**TRANSPANTATION - CLINICAL STUDIES II**

**MP629**  SCREENING FOR INHERITED AND ACQUIRED THROMBOPHILIA PRIOR TO RENAL TRANSPLANTATION

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**Introduction and Aims:** Renal allograft recipients with thrombophilia are at higher risk for early allograft loss, microvascular occlusion and acute rejection with major consequences for allograft survival. The aim of the present study was to evaluate the prevalence of prothrombotic risk factors in patients awaiting renal transplantation and its contribution to patient and transplant outcomes.

**Methods:** All patients with a history of a thromboembolic event, early or recurrent vascular access thrombosis, family history of thrombosis, or multiple miscarriages underwent laboratory screening for thrombophilia.

**Results:** Since the introduction of the screening for hypercoagulable risk factors, 156 candidates for renal transplantation underwent laboratory evaluation. Eighty-eight patients (56%) exhibited at least one prothrombotic laboratory parameter, besides of isolated hyperhomocysteinemia, which confirmed a thrombophilic state. Lupus anticoagulant, anticardiolipin and beta-2-glycoprotein was present in 30%, 18% and 13%, and antithrombin III, protein C and protein S deficiencies in 11%, 8% and 10%, respectively. Factor V Leiden mutation was present in 16% of 156 patients. Among these patients, 30 underwent renal transplantation and were followed for a median of 199 days (range, 9 – 418). All patients were on triple immunosuppressive regimen comprising mycophenolate, tacrolimus and prednisone. Thrombophilia was identified in 16 (33%) patients. Seventeen (57%) received percutaneous anticoagulation with unfractionated heparin (9 patients with thrombophilia and 8 without laboratory confirmed thrombophilia). Five (30%) of these patients developed periuremic hematomas. Three patients with thrombophilia developed thrombotic complications (2 upper limbs deep-vein thrombosis and 1 allograft artery thrombosis) and 1 patient without thrombophilia developed allograft vein thrombosis, p=0.05. Nine patients developed acute rejection (5 in the group with thrombophilia and 4 in the group without thrombophilia, p=0.087).

**Conclusions:** Prothrombotic risk factors, especially antiphospholipid antibodies, are highly prevalent in patients awaiting renal transplantation with a clinical or familial history suggestive of thrombophilia, including early and recurrent vascular access failure. Despite pre-transplant screening and perioperative treatment and/or monitoring, thrombotic and bleeding complications are still frequent and severe.

**MP630**  THE PREVALENCE OF ANTIPHOSPHOLIPID ANTIBODIES IN RENAL RECIPIENTS AND CHRONIC KIDNEY DISEASE

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**Introduction and Aims:** The prevalence of antiphospholipid antibodies (APLA) and thrombotic events in CKD are higher than in general population. The aim of the study was to assess APLA in CKD pts as a marker of thrombosis.

**Methods:** We analyzed 3 groups: 37 renal recipients (ktx) with stable renal function (mean age 40.3±12.6), 36 pts with CKD stage II-IV (mean age 39.4±12.5), 33 haemodialysed (HD) pts (mean age 50.6±16.7). Tested parameters included lupus anticoagulant (LA), anticardiolipin antibodies (ACL), anti-B2Glucoprotein I antibodies (anti-B2GPI), anti-prothrombin antibodies (anti-PT) in IgM/IgG isotype. According to previous history of thrombosis we identified pts with strong thrombosis in the past called T(+) subgroup, whilst pts with no additional thrombotic risk factor were included to T(-) subgroup. APLA were tested twice: at the beginning of the study and 6 months after. Activity of protein C and S, factor VIII, ADAMTS-13 and anti-ADAMTS-13 were investigated in order to exclude other causes of thrombosis.

Each group: ktx, CKD and HD was analyzed separately. Mean observation time in months was 12.5±7 (ktx), 11.9±3.9 (CKD), 10.9±3.2 (HD). Endpoint of the study was appearing of thrombosis during follow-up in APLA(+)/pts. Statistical analysis was performed using Wilcoxon test, Chi-square, Fisher exact test.

