strategy results in an equally high number of organs transplanted and certainly in an extra number of hearts and livers, for which cDCD on itself or if >75 year are often regarded as a contra-indication for cDCD.

MP130 RISK FACTORS OF LIVER DYSFUNCTION FOR A DONOR AFTER EXTENDED RIGHT LOBE GRAFT DONATION

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Introduction: The aim of this study is to find risk factors of liver dysfunction for a donor after extended right lobe graft donation.
Patients and methods: From November 2005 to May 2018, total 52 liver donors were included in this study. Donor characteristics include age, sex, body mass index (BMI), liver volumetry and intraoperative findings. We divided 2 groups on the base of our criteria defined as below; (1) serum peak bilirubin over 3.0 mg/dl or (2) peak INR over 2.0 or (3) post hepatectomy liver failure (PHLF) of international study group of liver surgery (ISGLS) grade B or C or (4) ascites over 500 cc on or after pod5. We defined safety group relevant to no criteria and hazard group relevant to over 1 criteria.
Results: In volumetry, the ratio of left liver volume (LLV) to total liver volume (TLV), left lateral section volume (LLSV), and the ratio of LLSV to TLV showed significant differences. We found the cut off value of the ratio of LLV to TLV (LLV/TLV); 38%, and the ratio of LLSV to TLV (LLSV/TLV); 20%, using mean and median value. We categorized 3 groups using each cut off values regarded as risk factor, as below; (1) LLV/TLV ≥ 38% and LLSV/TLV ≥ 20%, (2) LLV/TLV < 38% or LLSV/TLV < 20%, (3) LLV/TLV < 38% and LLSV/TLV < 20%.

Risk factor	Safety Group ($n = 19$)	Hazard Group ($n = 33$)	Odd Ratio (95% CI)	p value
LLV/TLV ≥ 38% and LLS/ TLV ≥ 20%	14 (73.7%)	6 (18.2%)		0.001
LLV/TLV < 38% or LLS/ TLV < 20%	4 (21.1%)	15 (45.5%)	8.8 (2.0–37.7)	0.004
LLV/TLV < 38% and LLS/ TLV < 20%	1 5.3%)	12 (36.4%)	28.0 (2.9–266.5)	0.004

These showed significant differences and the odd ratio were 8.8 and 28.0 each in multivariable analysis. All cases were recovered and discharged without complication.
Conclusion: In this study, we could find that LLV/TLV and LLSV/TLV played an important role when considering use of extended right lobe graft in LDLT. Especially when LLV/TLV < 38% and LLSV/TLV < 20%, the risk of liver dysfunction is increased more.

MP131 COMPARISON OF HCC PATIENTS SELECTION CRITERIA FOR LIVER TRANSPLANTATION – SINGLE CENTER EXPERIENCE

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Background: In case of extensive organ shortage, it is highly important to define the patients suitable for liver transplantation (LTx). Several selection criteria have been introduced for the indication of LTx in case of hepatocellular carcinoma (HCC), such as Milan criteria (MC), up-to-seven criteria (UTS), Asan-criteria and AFP score. We studied the significance of selection criteria concerning the outcome of HCC patients transplanted at a single center.
Methods/Materials: Between 1994 and 2013, 120 patients (22 female and 98 male) with HCC who underwent orthotopic liver transplantation were enrolled in database. The median follow-up period after LTx was 53 months (Range 0–240). The overall survival was analyzed considering patient (sex, age, primary disease, MELD score) and tumor specific parameters (pre-treatment, tumor diameter and numbers, AFP-level) as well as selection criteria based on post operative pathology.
Results: The median age of all included patients was 61 (Range: 22–73) and the median MELD score was 11 (Range 5–40). The most frequent underlying condition was alcoholic liver disease (75 of 120 patients). During the follow-up period, 53 patients died mainly because of HCC recurrence ($n = 17$) or sepsis associated with multi organ failure ($n = 15$). In general, the 1-, 3- and 5-year overall survival rates of all patients with HCC were 76.7%, 67.2% and 55.6%, respectively. Considering the fulfilling of HCC criteria, the 1-, 3- and 5-years overall survival was comparable (MC: 82%, 77%, and 69%, UTS: 81%, 76% and 71%, Asan-criteria: 81%, 74% and 70%, AFP score ≤ 2: 82%, 75% and 52%). Among the clinical parameters, only tumor diameter and AFP level were significant factors between survivors and non-survivors ($p < 0.05$).
Conclusion: In our group, patients fulfilling UTS showed higher 5-year survival compared to patient fulfilling other criteria. The significant patient specific factors on survival were tumor diamete.

MP12 – Metabolic Outcomes in Kidney and Liver Transplantation

MP132 NIGHT TIME DIASTOLIC BLOOD PRESSURE: A PROGNOSTIC MARKER OF CARDIOVASCULAR OUTCOMES IN MASKED HYPERTENSIVE RENAL TRANSPLANT RECIPIENTS

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Background: Isolated nocturnal hypertension (INH) is characterized by normal daytime blood pressure (BP) and elevated nighttime BP diagnosed by ambulatory BP monitoring (ABPM). In present study, we aimed to evaluate the influence of nocturnal hypertension on left ventricular mass index (LVMI), renal resistive index (RRI) and inflammation in masked hypertensive renal transplantation recipients (RTR).
Methods: We cross-sectionally analyzed the ABPM monitoring data in 136 renal transplant recipients with stable allograft function.Daytime hypertensive patients were excluded and 74 patients with INH was enrolled to the study. Left ventricular mass index (LVMI) was calculated. RRI was measured by doppler ultrasound. Patients were divided into 2 groups according to mean RRI values as group 1 (RRI < 0.67; n: 29) and group 2 (RRI ≥ 0.67; n: 45).
Results: The mean post transplantation time, the mean RRI and the mean LVMI were 34.9 ± 1.7 months, 0.67 ± 0.1 and 193.0 ± 115.5 g/m^2, respectively.

In correlation analysis, nocturnal diastolic blood pressure was positively correlated to gender ($r = 0.248$, $p = 0.039$), post transplantation time ($r = 0.231$, $p = 0.01$), CRP ($r = 0.237$, $p = 0.04$), neutrophil/lymphocyte ratio ($r = 0.157$, $p = 0.01$), RRI ($r = 0.299$, $p = 0.01$) and LVMI ($r = 0.26$, $p = 0.033$). Male's RRI was significantly higher than female's RRI (0.69 ± 0.03 vs. 0.66 ± 0.01; $p = 0.04$). In subgroup analysis, patients in group 1 had significantly lower serum ferritin ($p = 0.04$), CRP ($p = 0.04$), LVMI ($p = 0.01$), nocturnal diastolic blood pressure ($p = 0.01$), neutrophil/lymphocyte ratio ($p = 0.04$); however higher serum albumin ($p = 0.03$) levels. In multiple regression analysis; RRI (95CI%: 8.39–65.6; $p = 0.012$) and LVMI (95%CI: 0.299–0.211; $p = 0.02$) were detected as the predictors of nocturnal diastolic blood pressure.
Conclusions: Isolated nocturnal diastolic hypertension has significant influence on LVMI, RRI and inflammation. Thus, INH could be an early predicting factor for graft functon and cardiovascular outcome in RTRs.

MP133 RISK FACTORS OF PROGRESSIVE CHRONIC KIDNEY DISEASE: ANALYSIS OF A 10-YEAR FOLLOW-UP COHORT OF LIVER TRANSPLANT RECIPIENTS

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Background: Improved survival after liver transplantation (LT) has led to increased incidence of chronic kidney disease (CKD) after LT. Perioperative risk factors of renal dysfunction after LT, especially intraoperative and perioperative management factors, are potentially modifiable. We investigated the risk factors associated with CKD progression for 10 years after LT.
Methods/Materials: This retrospective study included 292 patients who underwent LT at Samsung Medical Center between January 2000 and December 2008. Kidney function was assessed by the estimated glomerular filtration rate (eGFR) using the Modification of Diet in Renal Disease formula. The area under the curve of serial eGFR (AUC_{eGFR}) was calculated for each patient. Linear regression analysis was performed to examine the associations between the variables and AUC_{eGFR}.
Results: Multivariable analysis showed that age ($p < 0.001$), diabetes mellitus (DM) ($p = 0.015$), preoperative proteinuria ($p < 0.001$), preoperative acute kidney injury (AKI) ($p = 0.002$), postoperative AKI ($p = 0.030$), and postoperative mean vasopressor score ($p = 0.018$) were independently associated with progression of CKD.
Conclusion: More careful renoprotective management is required in elderly LT patients with DM or preexisting proteinuria. Among the identified risk factors, postoperative AKI and dose of vasopressor may be modifiable for preventing post-LT CKD progression.

MP135 EFFECT OF BODY COMPOSITION ON GRAFT FUNCTION AND CARDIOVASCULAR OUTCOMES IN NORMOTENSIVE RENAL TRANSPLANT RECIPIENTS

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Background: Renal transplant recipients has better cardiovascular outcomes when compared to patients ongoing hemodialysis. Body composition parameters were detected as the predictors of morbidity and mortality in this population. We aimed to evaluate the effects of body composition on graft function and cardiovascular outcomes in normotensive renal transplant recipients.
Methods: We cross-sectionally analyzed the ABPM monitoring data in 136 renal transplant recipients with stable allograft function. 87 normotensive renal transplant recipients (mean age: 36.2 ± 1.8 years, 46% male) was enrolled to the study. Left ventricular mass index (LVMI) was calculated by conventional echocardiography. Renal resistive index (RRI) was measured by doppler ultrasound. Body composition analysis was determined. Patients were divided into two groups according to their mean lean body mass (LBM) as group 1 (LBM < 47 kg; *n*: 38) and group 2 (LBM ≥ 47; *n*: 49).
Results: The mean post transplantation time, RRI, LVMI, LBM, body mass index (BMI), fat mass (FM) and waist hip ratio were 35.0 ± 23.3 months, 0.67 ± 0.1, 195.0 ± 118.5 g/m^2, 47.3 ± 9.1 kg, 25.9 ± 5.0 kg and 44.6 ± 10.5 kg, 0.87 ± 0.1, respectively.In correlation analysis, LBM was positively correlated to gender ($r = 0.36$, $p = 0.03$), BMI ($r = 0.04$, $p = 0.416$), RRI ($r = 0.495$, $p = 0.01$) and LVMI ($r = 0.713$, $p = 0.02$), however negatively correlated to serum albumin levels ($r = -0.343$, $p = 0.04$). In gender evaluation, male LBM was significantly higher than female (48.0 ± 2.7 vs. 34.8 ± 1.6; $p = 0.03$). Patients in group 2 had significantly higher LVMI ($p = 0.01$), waist hip ratio ($p = 0.04$) and RRI ($p = 0.03$).In multiple regression analysis; LBM (95CI%: 0.03–0.011; $p = 0.01$) and LVMI (95%CI: 0.01–0.011; $p = 0.01$) were detected as the predictors of RRI.
Conclusion: Lean body mass has significant influence on LVMI and RRI. Hence, body composition analysis could be an early predictor for graft function and cardiovascular outcomes in normotensive renal transplant recipients.

MP136 NEW ONSET DIABETES AFTER TRANSPLANTATION IN AFRICANS: INCIDENECE AND RISK FACTORS

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Introduction: New onset diabetes after transplantation (NODAT) is a well-recognized complication after renal transplantation. However, little is known about the true incidence of NODAT in Africans, as most of what is written in literature is related to African-Americans.
Aims: The primary aims of this research were to study the incidence of NODAT in Sudanese renal transplant patients and to compare it to the reported incidence in African-Americans. The secondary aim was to identify the risk factors for developing NODAT.
Methodology: This was a retrospective cross-sectional study which included 150 patients who underwent living donor renal transplantation at Ahmed Gasim Hospital in Khartoum Sudan during the period 01/01/2016 till 31/12/2016 and followed-up for at least 2 years. Patients with end-stage renal disease due to diabetic nephropathy were excluded from this study. The variables analysed were: age at the time of transplantation, sex, interval between time of transplantation and developing NODAT, family history of diabetes mellitus (DM), body mass index (BMI), pre-transplant history of hypertension, dyslipidaemia, steroid therapy or hepatitis C virus infection.
Results: Of the 150 patients, 98 (65.3%) were males and 52 (34.7%) were females. The average follow up duration was 28 ± 3.1 months. 23 (15.3%) patients developed NODAT during follow-up. The mean age of the patients who developed NODAT was 39 ± 14 years and the mean BMI was 26.9 ± 3.6 kg/m^2. The mean time to develop NODAT was 5.78. Risk factors for developing NODAT were: A family history of Diabetes Mellitus ($p = 0.01$), pre-transplant hypertension ($p = 0.04$), pre-transplant steroid therapy ($p = 0.01$), pre-transplant dyslipidemia ($p = 0.02$) and a positive HCV infection ($p = 0.04$).
Conclusion: The incidence of the NODAT in this study group (15.3%) was similar to that of the general Sudanese population but significantly lower than the reported incidence of NODAT in African-Americans (39%).