**Results:** The prevalence of APLA in tested groups was higher than in general population: in ktx, CKD and HD was 16.22%, 22.33%, 45.16%, respectively. We found no significant differences in APLA between T(+) vs T(-) in ktx and HD, in CKD differences between T(+) vs T(-) were detected in ACL IgG (p=0.0018) and anti-B2GPI IgG (p=0.0333). During follow-up, in ktx occurred one endpoint - graft thrombosis in T(+) pts with APLA. In CKD – 2 thrombosis (strokes, one in T(+) pts with APLA), in HD – pulmonary embolism in T(+) pts with no APLA. The most frequently observed antibodies were in ktx: anti-B2GPI IgM (16.22%) and ACL IgG (13.88%), in CKD: LA (22.33%), anti-B2GPI IgM (12.5%), in HD: LA (45.16%) and ACL IgM (20%). In HD correlations were found between ACL IgM and anti-B2GPI IgM (p=0.0028), ACL IgG and anti-B2GPI IgG (p=0.0377), anti-PT IgM and anti-PT IgG (p=0.0007); in ktx correlations were observed between anti-B2GPI IgM and proteinuria (p=0.0441), serum creatinine concentration (Scr) and anti-B2GPI IgG (p=0.0191), anti-B2GPI IgM and ACL IgM (p=0.0328), ACL IgG and ACL IgM (p=0.0525), but identified correlations were weak (r=0.3). In ktx and CKD renal function remained stable, no significant differences in Scr between T(+) and T(-) were detected.

**Conclusions:** The prevalence of APLA in CKD, HD, ktx is higher than in general population. Endpoint of the study was achieved in 2 cases, so based on that we cannot clearly determine the role of APLA as a marker of thrombosis in tested groups.

**OPPORTUNITY**

**MP631**  OPTIMISATION OF AZATHIOPRINE DOSES IN RENAL TRANSPLANTATION - A PRACTICAL AND REALISTIC OPPORTUNITY

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**Introduction and Aims:** Immunosuppression for renal transplantation (RTx) has shifted from azathioprine (AZA) to mycophenolate mofetil (MMF)-containing regimens with improved five-year patient and graft survival rates. However, data to support this strategy did not include AZA optimisation by measurement of thiopurine-S-methyltransferase (TPMT) activity, or AZA metabolites, thioguanine nucleotides (TGN) and methyl-mercaptopurine (MMP). Our aim was to assess AZTMP activity and AZA metabolites in RTx recipients. We hypothesised that these biomarkers would identify patients at risk of AZA toxicity, under-dosing and non-adherence.

**Methods:** EDTA blood samples were collected from 93 AZA long-term RTx patients and tested for TPMT activity and AZA metabolite profiles. TPMT activity, TGN and MMP levels were correlated with mean white cell counts (WBC), lymphocyte counts, alanine transaminase (ALT), haemoglobin (Hb) and mean cell volume (MCV) concentrations, and with clinical outcomes.

**Results:** The distribution of TPMT within our cohort mirrored that seen within the general population. Patients with normal TPMT activity (n=81) and intermediate TPMT activity (n=7) had been prescribed similar doses of AZA (1.094mg/kg and 1.015mg/kg respectively), but had predictably significantly different levels of TGN (299.9pmol/8x10⁸RBC and 546.6pmol/8x10⁸RBC respectively; p=0.0001). The dose of AZA correlated with both TGN (R=0.313; p=0.002) and MMP (R=0.468, p=0.0001) in those with normal TPMT activity. 58/93 patients had potentially sub-therapeutic TGN levels ≤240pmol/8x10⁸RBC, without impacting on GFR decline. However, this group did contain fewer patients who had developed skin cancer, in comparison to those with TGN levels >240pmol/8x10⁸RBC (p=0.046; OR=2.91, 95% CI 0.99-8.56). 14/93 patients were potentially over-dosed, with TGN levels >240pmol/8x10⁸RBC; this was not correlated with increased myelotoxicity or hepatotoxicity. There were weak but significant correlations seen between MCV and AZA dose/kg (r=0.377, p=0.0009), and, in patients with normal TPMT, between MCV and TGN (r=0.2052, p=0.048). 2 patients had TGN and MMP levels of 0, suggesting non-adherence. 1/2 had a progressive decline in renal function.

**Conclusions:** The majority of patients in our cohort had a TGN level less than the range considered therapeutic in a number of chronic inflammatory conditions (240-400pmol/8x10⁸RBC). Increased macrocytosis seen in patients on higher doses of AZA may be an index of marrow toxicity, and may suggest that dose reduction is warranted. Prospective studies are needed to determine the ideal therapeutic range of AZA metabolites in RTx, since switching AZA to MMF without optimising the dose of AZA is potentially a missed opportunity.
MALIGNANT BLADDER TUMOURS IN RENAL ALLOGRAFT RECIPIENTS - RISK FACTORS AND OUTCOMES

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Introduction and Aims: Solid organ transplant recipients have an increased cancer risk due to immunosuppression and oncogenic viral infections. We report on the types of malignant bladder tumours and their incidence in kidney transplant recipients in comparison with the general population in Ireland, describing possible additional risk factors and outcomes in these patients.

Methods: Using the Irish National Cancer Registry and National Renal Transplant Registry databases, we calculated the standardised incidence ratio of de novo bladder malignancy in renal transplant recipients by comparison with the general Irish population in the period between 1/1/1994 and 31/07/2012. We looked at patient and tumour characteristics and cancer related mortality within the first year of diagnosis in the kidney transplant recipient cohort.

Results: Fifteen renal allograft recipients were diagnosed with de novo malignant bladder tumour during the study period. Mean interval between transplantation and diagnosis of bladder tumour was 55.7 yrs. 60% of the patients were male. 3194 kidney transplant recipients were identified from registry data within the study period, excluding those who died before 1994. The standardised incidence ratio for malignant bladder tumours in kidney transplant recipients was 2.5 (95% CI 1.4-4.2), compared with the general population. Nine patients had transitional cell carcinoma. The other tumour types were squamous cell carcinoma (three patients), adenocarcinoma (one patient), carcinoma in situ (one patient) and diffuse large B cell lymphoma (one patient). Additional risk factors associated with bladder malignancy were identified in nine patients. Four patients had congenital anomalies including spina bifida, prune belly syndrome, bladder exstrophy and congenital neurogenic bladder and one patient had a history of prostate surgery for benign hyperplasia. Two patients received cyclophosphamide one year prior to transplantation and careful monitoring in the post transplant period with a low risk of bladder malignancy. Vigorous screening of these higher risk patients prior to transplantation and careful monitoring in the post transplant period with a low threshold for cystoscopy should be recommended.

ASSOCIATION OF GENETIC POLYMORPHISMS OF MATRIX METALLOPROTEINASES WITH NEW-ONSET DIABETES AFTER TRANSPLANTATION IN RENAL TRANSPLANTATION

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Introduction and Aims: New-Onset Diabetes After Transplantation (NODAT) is a serious metabolic complication that may follow renal transplantation. Excess fat deposition requires space, created by adipocyte (hypertrophy and hyperplasia) and extracellular matrix (ECM) remodelling. This process is regulated by several factors, including several adipocyte-derived Matrix metalloproteinases (MMPs) and the adipokine cathepsin, which degrades fibronectin, a key ECM protein. Excess fat, also deposited in visceral organs, generates chronic low-grade inflammation that eventually triggers insulin resistance and the associated diabetes mellitus. Therefore, we examined the association between NODAT and 11 single nucleotide polymorphisms (SNPs) located within the 3 genes of Matrix metalloproteinases (MMPs) which might be related with NODAT.

Methods: A total of 309 renal transplant recipients were included without a history of diabetes. We analyzed the association between NODAT development and a panel of 11 SNPs within 3 genes (MMP1, MMP2, MMP3) of MMPs.

Results: In terms of allele frequencies, rs243849 (MMP2) was significantly higher in patients with NODAT. Two SNPs among 11 (18.1%) were significantly associated with NODAT development after adjusting for age, sex, and tacrolimus usage. They include MMP2 (rs1132896) and MMP2 (rs243849). In multiple logistic regression analysis, these 2 SNPs were significantly associated with the development of NODAT in the codominant and recessive or, codominant and dominant models, respectively.

Conclusions: The data suggest that excess fat deposition and ECM remodelling might play a role in the pathogenesis of NODAT in renal transplantation recipients. In particular, significant variations of MMP2 might confer susceptibility to NODAT in patients who receive renal transplants.