MP137 INTRACRANIAL PRESSURE MONITORING IN THE PATIENTS WITH ACUTE LIVER FAILURE

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Background and aims: Acute liver failure (ALF) is a rare but highly devastating condition, associated with high mortality. All patients with ALF must be considered as potential liver transplant (LT) candidates. Many patients die on the waiting list because of complications of liver failure, mainly intracranial hypertension (ICH) and sepsis. The aim of the study was to evaluate the importance of intracranial pressure (ICP) monitoring in patients with ALF.
Method: A single center retrospective analysis of the patients with ALF and ICP monitoring, who were treated according to the protocol, including medical therapy, extracorporeal liver support and with access to emergency LT, was performed. In the patients with grade 3 and 4 of encephalopathy, who were mechanically ventilated and sedated, sensor for ICP monitoring was placed by neurosurgeon; antibiotics and coagulation factors were given before the insertion. The episodes of ICH, complications associated with the sensor, and clinical outcome were recorded.
Results: ICP was monitored in 56 out of 167 patients with ALF admitted to our centre between 2005 and 2016. Encephalopathy was recorded in 84% of them on admission. All the patients required ventilatory and vasopressor support, 91% renal replacement therapy. Extracorporeal liver support was performed in 62.5%. ICH was observed in 45% of monitored patients. Hemorrhagic complications related to the ICP sensor were observed in 7.14%. 54 patients fulfilled transplant criteria and 26 were transplanted. 24 patients died before LT; 12 of them due to ICH; 4 patients were delisted due to improvement. 37.5% patients with ICP monitoring survived. None of the survivors had neurological complications after hospital discharge.
Conclusion: ICP monitoring provides the information about episodes of ICH and identifies patients unsuitable for LT. It is a safe procedure under the condition of experienced neurosurgeon, antibiotic prophylaxis and correction of coagulopathy.

MP138 A FOUR YEAR OUTCOME OF RENAL GRAFT IN A SAUDI CHILD WITH PRIMARY HYPEROXALURIA TYPE 3 SECONDARY TO A NOVEL MUTATION IN HOGA1 GENE: A CASE REPORT & REVIEW OF THE LITERATURE

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Background: Primary hyperoxaluria type 3 is inherited as autosomal recessive disorder & considered the rarest & less severe form of primary hyperoxalurias. Primary hyperoxaluria type 3 results from HOGA1 gene mutation which encodes the enzyme mitochondrial 4-hydroxy 2-oxoglutarate aldolase. It is characterized by overproduction of oxalate by the liver leading to hyperoxaluria, kidney stones formation, nephrocalcinosis & rarely renal failure.
Clinical case: To our knowledge this is the first case report of the outcome of allograft kidney transplantation in pediatric patient with CKD stage V due to primary hyperoxaluria type 3. The patient was referred at the age of 9 year old to Mutlti Organ Transplant Center, King Fahad Specialest Hospital-Dammam, KSA as a case of CKD stage V on automated peritoneal dialysis with multiple renal stones for kidney transplantation. The diagnosed of primary hyperoxaluria type 3 was done in our center based on raised plasma oxalate (74.1 μmol/l) & genetic study that detected two apparently homozygous variants in the HOGA1 gene: c.533T>C (p.Leu178Pro) & c.535C>A (p.Pro179Thr). The detected variants were novel variants not previously described in the literature. This patient underwent living related renal transplantaion from his cousin at the age of 11 years & he is currently completed 4 year follow up post-kidney

transplantation. Throughout this period he had normal laboratory, sonografic & histopathological pattern with no evidence of recurrence of renal stone or nephrocalcinosis in the renal graft. His latest plasma oxalate was 2.6 μmol/l on January 2019 & serum creatinine was 73 μmol/l on February 2019 with eGFR = 70 ml/min/1.73 m^2.
Conclusion: This is the first reported case for renal transplantation in a child with primary hyperoxaluria Type 3. Throughout four year follow up post renal transplantation the patient was doing well with no evidence of recurrence of renal stoneor nephrocalcinosis in the renal graft & normal graft survival.

MP139 A RARE CAUSE OF POSTERIOR REVERSIBLE LEUKOENCEPHALOPATHY AFTER KIDNEY TRANSPLANTATION

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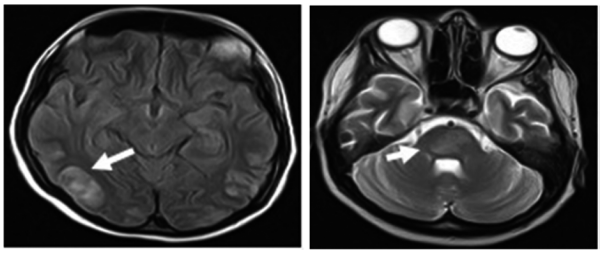
The posterior reversible encephalopathy syndrome (PRES) is a rare disorder of acute onset characterized by varied neurological symptoms. The overall incidence of PRES is 0.49% among solid organ transplant recipients. Herein, we present a recipient with blood transfusion-associated PRES in early period of kidney transplantation.
Case: A 24-year-old woman underwent a living-related donor kidney transplant operation in 9th October 2014. Graft function On the 1st day after the operation sudden hypotension and decrease in hemoglobin from 11.4 gr/dl to 6.61 g/dl had occurred. During this period 4 units of packed red blood cells were transfused. In the same day she had sudden confusion followed by two episodes of generalized tonic clonic seizures. Phenytoin infusion was given and then, carbamazepine were started as maintenance antiepileptic agent. CT scan revealed symmetrical hypodense changes in white matter of parieto-occipital lobes together with cerebral disorganization signs corresponding same regions in electroencephalography. Crainal MRI clearly indicated multiple focal areas of hyperintense signal changes in cortical-subcortical regions in both T2-weighted and FLAIR sequences in both frontal lobe, predominantly parietal posterior and occipital lobes (Fig 1), suggesting PRES. We suggested that PRES was associated with blood transfusions in this patient, because the trough levels of tacrolimus were within the normal ranges. The symptoms rapidly and completely disappeared. She was discharged 18 days after the onset of PRES.
Conclusion: Neurological complications have rarely been described after blood transfusion. There are a few reports on the potential contribution of blood transfusion. To our knowledge, this is the first case report of PRES after blood transfusion in a transplant recipient. We aimed to enable nephrologist to more readily and easily recognize this treatable disorder with important clinical implications.



MP140 CLINICAL RESULTS OF RENAL TRANSPLANTATION IN SENIORS: THREE YEARS FOLLOW UP

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Background and objectives: Patients aged ≥ 65 years are the fastest growing group of the end stage renal disease (ESRD) patients. For elderly patients, renal transplantation (RT) provides the best possible survival and improves quality of life when compared to those on dialysis. However, elderly RT patients are more likely to have comorbidities conditions, increased risk of post-transplantation complications and graft loss that may have influence on survival of transplant and the patient. The aim of the study was to evaluate the clinical results of elderly RT recipients in 3 years follow-up.
Materials and methods: Patients who received kidney transplant between January 2008 and December 2011 were enrolled into the study (N = 221). Patients were divided into two groups: group < 65 years old (198; 90%) and group ≥ 65 years old (23; 10%). Analysis on clinical-demographic data, RT function, graft and patient survival was performed. The analysis of logistic regression was used to determine the RT, graft loss and patient survival risk factors. Transplant and patient survival was analyzed using the Kaplan-Meier Surveillance Test.
Results: Acute graft rejection episodes were more common in the < 65 age group than in the group ≥ 65 years (41.44% vs. 19.05%). Analysis on probable risk factors for RT dysfunction was performed. Post-transplantation complications (OR 2.913; p = 0.002) and graft rejection in the first year (OR 2.249; p = 0.009) were confirmed as statistically reliable factors. There was no significant statistical difference in Kaplan-Meier RT 36-month survival in both patient groups (<65 years and ≥ 65 years) (p = 0.099). Analysis of 36-month patient survival provided statistically better results for the group < 65 years in comparison to group ≥ 65 years (95% vs. 82%; p = 0.032).
Conclusions: It can be concluded that age does not affect the RT function, graft and patient survival however patient survival was better for younger recipients

MP141 PLASMA FIBROBLAST GROWTH FACTOR 21 CONCENTRATION IN PATIENTS AFTER KIDNEY TRANSPLANTATION

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Background: Fibroblast growth factor 21 (FGF21) is involved in the regulation of energy expenditure. It is suggested that plasma FGF21 concentration increases with the progression of chronic kidney disease (CKD). The aim of the present study was to analyze the effect of successful kidney transplantation (KTx) on plasma FGF21 concentration and to study the factors related to plasma FGF21 concentration in patients long-term after KTx.
Materials/Methods: Forty CKD patients directly before KTx [27 women and 13 men aged 47.0 (39.3–54.0)], 180 patients long-term after KTx [70 women and 110 men aged 52 (47.4–54)] and 50 healthy subjects [28 women and 22 men aged 50.0 (47.6–58.0)] were enrolled into this study. In CKD patients, plasma FGF21 concentrations were measured four times (immediately before and 14 and 30 days, and 6 months after KTx). In patients long-term after KTx and in healthy subjects, this measurement was made once.
Results: In patients directly before KTx plasma FGF21 concentration were significantly higher than in healthy subjects [1013.0 pg/ml (744.4–1,635.7 pg/ml) vs. 256.0 pg/ml (219.0–332.0 pg/ml); p < 0.001]. At 14, 30 days and 6 months after KTx, a significant decrease of plasma FGF21 was observed [1013.0 pg / ml (744.4–1635.7 pg / ml); 322.5 pg/ml (199.0–546.8 pg/ml); 367.5 pg/ml (289.3–483.5 pg/ml); 363.5 pg/ml (293.5–508.2 pg/ml) (p < 0.001), respectively]. In patients long-term after kidney transplantation, a negative correlation was found between plasma FGF21 concentration and estimated glomerular filtration (eGFR) (R = −0.165, p < 0.05) and a positive correlations between plasma FGF21 concentration and HOMA (R = 0.185, p < 0.02), BMI (R = 0.148, p < 0.05) and serum triglycerides concentration (R = 0.362, p < 0.001).
Conclusions: 1. In patients after KTx a decrease of plasma FGF 21 concentration was found. 2. Plasma FGF21 concentration in patients long-term after KTx is related to the degree of impairment renal function and metabolic status.

MP142 ASSOCIATION BETWEEN BODY COMPOSITION, FOOD INTAKE AND OCCURRENCE OF SARCOPENIA IN LIVER DISEASE: PRELIMINARY RESULTS

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One of the most common complications in liver disease patients is sarcopenia, a situation in which there is a reduction of lean mass and muscle strength. Sarcopenia can be triggered, among others, by malnutrition, often diagnosed in these individuals, since the food intake is affected and/or altered. The present study aims to analyze alterations through spirometry, 24 h recall and bioimpedance in patients with hepatopathies followed in Gastrocentro – UNICAMP. The presence of muscular strength, lean mass and fat mass will be analyzed to verify changes in body composition caused by organ malfunction and (in) adequacy of food intake, which may be a risk factor for the development of malnutrition, in addition to the verification of biochemical tests. The results with 10 patients with mean age of 47 years showed that the mean BMI was 28.9 kg/m^2 and half had the highest percentage of total fat in relation to lean mass (67% fat mass). According to the reminder, 5 of the 10 patients presented caloric intake lower than their basal metabolic rate and insufficient protein intake (lower than 0.8 g/kg body weight). From this we conclude that the intake is poor in nutrients, favoring sarcopenia in liver disease patients.

MP143 THE CLINICAL OUTCOME OF PATIENTS WITH FMF-AMYLOIDOSIS (AA) AFTER KIDNEY TRANSPLANTATION: WHAT HAS CHANGED IN THE LAST DECADE?

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Background: The patients with Familial Mediterranean Fever (FMF) have an increase in infection and mortality due to impaired immune system regulation after kidney transplantation (ktx). The aim of this study was to evaluate the long-term follow-up results, treatment changes according to years and anti-interleukin-1 (IL-1) treatment efficacy of FMF patients who underwent ktx in the last two decades.
Methods: FMF amyloidosis cases who had kidney transplantation at our center and followed up for at least six months between June 1999–2018 were evaluated. Patients were divided into two groups according to ktx before (Group 1) and after January 2010 (Group 2).
Results: 746 patients underwent ktx. 40 (5.4%) of these patients had FMF. Three (7.5%) patients lost their graft during follow-up. This ratio was lower when compared to all ESRD patients with kidney transplant (7.5% vs. 19%; $p = 0.01$). Mortality rate was significantly higher in patients with FMF (25% vs. 9.9%; $p = 0.03$). Mortality in the pre-2010 group (n: 21 pts.) was significantly higher than the post-2010 group (n: 19 pts.) (42% vs. 5.2%; $p < 0.01$). The frequency of hospitalization due to any cause or infection during the follow-up period was higher in group 1 (8.1 vs. 3.7; $p < 0.05$ and 5.3 vs. 2.2; $p < 0.05$). The maintenance dosage of tacrolimus and cyclosporine and the dose of ATG for induction were higher in Group 1. However In both groups, the incidence of rejection and death censored graft loss were similar. As of 2016, 6 patients received IL-1 antagonist. Before and after treatment; hospitalization rates were 1.2/year and 0.4/year, mean CRP and Serum Amyloid A levels were decreased. There was no change in renal function parameters and proteinuria.
Conclusion: Intensive immunosuppressive therapy increases the incidence of mortality after ktx in patients with FMF. IL-1 antagonists may be an effective and safe option against FMF activation and attacks in colchicine resistant cases.