RISK FACTORS IN VENOUS THROMBOSIS OF RENAL GRAFTS FROM DECEASED NON HEART-BEATING DONORS

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<table>
<thead>
<tr>
<th>RISK FACTORS IN VENOUS THROMBOSIS OF RENAL GRAFTS FROM DECEASED NON HEART-BEATING DONORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROUP I (N=88)</td>
</tr>
<tr>
<td>RECIPENT</td>
</tr>
<tr>
<td>Age (years)</td>
</tr>
<tr>
<td>Men</td>
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<tr>
<td>First transplant</td>
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<tr>
<td>Hyperimmunized</td>
</tr>
<tr>
<td>Mismatches</td>
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<tr>
<td>Cold ischemia time (minutes)</td>
</tr>
<tr>
<td>Antithrombotic globulin</td>
</tr>
<tr>
<td>DONOR</td>
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<td>Age (years)</td>
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<td>Weight (kg)</td>
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<tr>
<td>EVOLUTION</td>
</tr>
<tr>
<td>Primary graft function</td>
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<tr>
<td>Acute tubular necrosis (days)</td>
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<tr>
<td>Resistance indices in the doppler</td>
</tr>
<tr>
<td>High resistance ratios</td>
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<tr>
<td>Loss of graft</td>
</tr>
<tr>
<td>Anticoagulation</td>
</tr>
<tr>
<td>Venous thrombosis</td>
</tr>
<tr>
<td>Acute rejection</td>
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<tr>
<td>Receptor survival</td>
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<tr>
<td>Hematuria/Surgery/Transfusion</td>
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</tbody>
</table>

THE IMPACT OF LONG-FUNCTIONING ARTERIOVENOUS FISTULA ON LEFT VENTRICULAR HYPERTROPHY IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction and Aims: Left ventricular hypertrophy (LVH) is frequently observed in patients starting dialysis therapy, and highly prevalent in kidney transplant recipients. The effect of patent arteriovenous fistula (AVF) on cardiac remodeling in patients after kidney transplantation is not fully elucidated. The aim of this study was to evaluate the impact of long functioning AVF on LVH in large cohort of kidney transplant recipients.

Methods: This study enrolled 162 kidney transplant recipients at 8.7±1.8 years after kidney transplantation. Echocardiography, carotid ultrasound and the assessment of pulse wave velocity were performed. The inflammatory markers, adhesion molecules, and N-terminal prohormone of brain natriuretic peptide (NT-proBNP) concentrations were measured. LVH was defined based on left ventricular mass (LVM) indexed for body surface area (BSA) and for height2.7. The deceased donor kidney transplant to non heart-beating donor may have a higher rate of venous thrombosis (VT). The aim of this study is to analyze whether resistance index (RI) high (>0.8), measured by Doppler ultrasound can be a predictor of VT. We also analyzed whether early anticoagulation may decrease graft loss associated with VT.

Methods: We analyzed 227 patients with renal transplant non heart-beating donor made since 2005-2012. In November 2009 began prophylactic anticoagulation if RI were deviated. Patients were divided in group I (no anticoagulation historical group) and group II (anticoagulated by RI).

Results: The Table compares the Group I to Group II. In univariate analysis cold ischemia time, body mass index of the donor, antithrombin globalin and high RI were factors that were associated with VT of the graft. In multivariate analysis thromboglobulin treatment was a factor associated with VT (p 0.03, HR 5.2 IC 1.1-23.8). We analyzed the subgroup of 89 patients with high RI, 34 patients were anticoagulated, and none had a VT compared with 55 patients who received no anticoagulation, of which 14% had vascular thrombosis.

Conclusions: This study suggests that in renal transplant from non heart beating donor when RI is higher than 0.8, anticoagulation may decrease the rate of VT. In these transplants, a careful choice of donor and reduced cold ischemia time are related with better result.
percentage of LVH, based on both LVM indexes (66.7 vs. 48.4%, p=0.02 for LVMi/BSA and 86.6 vs. 74.7%, p=0.06 for LVMi/height$^1$, respectively). The OR for LVH in patients with patient fistula was 2.13 (1.41-3.59), p=0.03, and 2.18 (0.94-5.05), p=0.06, respectively. Regression analysis revealed independent contribution of patient fistula to the presence of LVH and higher LVM.

**Conclusions:** In a largest study to date, we show that long-lasting arteriovenous fistula after kidney transplantation plays the important role in the increased prevalence of left ventricular hypertrophy in kidney transplant recipients.

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**DAILY PHYSICAL ACTIVITY INDEPENDENT ON ACTIVITIES OF DAILY LIVING AMONG PATIENTS IN THE FIRST YEAR AFTER KIDNEY TRANSPLANTATION**

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**Introduction and Aims:** Physical fitness (PF) and quality of life (QL) improve by kidney transplantation during the first year after the surgery. It is appropriate to support this improvement by physical activity and nutrition interventions. Both of these concepts are associated with functional motor ability, which is crucial for safe and independent performance of activities of daily living (ADL) for a long as possible.