MP13 – KIDNEY REJECTION AND HISTOLOGY

MP144 THE PREDICTIVE VALUE OF PRE-TRANSPLANT BIOPSIES FOR SHORT-TERM AND LONG-TERM GRAFT FUNCTION IN KIDNEY TRANSPLANTATION

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Purpose: The predictive capacity of previous pre-transplant histologic scoring systems for short-term and long-term graft function in kidney transplantation has not been adequately validated.
Methods: Deceased donor kidney recipients transplanted in a single center between 2014 and 2018 who underwent a pre-transplant donor kidney allograft biopsy were included in this study ($N = 181$). The formalin-fixed paraffin-embedded biopsies were rescored according to the existing 8 scoring systems (Remuzzi, Pirani, MAPI, Total Chronic Banff Score, CADI, Banff donor score, DDS, Ugarte score).
Results: The average age of recipients and donors were 43 ± 14 and 34 ± 14 years old. The follow-up time was 1.12 year on average. All scoring systems presented a trend that biopsies with high score increased the risk of DGF and death-censored graft survival and reduced 1-year eGFR. Ugarte and Banff donor scoring system had a good predictive capacity for DGF.
Conclusions: Both Ugarte and Banff donor scoring system had a good predictive capacity for short-term graft function in kidney transplantation. It could be explained by the inclusion of acute tubular injury as their assessment component.

MP145 FAST METABOLIZERS OF TACROLIMUS SHOW A HIGHER PROGRESSION OF INTERSTITIAL FIBROSIS/ TUBULAR ATROPHY DURING THE FIRST YEAR AFTER RENAL TRANSPLANTATION

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Background: It has been shown that tacrolimus metabolism rate expressed as the blood concentration normalized by the dose (C/D ratio; ng/ml/mg) is associated with graft outcome. Fast metabolizers (lower C/D ratio) showed lower estimated glomerular filtration rate (eGFR) at two years and more indication renal biopsies revealing a higher incidence of CNI nephrotoxicity and BK nephropathy. We aimed to characterize the impact of C/D ratio on the progression of interstitial fibrosis / tubular atrophy (IF/TA) in a cohort of patients treated with extended release tacrolimus, MMF and steroids with paired 3 and 18 months surveillance biopsies.
Patients and methods: We evaluated 78 low immunological risk patients treated with extended release tacrolimus, MMF and steroids in whom a paired 3 and 18 months surveillance biopsies with adequate samples were available. C/D ratio was calculated as the mean of 1, 3 and 6 months C/D ratios. Biopsies were evaluated according to the last update of the Banff schema. Progression of IF/TA was defined as the difference of 18 and 3 months IF/TA > 0.
Results: IF/TA progression was observed in 34 cases (43%) and in the univariate analysis it was associated with total inflammation at 18 months (1.0 ± 0.9 for progressors vs. 0.5 ± 0.7 for non progressors, p -value = 0.036), IF/TA at 3 months (1.0 ± 0.9 vs. 1.8 ± 1.2; p -value = 0.002) and tacrolimus C/D ratio (1.49 ± 0.84 vs. 1.96 ± 1.10; p -value = 0.044). Multivariate logistic regression analysis showed that tacrolimus C/D ratio was independently associated with IF/TA progression (relative risk 0.38; 95% confidence interval: 0.16–090; p -value = 0.029).
Conclusions: Fast metabolizers of tacrolimus (lower C/D ratio) display a higher progression of IF/TA in paired surveillance biopsies performed in low immunological risk patients.

MP146 OUTCOMES OF RENAL TRANSPLANT IN ELDERLY POPULATION

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Background: Elderly patients with end stage renal disease (ESRD) usually have multiple comorbid conditions and outcomes are poor if they remain on dialysis. Kidney transplant in the best available option for patients with ESRD. However, due to shorter life span in elderly, higher surgical risk and increased risk of complications from the immunosuppressive agents pose significant challenges in transplanting such patients.

The aim of our study was to evaluate outcomes of kidney transplantation in elderly patients.
Methods: All patients aged 65 or above who received kidney transplant between January 2005 to December 2016 were included. Outcome measures were: biopsy proven acute rejection (BPAR), graft and patient survival. Student's T-Test was used to analyse continuous variables, Pearson's Chi-Squared test for categorical variables and the Kaplan-Meier estimator for survival analysis.
Results: A total of 96 patients were included in this study, average age of the recipient was 69 years (range 65–84 years), 78% were males and 51% were diabetic. The majority (83 %) received kidney from living donors. BPAR developed in 16.7% of the recipients; borderline rejection was observed in 7.3% of the patients, Banff IA in 6.3% and antibody mediated rejection was diagnosed in 3.1% patients. Three grafts were lost in the follow up period, one due to chronic rejection after 5.8 years of transplantation, one due to BK virus nephropathy at 5.3 years and the one patient had primary non-function. One year survival was 93.8% (90/96 patients), 3 year survival was 84.5% and 5 year survival was 78.4%. Patient survival in diabetic patients was 94% at one year and 50% at 5 years. Malignancies developed in 12 patients (12.5%), 5 patients were diagnosed with Kaposi sarcoma, 3 developed GI malignancy, and one each developed lung, skin, nasopharyngeal tumor and lymphoma.
Conclusions: Kidney transplant in the elderly patients is feasible with reasonable outcomes.

MP147 CLINICAL OUTCOMES OF ELDERLY ABO-INCOMPATIBLE KIDNEY TRANSPLANTATION

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Background: Kidney transplantation recipients, irrespective of their age, have a lower mortality rate compared to patients on dialysis. Moreover, the elderly mostly account for the increase in patients with end-stage kidney disease (ESKD). Previous reports have demonstrated a significantly longer life expectancy among patients aged 60 years and older with kidney transplantation compared to patients aged 60 years and older on remaining on dialyisis. In Japan, ABO-incompatible kidney transplantation has become an acceptable treatment option. However, few studies have been made on elderly ABO-incompatible kidney transplantation.
Patients and methods: This is a retrospective, observational study to examine the clinical outcome of elderly ABO-incompatible kidney transplant recipients, focusing on protocols, complications, and patient and graft survivals. A total of 56 patients underwent ABO-incompatible kidney transplantation at our institution between December 2006 and September 2016, of which 17 recipients aged 60 years and older were enrolled in this study.
Results: All 17 patients underwent successful kidney transplantation. Both overall patient and graft survival rates were 100%, 100%, and 83.3% at 1, 3, and 5 years, respectively (Figure 2). Death-censored graft survival rates were 100% at 5 years. One patient died 50 months after transplantation with a functioning graft due to chronic heart failure. Six of the 17 patients (35.3%) had an episode of biopsy-proven acute cellular rejection. Two patients who developed steroid- and deoxyspergualin-resistant acute rejection required anti-human thymocyte immunoglobulin.
Conclusion: ABO-incompatible kidney transplantation may be an optional renal replacement therapy for elderly patients with ESKD, although it might be a high-risk procedure.

MP148 ASSOCIATION BETWEEN GRAFT FUNCTION AT 10 YEARS AFTER KIDNEY TRANSPLANTATION AND SUBSEQUENT GRAFT SURVIVAL

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Background: Although many previous reports have demonstrated that the 1-year post-transplant renal graft function is the best predictor of subsequent outcomes, there is a lack of information concerning the relationship between graft function and outcomes in long-term survivors with a functioning graft for10 years or more.
Patients and methods: This study included 114 adult kidney transplant recipients who underwent transplantation (Tx) between November 1988 and December 2007 and survived with a functioning graft for 10 years or more. Included patients were followed up until December 2018. Statistical analysis with an unpaired t-test or chi-square test was conducted to compare the graft survival group ($n = 92$) and the graft failure group ($n = 22$) using variables including the demographics of the recipient and donor, Tx issues, histocompatibility, clinical events following Tx, comorbid conditions, immunosuppressants used and graft function (eGFR) at 10 years after Tx. The variables that significantly differed in the first analysis were entered to a proportional hazard multivariate analysis to examine the risk factors for graft failure in the 10 years after Tx.
Results: Patients were evaluated for a mean duration of 16.5 ± 5.1 years. The main cause of graft failure was chronic graft dysfunction ($n = 18$). The following four parameters significantly differed between the graft survival and graft failure groups: 10-year eGFR ($p < 0.001$), year of Tx (1988–2001 vs. 2002–2007) ($p < 0.001$), steroid maintenance (versus withdrawal) ($p = 0.001$) and second (versus primary) Tx ($p = 0.018$). Multivariate analysis revealed that eGFR at 10 years after Tx was the only risk factor for graft failure in the 10 years after transplantation (relative risk = 0.914; 95% confidence interval 0.879–0.951; $p < 0.001$).
Conclusion: These results indicate that graft function is strongly associated with graft survival, even at 10 years after kidney Tx.

MP149 THE IMPACT OF SECONDARY FOCAL SEGMENTAL GLOMERULOSCLEROSIS IN RENAL ALLOGRAFTS ON GRAFT SURVIVAL

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Objective: Secondary focal segmental glomerular sclerosis (FSGS) is found in renal allografts due to various causes such as transplant glomerulopathy and calcineurin inhibitor-induced toxicity. We assessed the relationship between secondary FSGS and the survival of renal grafts.
Methods: Twenty-seven cases were confirmed to have FSGS lesions by graft biopsy in renal transplant patients at our hospital. Of the 27 cases, 8 with recurrent nephritis and 1 without outcome information were excluded from the analysis. Kaplan-Meier method was used for statistical analysis.
Results: The median age of recipients at transplantation was 40 years (range 19–58). The median period from transplantation to graft biopsy was 64 months (3–365), and the male-to-female ratio was 11 : 7. The median age of donors was 67 years (44–77), and the ratio of male-to-female was 4 : 14. All FSGS lesions were the type of not specified otherwise according to the Colombia classification. Six out of 18 patients had graft loss. The graft survival rate after the detection of FSGS lesions was 94.4, 78.7, and 52.5% at 1, 3, and 5 years, respectively. The median time to graft loss was 75 months. The ratio of glomeruli with FSGS lesion to all glomeruli was not a statistically significant factor to predict renal allograft prognosis.
Conclusions: Despite the detection of FSGS lesions, over half of patients can expect the graft survival for more than 5 years.

MP150 INTERNATIONAL, MATCHED-COHORT CHECKERBOARD STUDY OF QUALITY OF LIFE AND DISEASE BURDEN IN KIDNEY TRANSPLANT (TX) PATIENTS WITH ANTIBODY-MEDIATED REJECTION (AMR)

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Background: AMR, a major cause of renal graft failure, has profound societal impact. This study quantifies health quality/disease burden as a foundation for models to improve AMR management.
Methods: Renal transplant recipients in 4 centres (USA, UK, Canada, Germany) with biopsy-proven AMR were selected in a 20-cell matrix (5 graft functional strata [CKD stage 2–5]; 4 time periods [<1 year to > 10 year post-Tx]) and matched closely for these criteria, age and diabetes with control recipients without AMR. Demographic, treatment, functional, histological, disease burden (KDQOL-36), health utility (EQ5D and HUI) were analyzed.
Results: 69/192 patients had AMR; 123/192 were controls. Mean age was 50.8 ± 14.5 yr; 5% had > 1 graft; 54.7% were deceased donor grafts. eGFR (ml/min/1.73 m^2) peaked at 59 ± 31 and 57 ± 23 post-tx in AMR and control groups (p =NS), fell to 27 ± 16 at time of AMR (mean 3.5 ± 4.4 yr), and recovered to 41 ± 21 post-treatment. At follow-up (6.9 ± 5.6 year), eGFR was 30 ± 19 and 45 ± 24 in AMR and control groups ($p < 0.0001$). KDQOL-36 Burden of Kidney Disease declined from 77.9 ± 22.4 to 27.3 ± 21.0 ($p < 0.0001$); EQ5D Visual Analog Scale (VAS) and Index scores from 79.6 ± 12.3 to 50.6 ± 17 ($p < 0.0001$) and 0.85 ± 0.23 to 0.75 ± 0.20 ($p = 0.06$); and HUI utility score from 0.76 ± 0.26 to 0.56 ± 0.31 ($p = 0.001$) respectively from stage 2 to stage 5 CKD. Regression modeling showed EU location ($p = 0.001$), declining eGFR ($p = 0.0001$) and AMR ($p = 0.02$) were associated with lower KDQOL scores; EU location ($p = 0.007$), diabetes ($p = 0.02$), increasing age ($p = 0.02$–0.53), declining eGFR ($p = 0.0001$–0.07) and AMR ($p = 0.004$–0.06) with lower EQ5D VAS and Index scores; and deceased donor ($p = 0.04$), increasing age ($p = 0.04$) and AMR ($p = 0.01$) with reduced HUI scores.
Conclusion: AMR is associated with significant reduction in patient-reported health quality. The data provide baseline estimation for future models of the potential health benefit of new therapies by AMR-related tissue injury reduction and prolongation of graft survival.

MP151 IMPACT OF DONOR-RELATED ARTERIOSCLEROSIS IN ZERO-HOUR BIOPSY ON LONG-TERM OUTCOME OF LIVING KIDNEY TRANSPLANTATION: A PROPENSITY SCORE MATCHED COHORT STUDY

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Background: We have been performing zero-hour biopsy for all kidney grafts. Histopathological assessment of zero-hour biopsy adds unique information concerning organ quality that is not available on clinical grounds. The most prevalent chronic lesion in zero-hour biopsy of kidney graft is arteriosclerosis (AS). However, the long-term influence of AS remains unknown.
Methods: We evaluated the influence of AS on long-term outcomes in both unmatched ($n = 1,351$, AS− =788 vs. AS+=563) and propensity score matched cohorts ($n = 984$, AS− = 492 vs. AS+=492) of adults who underwent living kidney transplant between 1991 and 2016. The end-points included graft and patient survival survivals, biopsy-proven rejection and CNI-nephrotoxicity, and post-transplant renal function.
Results: In the unmatched cohort, the patient and death–censored graft survival at 10 years was 95.1%, 85.5% in the AS− group and 95.5%, 80.9% in the AS+ group, with no significant difference. In the matched cohort, 10-year patient and graft survival was not also different.

While AS+ group had a higher incidence rate of cABMR than the AS− group (16.3% vs. 11.2%, $p = 0.006$) in the unmatched cohort, the rate was similar in both groups in the matched cohort (15.4% vs. 12.6%, $p = 0.199$).

10-year incidence rate of CNI-nephrotoxicity was significantly higher in the AS+ group than that in the AS− group (29.1% and 19.8%, $p < 0.001$) in the unmatched cohort. Even after matching, as this tendency was unchanged, the

rate of CNI-nephrotoxicity was 27.3% in the AS+ group and 21.8% in the AS− group, with significant difference ($p = 0.048$).

Renal function was similar in both groups in the matched cohort during the follow-up period.

Conclusions: AS in zero-hour biopsy had no significant impact on long-term patient and graft survival, and post-transplant renal function. However, Recipients with AS+ kidney grafts had a higher incidence rate of CNI-nephrotoxicity. Long-term careful observation is needed for recipients with AS+ kidney grafts.

MP152 GRAFT SURVIVAL AFTER REPEAT KIDNEY TRANSPLANTATION – A 40-YEAR ANALYSIS

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Introduction: There is a growing number of patients listed for kidney transplantation (KT) awaiting a re-transplantation after an initial graft failure. While it has been demonstrated that results are superior for initial KT, data on subsequent graft survival are scare. We investigated group specific graft survival in cohorts of patients with a second (KT2), third (KT3) and fourth (KT4) transplantation.

We used in-center registry data for kidney transplantations at the University Münster to retrospectively analyze data of 2,578 KT recipients (1971–2012) and stratified for patients with a repeat KT. Medium follow-up time (starting from the primary KT) was 279 months (interquartile range 201–363) and medium follow-up time from the last KT was 178 months (interquartile range 84–270). We assessed donor and recipient characteristics as well as five-year graft survival. Factors associated with graft survival were identified using a multivariable Cox proportional hazards model.

Results: We identified 400 KT recipients with a repeat kidney transplantation, this group consisted of 335 KT2, 55 KT3 and 10 KT4 patients. Patients were only counted in one respective group. KT2 patients had a 5-year graft survival of 40.9% for the first and 79.9% for the second KT. KT3 patients had a 5-year graft survival of 21.8% for the first, 38.2% for the second and 65.5% for the third KT. KT4 had a 5-year graft survival of 0% for the first, 30.0% for the second, 20.0% for the third and 60.0% for the fourth KT. Recipient-related risk factors associated with graft loos were age, waiting time and immunization.

Conclusions: We found an acceptable graft survival for subsequent kidney grafts in patients with repeated KT. While sensitization, surgical challenges and increasing co-morbidities complicate repeated KT, our data reinforced the concept that KT is a safe and successful in patients with a history of kidney graft failure.

MP154 OUTCOME OF RENAL TRANSPLANTATION IN SYSTEMIC AMYLOIDOSIS

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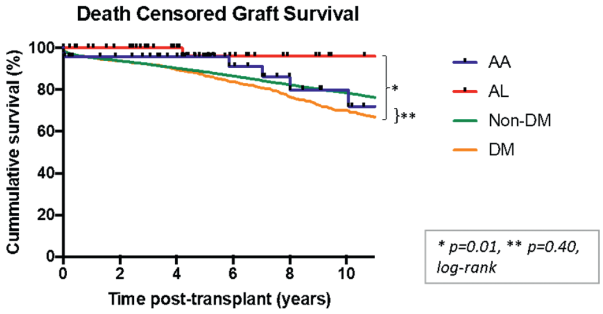
Introduction: Systemic amyloidosis accounts for approximately 0.8% of end stage renal disease (ESRD) in the UK. Outcomes following renal transplantation in systemic amyloidosis were historically poor, but there is a paucity of outcome data following recent therapeutic advances. We sought to determine renal allograft and patient survival in UK patients with ESRD from systemic amyloidosis.

Method: Outcomes following renal transplantation among 92 patients with systemic AA and AL amyloidosis being followed at the UK National Amyloidosis Centre (NAC) who underwent renal transplantation between 1989 and 2018 were compared with those of age-matched renal transplant recipients with diabetic and non-diabetic nephropathy recipients held in the NHSBT database.

Results:

Death-censored graft survival was 96%, 96%, 96% and 81% in AA, and 98%, 98%, 93% and 93% in AL amyloidosis at 1,3, 5 and 10 years respectively. Overall patient survival was 92%, 92%, 81% and 68% in AA and 95%, 93%, 76%, 34% in AL amyloidosis at 1, 3, 5, and 10 years respectively. Twenty-five amyloidosis patients died with a functioning renal allograft and 9 suffered allograft loss, 3 within a month due to operative complications or rejection, 3 from recurrent amyloid (all AA) and 3 multifactorial but with recurrent amyloid (1AL, 2AA).

Discussion: Patient and renal allograft survival following renal transplantation in AA amyloidosis is similar to that in diabetic nephropathy. Death-censored renal allograft survival in AL amyloidosis is excellent reflecting prevention of recurrence of amyloid by successful suppression of the underlying clonal dyscrasia with chemotherapy. Patient survival in AL amyloidosis following renal transplantation leaned towards being inferior to age-matched diabetic controls although this did not meet statistical significance. This data indicates that carefully selected patients with systemic amyloidosis can achieve good outcomes following renal transplantation.



MP155 DIFFERENCES EXIST IN KIDNEY GRAFT SURVIVAL AMONG FEMALE RECIPIENTS STRATIFIED BY DONOR SEX AND RECIPIENT AGE: A POPULATION COHORT ANALYSIS FROM THE UNITED KINGDOM

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Introduction: Prior studies exploring sex differences in kidney graft survival are inconclusive. A recent registry analysis from the US by Lepeytre and colleagues (JASN 2017) has suggested kidney graft outcomes for kidney transplant recipients are influenced by both donor-sex and recipient-age. However, no international comparison exists to validate these findings.

Methods: We analysed all deceased kidney-alone transplants between 2000–2016 using data from the UK Transplant Registry. Death-censored graft survival was compared between male and female recipients, with separate analyses for male and female donors factoring for recipient age/gender interaction term.

Resulst: Data were analysed for 25,140 transplant recipients. Univariate analysis found no significant association between recipient gender and graft loss, with HR for female vs. male recipients of 1.00 (95% CI: 0.92–1.08, $p = 0.977$) and 1.07 (95% CI: 0.98–1.16, $p = 0.131$) within the male and female donor subgroups respectively. Comparably, among recipients of female donors, no significant interaction between recipient age and gender ($p = 0.119$) was found. However, a significant interaction term was observed within the male donor subgroup ($p = 0.009$). Among recipients of male donors, younger female recipients had higher rates of graft loss than male recipients, with HR of 1.20 ($p = 0.492$), 1.25 ($p = 0.131$) and 1.16 ($p = 0.037$) for recipients aged 0–14, 15–24 and 25–44 years respectively. However, for those aged 45 + years, female recipients had significantly lower rate of graft loss than males, with a HR of 0.90 (95% CI: 0.81–0.99, $p = 0.036$).

Conclusion: Among recipients of male kidneys, the association between recipient gender and kidney graft loss differed significantly by recipient age. No such effect is seen with female donor kidneys. Association does not imply causality but in light of putative explanations for differential sex-specific results, further work is warranted.

MP14 – CLINICAL OUTCOMES OF PANCREAS AND ISLET CELL TRANSPLANTATION

MP157 BIOSYNTHETIC ACTIVITY DIFFERS BETWEEN ISLET CELL TYPES AND IS MODULATED BY GLUCOSE AND OTHER SECRETAGOGUES

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Objectives: In addition to the secretory activity, the biosynthetic activity is essential for the long-term function of islet cells in culture and possibly also after islet transplantation. In this work, we addressed the questions of whether biosynthetic activity differs between the different islet cell types and how it changes according to glucose and other secretagogues.

Methods: Rat islet cells were exposed 30 min to 2.8 or 16.7 mmol/l glucose, in absence or presence of 3-isobutyl-1-methylxanthine (IBMX) or phorbol myristate acetate (PMA). Biosynthetic activity was assessed by adding O-propargyl-puromycin (OPP) that incorporates into newly translated proteins. After cell fixation, OPP was chemically ligated to a fluorescent dye by «click»

reaction and fluorescence intensity (OPP labeling) was quantified at the single cell level by microscopy. The different islet cell types were identified by immunofluorescence using specific antibodies.
Results: Fluorescent OPP labeling was observed in all islet cell types. When compared to beta cells in 2.8 mmol/l glucose condition, the OPP labeling was similar in alpha cells but increased 343 ± 187 % in delta cells ($n = 3$, $p < 0.05$) and 99 ± 23 % in PP cells ($n = 3$). When compared to 2.8 mmol/l glucose condition, 16.7 mM glucose increased 29 ± 27 % the OPP labeling in beta cells ($n = 9$, $p < 0.05$), 139 ± 92 % in alpha cells ($n = 3$), 9 ± 17 % in delta cells ($n = 3$) and 53 ± 50 % in PP cells ($n = 3$). Compared to high glucose condition, addition of IBMX or PMA had an unexpected trend to decrease labeling in all islet cell types. Similar results were obtained on beta cells with 1 h incubation ($n = 3$) as well as after 4 h of attachment prior to the incubation with OPP ($n = 2$).
Conclusion: These results suggest that mechanisms regulating secretion and biosynthesis in islet cells are different, and that this OPP labeling approach is a promising method to assess biosynthetic activity in vivo and particularly in transplanted islets.

MP158 SUDDEN BLINDNESS AS AN EARLY COMPLICATION OF PANCREAS TRANSPLANTATION

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Introduction: Correction of metabolic control in type 1 diabetic patients usually results in stabilization, or even improvement of diabetic retinopathy (DR). Early worsening of DR after rapid improvement of blood glucose control in diabetic patients is a paradoxical occurrence of that was originally described after intensive insulin therapy initiation in a small number of patients. More recently, worsening of DR has been reported in a minority of diabetic pancreas recipients. A few cases of blindness were reported as a complication of successful intensive insulin therapy, usually affecting only one eye. Risk factors for early worsening of DR include poor diabetic control as assessed by elevated HbA1c, and proliferative retinopathy.
Cases report: We report two cases of blindness that occurred immediately after successful pancreas transplantation. Both patients (33 year-old female, 56 year-old male) had a history of proliferative DR treated by LASER photocoagulation, but no sign of proliferation at the time of transplant. HbA1c was 9.1 and 9.6, respectively. Significant bleeding occurred at the time of pancreas reperfusion in both cases, with a prolonged drop in blood pressure, requiring transfusion, and vasopressor administration in patient #2. Both organs showed immediate graft function. Total blindness was noticed in the ICU in both patients in the first post-operative days. No recovery of vision was observed in the follow-up period (12 and 2 years). Ophthalmologic examination revealed a possible ischemic etiology.
Conclusion: Sudden blindness has not yet been reported after successful pancreas transplantation. These two cases occured as a likely result of rapid normalization of poorly controled glycemia on a terrain of severe retinopathy and ischemic insult to the optic nerve due to the intraoperative hypotensive periods. Although this complication is exceedingly rare, it could in fact be underreported and should be known to the beta-cell replacement community.