**Aims:** To evaluate ADL performance in representative sample of Czech patients during the first year after kidney transplantation, to demonstrate benefits of long-term physical and nutrition interventions on ADL performance, and to explore associations of ADL performance with PF and QL.

**Methods:** Present prospective randomised study is an experiment evaluating two factors: physical activity and nutrition interventions. Study sample: individuals after cadaveric kidney transplantation whose health status allowed diagnostic and therapeutic intervention (N = 933) divided into 4 groups according to applied intervention during 24th-10th months: EXERCISE – physical activity intervention (conditioning, 6 months), NUTRITION – selective feeding programme (protein intake < 1.2 g/kg of weight and energy intake < 30 kcal per day), EXERCISE AND NUTRITION – combination of physical activity and nutrition interventions, CONTROL – regular care.

Main study variables: ADL performance (Barthel Index), physical status related IADL (part of Lawton Scale) in 2nd and 3rd months after the transplantation. Secondary study variables: health related fitness (Senior Fitness Test, Handgrip Test) and health-related quality of life-HRQOL (KDQOL–SF$^{10,11}$) in 10th months after the transplantation. Statistical methods: descriptive statistics, analysis of variance (ANOVA), non-parametric Wilcoxon, correlation analysis (Pearson) and Tukey’s range test (p<0.05).

**Results:** The sample consisted of 28% of all patients in the first year after kidney transplantation in the Czech Republic. After just two months 84% were fully independent in ADL and 64% were independent in IADL related to physical status.

The number of independent patients significantly increased (p<0.05) in ADL by 4% and IADL by 10% during the following eight months. The most beneficial appeared to be physical activity itself and in combination with nutrition intervention (p<0.05). The independence in 3 ADL and 4 IADL tasks out of 7 was closely associated with health related fitness and with 4 out of 8 dimensions of generic part of HRQOL.

**Conclusions:** Independence in ADL is closely associated with physical fitness and quality of life among those patients. Physical activity itself or in combination with nutrition intervention improves patients’ independence in the first year after kidney transplantation and helps them to return to normal life sooner.

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**IMPACT OF CYSTATIN C ON MACE AFTER KIDNEY TRANSPLANTATION**

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**Introduction and Aims:** Cystatin C is a well established marker of kidney function. There is evidence that cystatin C concentrations are also associated with mortality. The present analysis evaluates the associations of cystatin C with major adverse cardiac events (MACE), end stage renal disease (ESRD) and all-cause mortality in a well defined kidney transplant patient cohort.

**Methods:** We determined serum concentrations of cystatin C and creatinine from patients who underwent kidney transplantation between February 2000 and May 2011 in our transplant centre. MACE (as non-ST-elevating and ST-elevating myocardial infarction, need for coronary artery bypass graft operation and autotomy results), all cause mortality, ESRD and biopsy proven graft rejections were recorded. We performed a regression analysis using the generalized estimating equation model (GEE, Poisson) with adjustment for age, sex and graft rejection. Risk estimation is expressed as incident rate ratio (IRR) and incident rate (IR in %). eGFR was calculated with the modified MDRD formula for creatinine and for cystatin C as: eGFR = 78.7 × C$^{−1.10}$ (AKD 2008:51:3951, respectively).

**Results:** We investigated 265 patients, thereof 56.7% male, with a mean age at transplantation of 49.2 years (SD 12.3) and mean observation time of 4.27 years (min. 0.05 max. 11.99). Within 1131 patient years, 33 MACE were observed, resembling an incidence of 29/1000 patient years (95%CI 21-41). Mean age at MACE was 60.32 years (95%CI 56-64.4) and differed significantly from the mean age of 54.7 years (95%CI 53-56.6; p=0.016) in patients without MACE. Mean creatinine levels in the MACE group were 1.73mg/dl (SD 0.66) with a mean eGFR of 37.34ml/min (SD 15.37) and 1.54mg/dl (SD 0.91) and 53.75ml/min (SD 19.81) in patients without MACE, respectively. Mean creatinine levels and eGFR for the MACE group were 1.69mg/dl (SD 0.69) and 44.9ml/min (SD 18.87) and 1.48mg/dl (SD 0.68) and 50.9ml/min (SD 19.42) in the non-MACE group (n.s.). Cystatin C levels were associated with a high IRR (1.75) for MACE. IR for MACE increased by 75% for each mg/dl serum cystatin C increase (IRR 1.75 95%CI 1.14-2.69; p=0.009). A decrease of eGFrCystatinC was significantly associated with risk of MACE. The incidence increased per mg/dl eGFr loss by 4.7% (IRR 0.953; 95%CI 0.93-0.98; p<0.001).

**Conclusions:** We showed a significant correlation between serum cystatin C and the incidence of MACE. Since creatinine was not predictive these results suggest a prognostic role of cystatin C independent of glomerular filtration rate.
CONCLUSION: The association of acute kidney rejection and nitric oxide level may be a non-invasive marker of choice.

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Introduction and Aims: Acute renal allograft rejection (AR) continues to have a negative effect on the graft survival despite a better understanding of the molecular basis of renal allograft rejection. Nitric oxide (NO) has important biological functions in cell defense and injury and some evidence exist that it may act as an immunomodulator in allograft transplantation (TX). The aim of our study was to analyze the relationship between NO with histological parameters in biopsy-proven allograft rejection and other reasons of allograft dysfunction, as well as to evaluate the clinical impact of NO measurement as a non-invasive marker for early diagnosis of AR.

Methods: Forty-five consecutive recipients receiving their first living-related kidney grafts (mean age 35.7±10.4 years, 26 females) were prospectively recruited. Serum NO levels were measured at: 20 min after graft reperfusion (NO1), on days: 1 (NO2), 5 (NO3) and 14 (NO4) and at 1st (NO5) and 6th (NO6) month after TX. Protocol allograft biopsies (Bx) were performed at 1st and at 6th months after TX, and regular biopsies upon clinical indication. Renal function tests were done as per our unit protocol.

Results: Between January 1996 and January 2009, 167 pts (mean age 53.8±8.6 y.o.) considered to be at high risk for CAD performed coronary angiography (CAT) as a part of renal Tx evaluation. The cohort was divided in three groups according to CAD extent (defined as >50% stenosis of at least one major epicardial vessel): group 1 (n=74) had significant stenosis, group 2 (n=49) had one vessel disease and group 3 (n=44) had two/three vessel or left main disease.

Conclusion: CAD extent is a powerful predictor of event-free survival in renal Tx recipients/candidates. Despite a high incidence of acute coronary syndromes in severe CAD pts that received a renal graft, total mortality seems to be in an acceptable range. We did not detect any significant difference in the outcome related to the pre-Tx revascularization status, event after stratification according to study defined CAD extent.


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Results: Thirty eight of the paired protocol Bx (42.2%) showed histological features of subclinical acute rejection (SAR) and 52 (57.8%) Bx had no signs of acute rejection. Significantly higher NO levels: (NO5) and (NO6) were found in Bx showing SAR as compared with the cyclosporine toxicity (CyTx) it was at the borderline of significance (70±9.8 vs. 50±7.9 micromol/L; p=0.051). Nine patients underwent liver and kidney co-transplantation, two patients compared with the other cases of allograft dysfunction occurred within the first posttransplant month: delayed graft function (DGF) and urinary tract infection (UTI) (70±9.8 micromol/L vs. 48±16.5±3.7 micromol/L; p=0.005, respectively). One patient received 2nd and 96 months after KT and one patient received 2011. Nine patients underwent liver and kidney co-transplantation, two patients.

Conclusions: Our study reports significant increase in serum NO levels at day 5 and 14, prior to the clinical manifestation of AR and/or the indication for graft biopsy. Frequent NO measurements may help early differential diagnosis of AR and SAR compared with the other cases of allograft dysfunction (DGF, UTI, CyTx).

MP644 | KIDNEY TRANSPLANTATION ALONE IN ESRD PATIENTS WITH HEPATITIS B LIVER CIRRHOSIS: A SINGLE CENTER EXPERIENCE

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Introduction and Aims: KT alone in ESRD patients with HBV LC is controversial. The aim of this study was to compare outcomes of HBV+ patients to SRD and LC (C group) versus HBV+ patients with ESRD but with no cirrhosis (NC group).