MP159 PANCREATODUODENECTOMY IN PANCREAS GRAFT

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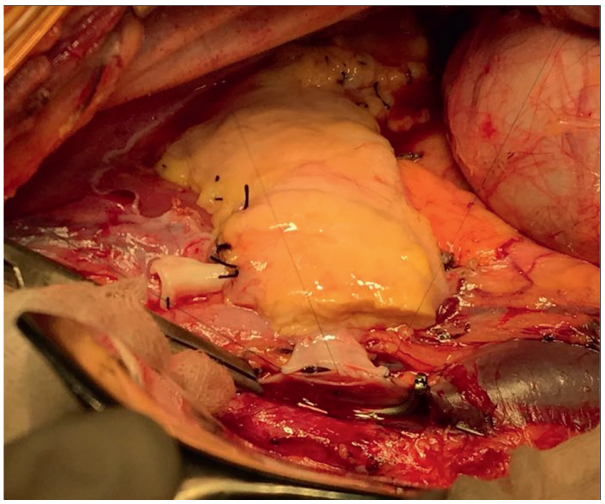
Hospital Privado Universitario de Cordoba



Background: Donor and back table operation to procur a pancreas graft are complex and technically difficult procedures that requires experience and anatomical knowledge. Arterial and Venous vessels identification is compulsory and fundamental for graft preservation.
Methods and materials: We present a case of portal vein injury in a pancreas graft and a singulary way to preserve it for implantation.
Results: The recipient had 30 years old and was admitted for Simultaneous kidney pancreas Transplantation. Both grafts were procure by our institution surgical team and in back table procedure the venous outflow of the pancreas head was noticed to be compromised by stappler. A pancreatoduodenectomy of the graft was done conserving the body and tail of the pancreas for implantation. After arterial and vein anastomosis were performed, exocrine output was warrantied with a ductomucose anastomosis. No postoperative complications were recorded. Graft function in preserved after 1 year postranplant.
Conclusion: Pancreatoduodenectomy of pancreas grafts is a singulary and extraordinary method to keep in mind when procurement injuries are noticed. This unique procedure must be done when transplant institutions counts with experienced pancreatic surgeons.

MP160 CLINICAL EXPERIENCES WITH A NOVEL ONCE-DAILY TACROLIMUS (LCPT) IN SINGLE PANCREAS AND COMBINED KIDNEY-PANCREAS TRANSPLANTATION: A SINGLE CENTER REPORT

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Background: We retrospectively analyzed the clinical outcome in one single pancreas and 12 simultaneous pancreas-kidney (SPK) patients who were converted from a Tacrolimus extended release formulation (ER-Tac) to a novel once-daily Tacrolimus (LCPT) due to subtherapeutic Tacrolimus (Tac)-levels and suspected Tac –fast metabolization.
Methods/Materials: Between July 2017 and January 2019, one single pancreas and 12 SPK recipients did not reach the targeted therapeutic Tac-level of 12–14 ng/ml despite a continuous increase of the ER-Tac-dosage. The mean daily dose of ER-Tac was 16.2 mg = 0.19 mg/kg and the mean Tac-level was 7.6 ng/ml at the day of conversion (mean day 10.8). All patients were identified as Tac-fast-metabolizers per a mean quotient of concentration/dosage of 0.42 (0.32–0.57). LCPT was started with mean 15.8 mg (0.18 mg/kg), reaching the targeted Tac-level after mean 2.5 days. The concomitant immunosuppression consisted of an initial lymphocyte depleting agent, MMF and steroids.
Results: All patients are alive and insulin-free. At month 1 / 3 / 6 / 9 / 12, the mean creatinine (mg/dL) was 1.4 / 1.4 / 1.3 / 1.3 / 1.0, the mean HbA1c (g %) 5.6 / 5.6 / 5.6 / 5.3 / 5.6, corresponding with an excellent graft function according to the Igls Score. Three clinically suspected pancreatic graft rejections (increase of serum lipase, amylase) were reversible (all month 1). All complications (acute cystitis, enteritis, BK-viremia, peripancreatic abscess, herpes, hematoma, pancreatic anastomosis bleeding, seroma, leucopenia, bradycardia) were treated successfully. One patient converted to twice-daily immediate-release Tac at month 2 for recurrent diarrhea but no improvement after conversion occurred.
Conclusion: Conversion to LCPT in Tac-fast-metabolizing SPK patients with subtherapeutic Tac-levels (despite of a preceeding gradual increase of the ER-Tac-dosage) resulted in a prompt reach of therapeutic Tac-levels and overall convincing clinical outcomes.

MP161 FENCE ANGIOPLASTY PREVENTS NARROWING OF VENOUS ANASTOMOSIS IN SOLITARY PANCREAS TRANSPLANT

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Background: Graft thrombosis is the leading cause of early graft failure in pancreas transplants. Direct anastomosis grafting of the portal vein to the iliac vein or vena cava generally appears narrowed on postoperative computed tomography (CT) scans. However, modification of surgical techniques may prevent venous narrowing, which also prevents thrombosis-related graft failure.
Material and methods: We performed 43 solitary pancreas transplants since 2015. Retrospective analysis of these patients was performed.
Results: Fence angioplasty was applied in the final 24 cases, and no technical failures or early graft losses occurred in these cases. Three graft losses, including two immunologic losses and one patient death with functioning graft occurred after at least postoperative 4 months. The venous anastomoses were evaluated via intraoperative Doppler ultrasound and postoperative CT scans. Intraoperative Doppler ultrasound revealed improved spectral waves of venous anastomoses in the fence group (monophasic spectral wave, 42.9% vs. 0%, $p = 0.014$). The fence-graft applied group had no cases of

narrowing, whereas the non-fence group had high narrowing rates on CT scans (84.2% vs. 0%, $p < 0.001$). Furthermore, postoperative bleeding rates were lower in the fence group (36% vs. 0%, $p = 0.014$).
Conclusion: Fence angioplasty is a definitive method for avoiding venous anastomotic stenosis and preventing graft failure due to thrombosis.

MP162 DONOR GIRTH DOES NOT PREDICT PANCREAS GRAFT OUTCOMES

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[1]Oxford Transplant Centre; [2]QUOD Biobank

Aims: Simultaneous pancreas kidney transplantation (SPK) can offer insulin independence, however is associated with devastating complications and graft failure. Donor demographic factors are used to inform patient selection with high donor body mass index (BMI) and macroscopically fatty pancreases associated with graft pancreatitis and failure. Girth is strongly associated with metabolic syndrome and cardiovascular risk in the general population, and high donor girth considered clinically as a poor prognostic indicator. We aimed to assess if there was evidence to support this assumption.
Methods: Nationally-collected registry data for all SPK performed between 2000 and 2017 were analysed. Recipients with failed grafts were compared to those with good function for donor, recipient and transplant related factors, including girth. Cox- regression and Kaplan Meier analysis was performed. Data was further examined by sex, and in four categories determined by high or low BMI and girth.
Results: 1993 pancreas transplants were identified and 1404 included in the analysis. Mean donor girth was 86.6 cm (CI 86.1–87.2). There was no statistically significant difference in girth between the groups (87.5 vs 86.4 cm, p = 0.12). In a multivariate Cox regression, donor girth was not associated with inferior outcome in male (HR 1.01, 1.00–1.04; $p = 0.06$) or female (HR 1.00, 0.99–1.02; $p = 0.79$) donors. Graft failures using donors with high girth and BMI > 30 kg/m^2 were numerically higher but not statistically significant (p = 0.07). Donors with high girth but BMI < 30 kg/m^2 had equivalent outcomes to donors with low girth.
Conclusion: In this first analysis of the association between donor girth and graft outcomes, we found no evidence in univariate and multivariate models that donor girth per se was associated with poor graft survival. We conclude that donors should not be declined based on high girth in the presence of otherwise acceptable features.

MP163 BENEFICIAL INFLUENCE OF SIMULTANEOUSLY TRANSPLANTED PANCREAS ON PLASMA MATRIX METALLOPROTEINASES -1, -2 AND -3 PROFILE, AND OSTEOCALCIN CONCENTRATION IN TYPE 1 DIABETIC RENAL TRANSPLANT RECIPIENTS

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Background: The mechanism of atherosclerosis progression restrain resulting from normoglycaemia achieved by pancreas transplantation (Tx) remains unclear. The aim of the study was to compare parameters of arterial wall remodeling in type 1 diabetic patients after kidney (KTx) or simultaneous pancreas and kidney (SPK) transplantation.
Methods/material: 39 patients after SPK and 39 after KTx were enrolled into the study. The minimal follow-up period after Tx was 1 year. The groups did not differ regarding age, gender, BMI, and duration of diabetes at the time of Tx and follow-up after Tx. In all recipients carotid intima/media thickness (IMT) and atherosclerotic plaques prevalence, and pulse wave velocity (PWV) were assessed. Additionally plasma matrix metalloproteinases (MMP) -1, -2, -3 and -9, osteoprotegrin and osteocalcin concentrations were measured.
Results: In mean 86 months long follow up after Tx median blood HbA_{1C} in SPK group was normal and significantly lower compared to KTx group [5.4 (5.1–5.8) vs. 7.7 (6.7–8.4), $p < 0.001$]. Both groups did not differ in IMT and PWV values, but the prevalence of carotid calcificated plaques was lower in patients after SPK (35.9 vs. 64.9%, $p < 0.05$). Median plasma MMP concentrations were lower in SPK compared to KTx group: MMP-1 [199 (114–384) vs. 451 (273–1,974) pg/ml, $p < 0.01$], MMP-2 [4,037 (2,585–5,627) vs. 10440 (2,985–17,879) pg/ml, $p < 0.01$] and MMP-3 [3,667 (2,048–7,242) vs. 14,523 (6,723–30,946) pg/ml, $p < 0.001$]. Similar difference between SPK and KTx groups was observed in plasma osteocalcin concentration [1.3 (0.8–2.0) vs. 2.6 (1.3–3.7) ng/ml, $p < 0.01$]. Additionally positive correlations was observed between logHbA_{1C} and plasma MMP-1 ($r = 0.420$, $p < 0.001$), MMP-2 ($r = 0.340$, $p < 0.01$), and MMP-3 ($r = 0.510$, $p < 0.001$).
Conclusion: Beneficial plasma MMP -1, -2, and -3 profile and lower osteocalcin concentration related to normoglycaemia achieved by pancreas Tx can explain slower atherosclerosis progression in diabetic renal transplant recipients.

MP164 BONE DENSITY IN SUBJECTS AFTER SIMULTANEOUS PANCREAS KIDNEY TRANSPLANTATION EVALUATED BY PERIPHERAL QUANTITATIVE COMPUTER TOMOGRAPHY

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Background: Osteoporosis is a long-term complication after simultaneous pancreas kidney transplantation (SPK) with increased risk of fractures. Routine screening by dual energy x-ray absorbtiometry (DXA) allows for areal bone mineral density (BMD) measurement, whereas peripheral quantitative computer tomography (pQCT) assesses volumetric, size-independent BMD and provides additional information about the bone structure.
Methods: There were 31 subjects with type 1 diabetes mellitus (22 men, 9 women, mean age 43.8 ± 10.0 years) after the successful SPK participating in a prospective observational study with DXA and pQCT of the forearm performed within 3 months and then 1.3 and 3.4 years after the transplantation. The densitometric parameters of the muscle-bone unit are expressed as Z-scores (mean ± SD).
Results: All subjects remained insulin-independent during the whole study, mean creatinine and PTH levels 3 years after SPK were as follows: 139.9 ± 70.6umol/l, resp. 11.7 ± 8.2 pmol/l. Areal BMD of distal radius decreased (−0.66 ± 0.75 at study start vs. −0.82 ± 0.77 at study end; $p < 0.05$). Trabecular volumetric BMD remained low (−1.22 ± 1.33 vs. −1.24 ± 1.0; NS). Cortical volumetric BMD was normal at study start and end but there was a significant decrease during the first post-transplant year (−0.11 ± 1.37 vs. −0.5 ± 1.39; $p < 0.01$). The Strength Strain Index remained normal, whereas the initially reduced muscle area at the forearm increased significantly (−2.13 ± 1.56 vs. −1.5 ± 1.39; $p < 0.01$).
Conclusion: Subjects after SPK are at risk of low BMD at the distal radius. The cortical bone loss observed during the first post-transplant year is probably due to persistent secondary hyperparathyroidism. The increase in the muscle area at the forearm presumably reflects the metabolic improvement and overall increased well-being after the successful SPK.
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MP165 SERUM INSULIN-LIKE GROWTH FACTOR-BINDING PROTEIN 7 (IGFBP7) AND TISSUE INHIBITOR OF METALLOPROTEINASES 2 (TIMP-2) LEVELS DECREASE AFTER SIMULTANEOUS PANCREAS KIDNEY TRANSPLANTATION (SPKT)

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Background: Differences in urinary levels of the novel cell cycle arrest biomarkers IGFBP7 and TIMP-2 have been reported in acute kidney damage as well as patients with diabetic nephropathy (DN). SPKT replaces kidney function and restores endogenous insulin secretion. The objective of this study was to determine the influence of a successful SPKT on both serum and urinary IGFBP7 and TIMP-2 levels.
Methods/Materials: Serum and urinary IGFBP7 and TIMP-2 concentrations were measured in 16 SPKT recipients and healthy individuals (HC) using ELISA assays. Samples were obtained before and 1, 6 and 12 months after SPKT.
Results:
Conclusion: Serum IGFBP7 and TIMP-2 levels were significantly higher in patients with advanced DN as compared to healthy individuals. Both biomarkers decreased rapidly after a successful SPKT, most likely as a direct consequence of improved glomerular filtration rate. We hypothesize that serum IGFBP7 and TIMP-2 concentrations can potentially be interesting biomarkers

as predictors for hyperfiltration in the context of early DN, maybe even before microalbuminuria occurs.