Methods: One hundred twelve HBV+ patients with ESRD received KT between 1997 and 2011. Nine patients underwent liver and kidney co-transplantation, two patients received liver transplantation 19 and 96 months after KT and one patient received 2nd KT. One hundred patients who received KT alone were studied. Twelve patients, ten patients were biopsy-proven LC and two patients were radiologically diagnosed LC, were classified as C group and the other 88 patients were NC group. We analyzed patient demographics, liver disease characteristics and post-transplant outcomes.

Model for End Stage Liver Disease (MELD) score derived from measurements of serum bilirubin, the international normalized ratio of prothrombin time and serum creatinine. We used MELD score and Child-Pugh score to evaluate liver function. Graft survival was calculated from time of transplant to return to dialysis, death, or elevation of creatinine 2 folds.

Results: Median duration of follow-up was 37.5 months (range 17-208) for C group and 66.5 months (range 9-186) for NC. Five patients in NC group were radiologically diagnosed as LC median 102 months after KT and one patient received 2nd KT. One hundred patients who received KT alone were studied. Twelve patients, ten patients were biopsy-proven LC and two patients were radiologically diagnosed LC, were classified as C group and the other 88 patients were NC group. We analyzed patient demographics, liver disease characteristics and post-transplant outcomes. Model for End Stage Liver Disease (MELD) score derived from measurements of serum bilirubin, the international normalized ratio of prothrombin time and serum creatinine. We use MELD score and Child-Pugh score to evaluate liver function. Graft survival was calculated from time of transplant to return to dialysis, death, or elevation of creatinine 2 folds.

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Kaplan-Meier analysis was used to compare cumulative survivals between the groups, and the association between parameters and patient outcomes were evaluated by Cox regression analysis.

Results: During the follow-up period of 122 ± 56 months in 407 patients, 98 graft losses, 20 patient deaths, and 50 cardiovascular (CV) events occurred. Compared with high normal serum albumin group, low normal serum albumin group had inferior cumulative graft survival (Figure 1), cumulative patient survival (Figure 2), and cumulative CV event-free survival (all, P< 0.001 by the log-rank test). In Cox regression analyses, 1-year serum albumin was inversely associated with graft survival (univariate:

MP646 | SERUM ALBUMIN LEVELS AT ONE YEAR AFTER KIDNEY TRANSPLANTATION TO PREDICT LONG-TERM OUTCOMES

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Introduction and Aims: Hypoalbuminemia is associated with an increased risk of mortality in patients with end-stage renal disease. In renal transplants, however, there have been limited data on the relationship between initial serum albumin levels and final recipient prognoses. We hypothesized that even a low normal serum albumin level may affect long-term outcomes after kidney transplantation (KT).

Methods: Among 693 patients who received allograft kidneys between 1990 and 2009, recipients without delayed graft function and with maintenance follow-up > 1 year were included in this retrospective analysis. Three patients were also excluded for the serum albumin level at one year after KT was not in the normal range (3.2 – 5.5 g/dL).

Based on the 1-year serum albumin level at the moment of transplant or after-transplant. The follow up was stopped at August 31, 2012. An hematological evaluation was performed in all pts with a monoclonal gammapathy to rule out myeloma and lymphoproliferative disease. Pts with MGUS who received a KT were compared with pts on dialysis with MGUS.

Results: From November 1998 to February 2012, a total of 851 adults underwent KT. 1) 16 pts were found to have a MGUS before transplant. Median follow-up was 7.8 years (range 2.2-18.95), median follow up pre-transplant 3.7 years (range 0.19 – 10.2). Median age at the MGUS diagnosis was 61.3 years (range 42-78). The distribution of MGUS chain isotypes was as follows: IgG (12/16), IgM 2/16, IgA 2/16. Bone marrow biopsy and aspirate were performed in 13/16 pts (81.2%). During a median post-transplant follow-up of 4.1 yrs, 1 pt developed a myeloma. 2) 16 pts with MGUS who received transplant were compared to pts with MGUS on dialysis at the time of the study. During a median follow up of 3.18 yr. No one developed a myeloma. 3) 26 pts developed a MGUS after kidney transplant, median follow up was 4.84 years. Median age at the diagnosis was 52.7 years. The distribution of MGUS chain isotypes was as follows: IgG 21/26 pts (80.8%), IgA 4/26 pts (15.4%), IgM 1/26 pts. Bone marrow biopsy and aspirate were performed in 15/26 pts. During a follow up of 4.84 years 1 pt developed a myeloma.