Median (IQR); pmol/l	Before SPKT (n = 16)	SPKT month-1 (n = 15)	HC (n = 16)
Serum IGFBP7	1221 (1,084–1,521)*	1,153 (881–1,297)	861 (779–953)
Serum TIMP-2	4665 (3,800–4,807)**	3,500 (3,221–3,635)	3655 (3,481–3,917)
Urinary IGFBP7	348 (217–518)	197 (43–1,357)	285 (142–377)
Urinary TIMP-2	90 (66–111)	65 (1–147)	67 (33–127)

* Mann-Whitney U p = 0.000 (before SPKT vs. HC); Wilcoxon signed ranks p = 0.007 (before SPKT vs. SPKT mo-1)
** Mann-Whitney U p = 0.003 (before SPKT vs. HC); Wilcoxon signed ranks p = 0.005 (before SPKT vs. SPKT mo-1)

MP166 PRESERVATION FLUID (PF) CULTURES: CLINICAL IMPACT IN SIMULTANEOUS KIDNEY PANCREAS TRANSPLANTATION (SPK)

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Bacterial infections are frequent in SPK. Positive PF cultures role in these infections is unknown. We described the incidence and ethiology of germs developed in PF cultures in our series and evaluate its impact on recipient infections, total hospital stay and patient survival.

A non randomized, prospective, and consecutive study in SPK recipients was carried out from January 2013 to December 2017. Back table PF cultures were analized. We considered a positive PF to the development of any germs in the samples and negative PF to no signs of growth after 5 days. They were classified as contamination or pathogens acoording to microbiology protocols. Targeted Antibiothic therapy was suministered in the last ones. Recipients were divided in two groups: PF (−) and PF (+). Recipients Infections related to positive PF were analyzed in a postoperative 30 day period . These were identified as "direct correlation" when the same germ grew up in PF. Hospital stay and 30 day, 1, 3 and 5 year patient survival was compared between groups.

54 Recipients were included in the study. 33% (18) PF had positive cultures. 12 (66%) cases were considered contamination and 6 as pathogens. We found no differences in postoperative infections between groups (p 0.55) and no direct correlation was found in the study. There was also no significative differences in intensive care unit and total hospital stay between groups (p 0.108 and 0.608) and they have similar 30 day, 1, 3 and 5 year patient survival (p 0.980).

Clinical postoperative impact in terms of infections, hospital stay and recipient survival seems not to be influenced by PF cultures positivity although this has a high prevalence. Nevertheless it could be concluded that PF cultures could be futile, the authors consider that the treatment of isolated pathogens could have prevented infections, therefore, those groups that perform PF cultures should consider treatment in these cases and conclude prophylaxis when PF is negative or contamined.

MP15 – SURGICAL TECHNIQUE KIDNEY: BIG KIDNEYS AND BIG CHALLENGES

MP168 NATIVE NEPHRECTOMY VERSUS NO-NATIVE NEPHRECTOMY IN PATIENT WITH KIDNEY TRANSPLANTATION FOR AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE: ANALYSIS OF OUTCOME AND SYMPTOMS RECURRENCE

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Objectives: In patients with autosomal dominant polycystic kidney disease (ADPKD), evaluated for kidney transplantation (KT), native nephrectomy single or double and the timing often depends on the policy of the centre. The aim of our study is to evaluate the difference in outcome between patients with KT subjected to native nephrectomy (NN) versus the group without NN (no-NN).
Methods: In our retrospective study we included 100 patients subjected to KT with diagnosis of ADPKD from February 2009 and November 2018. We divided the population in NN and no-NN and analysed the difference between the two groups in term of renal function, patients and grafts survival, admission to hospital due to ADPKD related causes and incidence of nephrectomy post-KT.
Results: In our cohort: 43 patients underwent to NN and 57 were in the no-NN group. Median follow-up was 34.2 months. Donors and recipients baseline characteristic in the two groups are comparable. No statistical significant difference was found in term of patients and grafts survival, graft function, infection, haematuria and admission to hospital due to ADPKD complications. In the NN group 6 (10.5%) patients required contralateral NN (3 were performed due infection and 3 due to dimension both identical cause of the first NN) versus 0 cases in the no-NN (p = 0.0093).
Conclusion: In our experience NN does not seem to influence outcome of KT. In symptomatic patients or for space-related reasons perform pre-KT NN is recommended. In patients with high risk of ADPKD complications recurrence double NN should be considered according with clinical conditions of the patients.

MP169 METHYLENE BLUE VIA URINARY CATHETER FOR URETERONEOCYSTOSTOMY IN RENAL TRANSPLANTATION

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SBU Antalya EAH

Pupose: To evaluate the role of the usage of methylene blue via three-way ureteral catheter to perform the anastomose between the ureter and urinary bladder in kidney transplant recipients.
Material and method: Retrospective study on a series of 38 consecutive renal transplantations performed in our transplant center between the dates January 1, 2015, and February 28, 2019. Three-way ureteral stents were used in last 37 cases and were removed 1 weeks postoperatively. Recipient age, sex, the intraoperative urinary bladder volume with methylene blue containing solution, and complications were analyzed.
Findings: We performed three-way urinary catheter to 38 patients. The mean age was of 47.6 (range 25–64) years.

8 of 30 patients were female. All of the cases were catheterized with three-way urinary catheter. Methylene blue containing serum phsiologic solution was given into urinary bladder. Volume of urinary bladder was ranging from 100 cc to 300 cc. No intraoperative and postoperative complications were seen.
Conclusion(s): In our study, the use of ureteral stents significantly provides a safe convenience to finding the urinary bladder. We suggest the use methylene blue usage via the three-way urinary catheter to find bladder for ureteroneocystostomy in renal transplantation.

MP170 INTRA-OPERATIVE (IO) VASCULAR COMPLICATIONS (VC) IN LIVING DONOR KIDNEY TRANSPLANTATION (LDKT)

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Background: VC's occur in 0.5–5% of LDKT but almost all reports are of post operative diagnosis and management which is primarily through imaging and invasive radiology. Our goal was to review our experience with IO VC's, our intra and post operative management, the role of intra-operative Doppler Ultra Sound (DUS) and patient and kidney outcomes. We chose to review LDKT because graft quality is uniformly good but vascular reconstruction is more challenging than grafts from feceased donors.
Methods: The operative records and charts of 126 consecutive LDKT's from April 2009 - Feb 2019 were reviewed. All cases with vascular complications were scrutinized further with review of imaging, invasive or operative procedures and patient and graft outcome.
Results: 7 patients had any type of VC. Follow up is 13–31 months. 6 were identified IO. 6 of 7 were arterial VC's and 1 was venous. 4 of 6 arterial VC's involved the renal artery anastomosis . Of the 6 VC's identified IO, 5 were managed by in situ (2) or ex situ (3) recooling, repair and reanastomosis. In situ cooling was done through the renal vein in retrograde fashion. The sole venous VC was repaired with a saphenous vein graft ring. Arterial VC were repaired by refashioning of donor artery (1), reanastomosis with interrupted sutures (1) and change of place of anastomosis on recipient iliac artery (2). In 4 patients DUS was helpful in establishing the diagnosis (Arterial Resistance index $<$ 0.45). 4 patients with arterial VC had long term sequelae with less than expected renal function (mean creatinine clearance - 58 ml/min). 3 required invasive radiology interventions with baloon dilatation and/or stent.
Conclusions: IO VC's occured in 5.5% of LDKT's in our series and were primarily arterial . IO diagnosis should be suspected if urine output and/or turgor are poor. DUS is helpful in establishing the IO diagnosis and should be considered as a routine for all LDKT's. Despite adequate repair long term sequelae are to be expected.

MP171 DO VASCULAR ANOMALIES IN DONOR KIDNEY AFFECT GRAFT SURVIVAL IN RENAL TRANSPLANTATION?

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Purpose: The incidence of vascular anomalies in donors during kidney transplantation is almost 30%. This has the potential to cause complications in graft function. In this study, we investigated whether vascular anomalies in donor kidney have an effect on graft survival.
Material and method: We performed 7 kidney transplantation with vascular anomalies and 25 kidney transplantation with normal vasculature between February 2015 and January 2019. We evaluated the demographics, operation duration, warm/cold ischemia time, length of hospital stay, postoperative complications and recipient serum creatinine levels retrospectively.
Results: There is no significant difference in demographic characteristics between the groups. Body mass index and length of hospital stay were similar in both groups. Of the 32 patients, 7 had vascular anomalies (four kidney = 2 renal artery, two kidney = 2 renal vein, and one kidney = 2 renal artery and 2 renal vein) in the donor kidney. The duration of operation and warm/cold ischemia time was significantly longer with kidneys of vascular anomalies group ($p < 0.05$). Postoperative major complications were not detected in any of the recipients. The function of the transplanted kidneys in both groups was good at seventh day and one month postoperatively.
Conclusion: Vascular anatomic anomalies may be observed during kidney transplantation. However, although the presence of these anomalies may prolong the operation time, the negative effects on graft functions are not significant. Although our experience in transplantation procedures is limited, we think that vascular anomalies have no negative effect on graft survival.

MP172 INITIAL EXPERIENCE OF KIDNEY TRANSPLANTATION AT A VAKIF UNIVERSITY IN ISTANBUL

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Background: Treatment of end-stage renal disease(ESRD) patients has difficulties. The life quality of patients reduces during the treatment period. Therefore, dissemination of transplantation centers has importance. In our retrospective study we present the demographics of the renal transplantation performed between 2015 and 2019.
Methods: The number of cases, age, gender, blood type, hypertension, the number of cadaver and live donors, kinship status, length of hospital stay and the rate of postoperative complications were determined.
Results: In Bezmialem Vakıf University, a total of 32 patients underwent kidney transplantation. 37.5% of the patients were female and 62.5% of the patients were male. The mean age of female and male patients were 44.5 and 40.65 years respectively. The mean age of the donors of female patients was 48.6 and male patients was 48.1. There was a 33.3% kinship between the female patients and the kidney donors, and this rate was 80% in males. Considering kinship relations, 12.5% of patients received a kidney from her/his mother, 6.25% from her/his father, 9.3% of from her/his sister/brother and 18.75% from her/his partner. While 65.6% of our patients were transplanted from live donors; 34.4% of our patients had a kidney from cadaver. The primary cause of ESRD was not known in 31.25% of our patients while the others were as follows: 15.6% diabetic nephropathy, 12.5% hypertensive nephropathy, 9.3% IgA nephropathy, 6.25% nephrolithiasis, 3.1% FSGS and 3.1% congenital hypodysplastic kidney. As a postoperative complication, the rate of perigraft fluid collection (seroma and lymphocele) was 40.6%, thrombus was 9.3%, acute tubular necrosis was 3.1% and femoral nerve compression was 3.1%. The mean duration of hospitalization was 17 days.
Conclusion: Organ transplantation has importance in non-profit hospitals. In spite of any difficulties, the orientation of *Vakif* hospitals to this field will contribute to both the patient and community health.

MP173 LATE ALLOGRAFT RENAL VEIN THROMBOSIS: A CASE REPORT

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Background: Allograft renal vein thrombosis is a rare but potentially catastrophic phenomenon, most of cases occur in the first weeks, however some cases have been described many years after transplantation surgery. Allograft renal loss is the frequent outcome. The aim of this study was to report a case of late renal vein thrombosis.
Methods: We describe a renal transplantation recipient with allograft renal vein thrombosis associated with deep venous thrombosis of right lower limb, 8 months after transplantation. He was successfully treated by percutaneous catheter directed thrombolysis.
Results: The patient was treated with percutaneous catheter directly thrombolysis inside femoral iliac veinandrenal allograft vein. Five days later, the doppler ultrasound was done and revealed complete re-permeabilization of allograft renal vein, RI: 0.71, with maximal velocity of 25 cm/s, the serum creatinine was reduced from 4.3 mg/dL to 1.43 mg/dL.
Conclusion: Early diagnosis and prompt endovascular treatment of the thrombosis might be able to promote total recovery of allograft renal function after late venous thrombosis.
Keywords: Allograft vein thrombosis, kidney transplantation

MP174 TRANSPERITONEAL LAPAROSCOPIC NEPHRECTOMY FOR POLYCYSTIC KIDNEYS: EXPERIENCE IN A SINGLE CENTER

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Introduction: Polycystic kidneys often require nephrectomy due to either the insurgence of complications (recurrent infections, hemorrhages due to ruptured cysts, abdominal compression) or in order to obtain adequate space for kidney transplantation. Nephrectomy can be both laparotomic or laparoscopic (transperitoneal or retroperitoneal approach). Here we describe our initial experience regarding transperitoneal laparoscopic nephrectomies for polycystic kidneys.
Method: Between 02/2018–03/2019 we performed 12 transperitoneal monolateral laparoscopic nephrectomies for polycystic kidneys (7 right nephrectomies/5 left nephrectomies). The median age of the patients was 52 ± 5 years, with an average BMI of 22.4 ± 3.5. The main reason for nephrectomy was the need of space for kidney transplantation.
RESULTS: The mean operative time was 232 ± 70 min and in the laparoscopic series no cases required conversion to laparotomy. We observed a single intra-operative complication: a diaphragmatic lesion, repaired during the laparoscopic procedure. Only one patient required one hemotransfusion on 7 POD. Post-operative complications were: two cases of pulmonary embolism and a case of chiloperitoneum treated. The average length of stay was of 4.5 days.
Conclusions: In our initial experience transperitoneal laparoscopic nephrectomies is a safe procedure also in case of voluminous polycystic kidneys with advantageous lenghts of stay and post-operative recoveries.

MP176 VENOUS THROMBOSIS IN KIDNEY TRANSPLANT RECIPIENT – CASE REPORT AND REVIEW OF THE LITERATURE

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Background: The aim of this study was to present a case report of the common iliac venous thrombosis in the early period after kidney transplantation and evaluation of the possibility of the treatment such type of the complication.
Clinical Cases: We present a case of 60 years old man, who appeared pain and swelling of the left leg two days after kidney transplantation. Doppler scan revealed high renal arterial resistive indices (RI) and minimal flow through the renal vein. The patient was qualified for graft revision. During the operation hematoma in the venous anastomosis region was removed. Intraoperative doppler scan revealed normal RI and flow in the iliac vein. Control computer tomography angiography, performed 6 h after graft revision, revealed common iliac venous thrombosis. Patient was qualificated to the percutaneous venous stenting. Two types of stents were placement in the common and external iliac vein. The next day patient required a second operation because of a large hematoma in the area of the transplanted kidney. Over the following days he also required transfusions and verification of anticoagulant therapy. All time after KTx, diuresis was up to 300 ml/h and improvement of kidney function was observed. The patient did not require hemodialysis. Finally, patient was discharged on long-term anticoagulation with well kidney function (eGFR-CKD – 86).
Conclusions: Endovascular treatment is effective and safe even in a short time after the operation.

MP177 THE USE OF CRYOPRESERVED VASCULAR HOMOGRAFTS IN LIVING DONOR KIDNEY TRANSPLANTATION

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Background: The availability of vascular conduits represents a limiting factor for lots of surgical operations of major surgery, where there would be the need to repair or remove damaged vessels ore elongate a vessel to let a simpler and safer anastomosis, as in transplant surgery. Few information in literature are available regarding the use of cryopreserved vascular homografts (CVH) in transplantation surgery.
Methods/Materials: From 2012 to 2018 we performed 100 living donor kidney transplantation. We retrospectively analyzed the features of the recipieents, the surgical operations and the outcome, comparing patients where CVH have been used (CVH group, $n = 33$) with those who did not receive CVH (no-CVH group, $n = 67$).
Results: The two groups of patients were comparable for recipient age, sex, rate of AB0 incompatibility, of pre-emptive KT, type of dialysis, first transplant, while there was a difference according to donor age, which was older in the CVH group, the presence of right kidney graft, mainly used in the CVH group, as well as the presence of kidney with multiple vessels. CVH group had longer ischemia time and longer operation time. Concerning the early-post-operative outcomes, the two groups were similar for rate of major complications and reoperation, as well as for both vascular and ureteral technical complications, with similar post-operative stay and eGFR at discharge. In particular we did not observe any case of vascular complication (anastomotic hemorrhage or thrombosis) or DGF/PNF. After a median follow-up of 33 months both recipient and graft survival are 100%.
Conclusion: In our experience with CVH, their use in living donor kidney transplantation represents a safe tool, which could help surgeons to perform simpler and safer vascular anastomosis, with excellent post-operative outcomes.

MP178 NATIVE NEPHRECTOMY FOR AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE IN PATIENT SUBJECTED OR CANDIDATES TO RENAL TRANSPLANTATION: MONOCENTRIC EXPERIENCE

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Objectives: Native nephrectomy (NN), in patients with autosomal dominant polycystic kidney disease (ADPKD) is indicated in case of recurrent urinary tract infections and haematuria, neoplastic degeneration, encumbrance or routinely in some centre. Timing of NN depends of symptom or policy of the centre. The aim of our study is to evaluate our experience.
Methods: In our retrospective study we included 130 patients with diagnosis of ADPKD evaluated to renal transplantation from January 2011 and October 2018. We analysed the indication, the timing, complications of NN.
Results: In our cohort 56 patients underwent to open NN, 82.1% pre-KT, 16% post-KT and only one case simultaneous with KT. In the pre-KT indications were: encumbrance in the 66.6 % of cases, 30% infection or haematuria and 4% other causes. In the post-KT group major indication was infection 56% followed by encumbrance 33%, developed after KT, and 11% due to haematuria. Complications were: 3 cases of bleeding (1 required re-laparotomy, 2 evolved in hematoma and radiological derange), 1 iatrogenic iliac artery injury: contextually repaired and 5 cases of incisional hernia. At 35 $\pm$ 7.2 months follow-up patients survival was 96%: 1 patients died at the induction of anaesthesia and 1 patient for sepsis after double NN and removal of non-functional transplanted kidney.
Conclusion: In our experience major indication to NN were encumbrance in pre-KT group: we preferred to perform NN before KT due to organizational reasons, hypotension and infection risk to perform both surgery simultaneous. NN seems to does not influence outcome of KT.

MP179 SUCCESSFUL RENAL TRANSPLANTATION IN A PATIENT WITH HEMOPHILIA A AFTER DESENSITIZATION DUE TO HLA CROSS-MATCHING POSITIVE

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A 63-year-old male patient with hemophilia A and end-stage renal disease underwent renal transplantation at Kyung Hee University Hospital at Gangdong. ABO-compatible, PRA I, and II 0% was observed at preoperative examination but anti-B cell antibody was positive in HLA cross-matching. The patient underwent pre-operative desensitization protocol with rituximab and plasmapheresis. He received factor VIII replacement therapy during the perioperative period. We maintained the activity level of Factor VIII targeting to 100% from the day of operation until post-operative day 3. Then the target was lowered to approximately 60% at 1 month. Three months after the transplantation, the renal graft function was excellent without any severe bleeding complications despite oozing at the time of the operation. There are limited data or guidelines for major surgery in hemophilia patients since bleeding disorders are considered relative contra-indication due to the risk of bleeding and delayed healing. Despite that, we believe that renal transplantation is possible without any major bleeding complications in patients with hemophilia even if the patient underwent desensitization therapy before the renal transplantation. Moreover, adequate replacement therapy during the peri and postoperative period is needed.

MP16 – SURGICAL TECHNIQUE LIVER

MP180 COMPLETE PORTAL VEIN THROMBOSIS EXTENDING TO SUPERIOR MESENTERIC VEIN: NOT AN ABSOLUTE CONTRAINDICATION FOR LIVER TRANSPLANTATION

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Background: Portal vein thrombosis (PVT) represents a major challenge in orthotopic liver transplantation (OLT) especially when thrombus is extending to superior mesenteric vein (SMV) (Grade III or IV of Yerdel classification). Portal vein anastomosis with left renal vein has been described as a possible solution for this problem.
Case series: We describe 3 cases of OLT in patients with complete PVT extending to SMV. Prior to transplantation, all patients had developed cavernous transformation of PV with splenorenal shunt secondary to cirrhosis. They all successfully underwent OLT with reno-portal anastomosis.

Case 1 was a 63-year-old male patient with Child C alcohol-related liver cirrhosis. No anticoagulant therapy was started prior to OLT. Postoperatively, he developed persistent ascites although portal flow was normal; he was discharged on postoperative day 50 with diuretic treatment.

Case 2 was a 36-year-old male patient with Child C liver cirrhosis secondary to autoimmune hepatitis. No anticoagulant therapy was started prior to OLT. Postoperatively, he developed splenic artery steal syndrome requiring splenic artery embolization and was discharged on postoperative day 60.

Case 3 was a 55-year-old male with Child C liver cirrhosis secondary to hepatorenal polycystic disease and recurrent TIPS infection. Coumarin therapy initiated prior to OLT did not modify the thrombus. After surgery, he required reintervention for an infected perihepatic hematoma and was discharged on day 40.
Conclusion: PVT extending to SMV should not be considered an absolute-contraindication for OLT. Reno-portal anastomosis seems to be an effective technique in selected patients.

MP181 PREOPERATIVE PORTAL THROMBOSIS (PT) IN LIVER TRANSPLANTATION (LT). SHORT AND LONG TERM RESULTS

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PT is frequent in cirrhotic patients waiting for a LT. However, it's impact in post transplant results isn't clearly defined. We analized patient and graft survival post-LT with preoperative diagnosis of PT and its impact in hospital stay, reoperation and complications.

A retrospective consecutive study in all our deceased donors LT recipients was carried out from December 2012 to January 2018. PT diagnosis was established preoperatively with CT scan or Doppler US. PT was graded according to Yerdel classification in mild (grades 1, 2) or moderate/severe (grades 3, 4). Patients were divided into two groups: PT (+) and PT(−) (control group). Demographic data, comorbidities and MELD score were compared between groups as well as arterial, portal, suprahepatic veins and biliary complications, ICU and hospital stay, primary non function (PNF), primary graft disfunction (DGF), immediate mortality, and reoperation rate. Graft and patient survivals were estimated using Kapplan Meier and log rank test.

135 Recipients were included in analysis. There were 15 patients with PT. All cases were successfully thombectomized intraoperatively with adequate vein flow evidenced by intraoperative and postoperative Doppler US. There were no significant differences between groups in demographic data, comorbidities or MELD score as well as in arterial, portal, biliary and suprahepatic veins complications, reoperation rate, ICU and hospital stay. There was a significantly higher incidence of liver graft DGF in the PT group ($p = 0.01$), and significantly higher immediate mortality in moderate/severe grades (33% vs. 8.4%; $p = 0.001$). There were significant differences in 30 day, 1, 3 and 5 year patient and graft survival when moderate/severe cases were compared with the control group ($p = 0.018$; 0.048).

In our experience, LT recipients with preoperative mild cases of PT had similar morbimortality compared with patients with no PT, while moderate/severe cases of PT had higher morbi-mortality.

MP182 IVC ANGIOPLASTY USING AN AUTOLOGOUS VASCULAR GRAFT FOR IVC STENOSIS DUE TO METALLIC STENT IN A PEDIATRIC LIVER TRANSPLANT

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A 12-year-old girl underwent living-donor liver transplantation (LDLT) using a left lobe graft for hepatic dysfunction associated with citrin deficiency. A continuous anastomosis suture technique was performed between recipient's the inferior vena cava (IVC) and the donor's left and middle hepatic vein trunk. At age 14, the patient developed intractable ascites. Venography of the IVC and hepatic vein showed twisted-shape stenosis of the hepatic vein-IVC anastomosis with intravascular pressure gradient, probably due to the enlarged transplanted liver, for which metallic stent was placed. The ascites disappeared and the patient was making satisfactory progress eight months after surgery. However, ascites appeared again with edema in lower extremities. Since the placed stent was suspected to hamper the outflow of the graft liver and IVC, it was decided to conduct stent removal and IVC angioplasty . After intravascular exploration, the metallic stent was removed. Angioplasty was performed; the autologous vascular graft patch was designed to be wedge-shaped to fit the incised part of the inferior vena cava and sutured with 5-0 non-absorbable surgical suture using a continuous suture. Neither postoperative complications nor perioperative graft dysfunction was observed, Ascites decreased markedly, and edema in the lower extremities disappeared. We were able to successfully perform IVC angioplasty using an autologous vascular graft patch in a patient who developed IVC stenosis after stenting. This procedure is one of the most effective treatment options, especially for pediatric patients requiring long-term vascular patency.

MP183 A RESCUE RECONSTRUCTION TECHNIQUE OF DISSECTING HEPATIC ARTERY THROMBOSIS USING MIDDLE COLIC ARTERY AFTER LIVING DONOR LIVER TRANSPLANTATION: REPORT OF TWO CASES

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Background: In some cases, early detection of hepatic artery thrombosis (HAT) can save the primary grafts from graft necrosis by re-reconstruction of hepatic arteries in liver transplantation. If etiology derives from intimal dissection, re-anastomosis using common hepatic artery (CHA) or its branches should be abandoned because anatomical structure of native CHA has been destroyed. We herein report two cases of successful rescue reconstruction using middle colic artery (MCA) for dissecting HAT in early after living donor liver transplantation (LDLT).
Methods: Case 1: 27 years-old women who have history of hepatic port-enterostomy and splenic artery embolization was received LDLT due to refractory hematemesis and cholangitis using the right lobe graft from her father. Since arterial waveform of hepatic artery abruptly vanished by ultrasonography (US) on POD 5, emergency laparotomy was performed under diagnosis of acute HAT. Arterial dissection was started at anastomosis and spread to the celiac trunk. The gastroepiploic artery (GEA) was abandoned as native feeder because of small diameter and loss of flexibility by severe adhesion. Venous backflow from the graft right hepatic artery (RHA) stump was recognized after thrombectomy and arterial irrigation by 60,000 U of urokinase solution. Therefore, the left branch of MCA 1 mm in diameter was re-anastomosed to the graft RHA. Case 2: 65 years-old men was received LDLT due to cirrhosis of hepatitis B with MELD score16. Since his arterial US signal was lost on POD2, emergency laparotomy revealed dissection of native CHA as a starting point at detached GDA stump. Because diameter if his GEA (1.5 mm) was smaller than that of the graft RHA (2.5 mm), The left branch of MCA was chosen as the rescue feeding artery.
Result: Both recipients got uneventful recovery and are keeping satisfactory graft function and QOL.
Conclusion: MCA is the useful candidate of the rescue feeding artery in case of early revision of HAT in LDLT.

MP184 PIGGY-BACK LIVER TRANSPLANTATION FOR GIANT POLYCYSTIC LIVER – THE GRAZ STANDARD

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Background: Hepatectomy of huge polycystic liver is challenging since organ mobilization is limited with associated risk for uncontrolled bleeding and mortality. While indication is frequently given for liver transplantation (LTx) in polycystic liver disease, no standards for safe cava preserving recipient hepatectomy has been described in the literature yet.
Case report: A 34-years old woman with giant polycystic liver presented with dyspnea, abdominal pain and tremendeous weight loss due to malnutrition while liver function was compensated. Since LTx was indicated hepatectomy was performed for subsequent piggy-back LTx. Without mobilisation, the polycystic liver was split in half with a scalpel to preserve the vena cava that has been cross-clamped just above both the hepatic and renal veins. After removal of the right liver, the cava was freed from the remnant tissue with LigaSure and EndoVascular Staplers for the liver veins. Removal of the diseased 17.4 kg liver took less than 50 min and piggy-back LTx as well as the whole postoperative course was uneventful.
Conclusion: Splitting the decised liver with cross-clamped vena cava is a safe and fast procedure to remove first the right liver with subsequent cava preserving left hepatectomy for piggy-back LTx.

MP185 OUTCOME OF LIVING DONOR LIVER TRANSPLANTATION FOR SECONDARY BILIARY CIRRHOSIS IN ADULT: SINGLE CENTER EXPERIENCE

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Introduction: Although liver transplantation is a definitive cure for secondary biliary cirrhosis (SBC), there is limited data about results of living donor liver transplantation (LDLT) in adults.
Material and methods: This retrospective study assessed data from 29 SBC patients who had LDLT between December 1994 and July 2018.
Results: The study cohort comprised of 10 males and 19 females, aged 50.0 $\pm$ 8.6 years. Except for 3 patients, the rest were diagnosed with secondary biliary cirrhosis from hepatolithiasis, and 25 out of 29 (86.2%) had a history of receiving the hepatobiliary surgery. Model for end-stage liver disease (MELD) score was 18.8 $\pm$ 9.4. The major complication rate was 62.1%, and the most common complication was bleeding. The ICU and hospital stay were 24.4 $\pm$ 13.8 and 40.9 $\pm$ 24.8 days. Four patients died in first month after LDLT; Tow died of rupture of hepatic artery rupture, one died of Intracranial hemorrhage, and the other one died of sepsis.
Conclusion: LDLT for patients with SBC is very difficult, and there's a big danger of massive bleeding. Even though operation time is long and there's a lot of bleeding, thorough planning and a meticulous surgical technique that does not cause complications can reduce the mortality rate in LDLT for patients with SBC.

MP186 LIVER TRANSPLANTATION 8 YEARS AFTER LIVER RESECTION FOR CCA WITH LIVER CIRRHOSIS AND SIMULTANEOUS KIDNEY RESECTION FOR RENAL CARCINOMA: A CASE REPORT

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Background: Cholangiocarcinoma (CCA) is a highly aggressive tumor with increasing incidence. Surgical resection of intrahepatic CCA is the only potentially curative treatment. CCA is considered contraindication for liver transplantation.
Case presentation: A 68-year-old male with non-alcoholic steatohepatitis underwent right lobe liver resection (1/2011). The definitive histology was primary ductal CCA, pT1NXM0, G3, stage I, with 70–80% liver steatosis and septal fibrosis. In the follow up period he developed liver cirrhosis with refractory ascites and several attacks of spontaneous bacterial peritonitis. Despite anamnestic CCA 8 years ago he was considered as candidate for liver transplant. The screening for CCA recurrence was negative. Left kidney was found suspicious of small renal cancer. He was waitlisted for liver transplant with kidney resection with clinical urgency 3.

The surgery (1/2019) occurred with accessory right hepatic artery implanted to gastroduodenal artery and with machine perfusion. Early re-transplantation with split right liver lobe graft was necessary on day 4 due to hepatic artery and partial portal vein thrombosis. Further complication was hemoperitoneum. Because of preexisting kidney insufficiency, the patient developed kidney failure necessitating hemodialysis. Unfortunately, histology of the liver explant revealed two advanced CCA tumors rpT3rpNXrpM0, G2, stage III with angioinvasion. Left kidney histology confirmed clear cell carcinoma pT1NXM0 G2-3, stage I with R0 resection. The follow up is 70 days after the first liver transplant.

Conclusion: Intrahepatic cholangiocarcinoma is considered contraindication for liver transplantation. However, it can be incidentally diagnosed in liver explants. Patients with early tumor stage have promising survival rate. In our case advanced tumor stage was found but the follow up period is still short to evaluate definitive outcome.

MP187 LIVING DONOR DOMINO TRANSPLANTATION IN NATIONAL CHILDREN'S HOSPITAL, TOKYO, JAPAN

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As the priority of living donor-domino liver transplantation (LD-Domino LT) is the safety of the first recipient, limitations and technical difficulties in the second recipient often occur. The most technically challenging part of LD-Domino LT is the reconstruction of the vessels. At the back table, the HVs of the domino graft were sutured together, and the single cuff of the HVs was anastomosed to the IVC by joining the orifices. The HAs, the presence of insufficient length, and multiple vessels in the whole liver rendered the reconstruction more difficult. This is the 5 cases series using grafts in DLT obtained from LDLT for patients with maple syrup urinary disease between two institutions. There are 2 female and 3male patients with median age of 5 years, median weight of 20.2 kg. The original liver disease of the second recipients are Protein C deficiency, biliary atresia, Hyper cholesterolemia, congenital hepatic fibrosis and hepatoblastoma. All of 5 patients are doing well without surgical complications. In conclusion, LD-Domino LT is a safe and feasible therapeutic option to expand the donor pool by technical refinement in the reconstruction of the second recipient.

MP188 PEDIATRIC LIVER TRANSPLANTATION EXPERIENCE IN ACIBADEM TRANSPLANTATION UNIT

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Background: Pediatric liver transplantation is a special group in liver transplantation becuase of technical and medical difficulties. These operations should be performed in special centers.
Materials/Method: Acıbadem liver transplantation unit performed 49 pediatric liver transplantations since 2016 when it first started the liver transplantation. We collected the demographic data, etiologies, weigts of the pateints. Operative informations and postoperative complications were given.
Results: In our new transplant center, 26 of pediatric case came abroad. Male/Female ratio was 17/32. Mothers mostly donated their livers. Leading cause of transplantation was biliary atresia. Mean age was 5.6 years (6 month-17 years). Lowest weigt was 4700gr. Mortality rate was %8 in three cases. Complications were bleeding in four cases, bile leakage in three cases, seizures in three cases and bile stricture in two cases. Bile anastomosis was reconstructed by hepaticojejunostomy in 38 cases. Two cases were underwent liver and kidney transplantation.
Conclusion: Pediatric liver transplantation should be performed in special centers in which colloborated work is optimal. Preoperative and postoperative evaluation is very important.

MP189 NEW BUT FAST GROWING LIVER TRANSPLANTATION CENTER: ACIBADEM LIVER TRANSPLANTATION THREE YEARS EXPERINCE

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Background: New transplant centers hesitate performing huge amount and difficult cases due to adjustment time and obtaining the required equipment of the hospital. However experienced surgeons and institutional hospital can overcome these difficulties in a short time.
Material/Method: Acibadem Atakent liver transplantation unit opened in July 2015. We collected our data about liver transplantation. Number of cases, living and cadavaric cases. Cases with portal vein thrombosis, pediatric cases, combined liver and kidney transplantations were included as difficult cases. Complications and survivals were given.
Results: Total 328 liver transplantations were performed in three years. Number of living donor liver transplantations were 288. Fifty two of them were internation patients. There were four cases with liver and kidney together. There were 55 portal vein thrombosis in which %40 were grade 3 and 4. There were 4 renoporta and 5 varicoportal anastomosis There were 43 pediatric cases. Bile leakage was seen %15 cases. Hepatic artery thrombosis rate was %6. 1 year survival was %90 and 3 year survival was %88.
Conclusion: Acıbadem liver transplantation center in new but well trained surgeons and institutional hospital group made our center successful.

MP190 SUCCESSFUL LIVER RETRANSPLANTATION DUE TO ACUTE AMR WITH 18 HOURS ANHEPATIC PERIOD, COMPLICATED BY THE NECROTIZING PANCREATITIS

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Introduction: This case describes the successful re-LTx (with 18 h anhepatic period) performed due to severe AMR on the 10th POD. On the 7th day after re-LTx ischemic necrotizing pancreatitis developed. The patient died 20 days after the re-LTx due to the septic shock.
Method: The patient S., aged 58, was transplanted due to NASH-related cirrhosis (MELD 23, hepatorenal syndrome). LTx was performed from non-marginal DBD.
Result: First four postoperative days (PODs) were uneventful. From 5th till 10th PODs liver graft function progressively deteriorated with the level of AST/ALT of 5,500/5,300 U/l and INR of 3.6 on the 10th POD. Despite the sequential steroid pulse therapy, IVIG infusion and plasmapheresis, performed from the 6th to the 9th PODs, liver graft failure with multi-organ failure was developed on the 10th POD. The recipient was transferred to the operation theatre: the total graft necrosis was revealed (histologically C4d-positive antibody mediated rejection); hepatectomy and temporary portacaval shunt were performed. After this the patient condition was stabilized and the patient has been waiting for the liver graft in the operating theatre. Liver retransplantation from marginal DBD (graft steatosis – 60 %) was performed after 18 h of anhepatic period. Early postoperative period was complicated by Enterococcus spp serous peritonitis, successfully treated by planned relaparotomies and antibiotic treatment. The second liver graft function was adequate. On the 7th day after re-LTx pancreonecrosis with necrosis of the mesentery of the descending colon was revealed. Despite provided intensive care the patient died 30 days after the 1st LTx.
Conclusion: *The aim of this report - to verify and discuss on what step incorrect tactics was applied (if it was):*

a Classic technique vs. Piggy-back in patients with severe HRS?
b Should we avoid TAC in patients with RRT in early postoperative period?
c Could we save that sort of patient?

MP191 POST-SURGICAL INCISIONAL SCARS AND COSMETIC SATISFACTION ASSESSMENT IN LIVING LIVER DONORS

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Background: Cosmetic appearance is a major concern for living donors because a permanent large incisional scar is inevitable. Little is known about the scars how to impact of the body image changes after living donor

hepatectomy (LDH). The aim of this study was to identify the potential factors that cause the upper midline incision scar to form poorly, and to examine body image satisfaction and scar satisfaction after donor hepatectomy.
Methods: Donors who underwent right lobe donor hepatectomy was recruited. Exclusion criteria were the following: (1) hypertrophic scar and keloid, (2) refusal to participate, and (3) lost during follow-up for any reason. Using the Vancouver Scar Scale (VSS) score to evaluate the donors' upper midline incision scars, all donors were divided into two different groups. Demographics, pre-operation variables, operation-related variables, and questionnaire-derived donor satisfaction with cosmetic appearance were compared.
Result: The mean age of the donors was 34.96 $\pm$ 8.76 years. The mean BMI wea 23.20 $\pm$ 3.39 (kg/m^2). The pre-operative blood examinations were all in the acceptable range. 20.7% of donors had fatty liver changing. 43.5% of donors had post-operative complications, but there were no mortalities. According to the VSS assessment on the upper midline incision, all donors were divided into two groups. The A group (VSS $\leq$ 4) consisted of 37% of the donors, and the B group (VSS $>$ 4) consisted of 63% of the donors. On multivariate analysis, being a male donor was found to be an independent predictor of a cosmetically displeasing upper midline incision scar. A more satisfactory cosmetic result and more self-confidence were noted in the A group versus the B group.
Conclusion: Comparing to the transvers incision, the upper midline incision has a higher rate of scarring. Being a male donor is the most important potential affecting factor. Poor scarring affects donor's cosmetic satisfaction, but it does not affect the donor's body image.