Conclusions: Our study represents one of the largest series of pts with MGUS pre or post-KT to date. The finding that only 2 out of 42 MGUS patients progressed to myeloma on a long term follow-up suggests that renal transplant milieu does not entail a high risk of MGUS progression. Whether long term follow-up suggests that renal transplant milieu does not entail a high risk of MGUS progression.

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Background: EPO treatment can modulate these levels. To determine Kl serum levels in a population of TX recipients and to evaluate whether damage can be mitigated by EPO treatment. The aim of this study was to demonstrate, for the first time, a link between EPO treatment and Kl levels in a cohort of TX and in HK2 cells, suggesting that EPO could exert its beneficial effect also through the modulation of soluble Klotho.

Methods: In the present study we find that soluble Klotho levels in TX are significantly increased respect to healthy controls and similar respect to CKD patients. To explain these findings in TX, in our study we demonstrate, for the first time, a link between EPO treatment and Kl levels in a cohort of TX and in HK2 cells, suggesting that EPO could exert its beneficial effect also through the modulation of soluble Klotho.

Results: Soluble Klotho levels in TX patients were 0.68ng/ml, ranging from 0.06 to 3.91 ng/ml. No significant differences were found with CKD patients (0.6, IQR 0.48-1.12), while healthy controls showed significantly lower median Kl levels (0.37, IQR 0.27-0.52). In TX patients serum Kl was significantly associated with eGFR (r = -0.378, p < 0.001) independently from age and gender. Klotho was positively associated with serum phosphate (r = 0.374, p < 0.001) and negatively with daily phosphaturia (r = -0.354, p = 0.003), serum FGF23 (r = -0.307, p = 0.007) and serum HGB (r = -0.311, p = 0.006).

Conclusions: In the present study we find that soluble Klotho levels in TX are significantly increased respect to healthy controls and similar respect to CKD patients. To explain these findings in TX, in our study we demonstrate, for the first time, a link between EPO treatment and Kl levels in a cohort of TX and in HK2 cells, suggesting that EPO could exert its beneficial effect also through the modulation of soluble Klotho.

Erythropoietin Treatment Modulates Serum Klotho Levels in Kidney Transplant Recipients

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Introduction and Aims: Klotho protein exists in two forms: a transmembrane protein acting as co-receptor of FGF23; and a circulating soluble secreted protein with pleiotropic activities. Data on soluble Klotho (Kl) in Chronic Kidney Disease (CKD) are contradictory and even less is known about its expression after renal transplantation (TX). Few studies evaluated the pharmacological modulation of Kl.

Methods: 75 TX recipients who had received their transplants at least 6 months previously were enrolled in the study. Serum and 24-h urine samples were collected at enrollment. We discontinued the use of EPO for 5 weeks in all transplant patients with stable Hb level. Whole blood was collected before and after the EPO interruption to measure changes in Kl serum levels. By ELISA assay, we measured Kl concentrations in culture media of tubular proximal cells HK-2 cells treated with Cyclosporin (CsA) and EPO.

Results: Serum Kl levels in TX patients were 0.68 ng/ml, ranging from 0.06 to 3.91 ng/ml. No significant differences were found with CKD patients (0.6, IQR 0.48-1.12), while healthy controls showed significantly lower median Kl levels (0.37, IQR 0.27-0.52). In TX patients serum Kl was significantly associated with eGFR (r = -0.378, p < 0.001) independently from age and gender. Klotho was positively associated with serum phosphate (r = 0.374, p < 0.001) and negatively with daily phosphaturia (r = -0.354, p = 0.003), serum FGF23 (r = -0.307, p = 0.007) and serum HGB (r = -0.311, p = 0.006). After adjusting for age, gender and eGFR only FGF23 remained significantly associated with Kl. In the 11 patients in treatment with EPO at the baseline, after a 30 days wash-out period, serum Kl significantly decreased (1.17 vs 0.76 ng/ml). As expected we observed also a significant reduction in HGB and EPO levels, while other parameters were comparable to basal values. Finally, ELISA assay revealed that Kl was only detectable in culture media obtained from cells treated for 24 hours with CsA and CsA+EPO.

Conclusions: In the present study we find that soluble Klotho levels in TX are significantly increased respect to healthy controls and similar respect to CKD patients. To explain these findings in TX, in our study we demonstrate, for the first time, a link between EPO treatment and Kl levels in a cohort of TX and in HK2 cells, suggesting that EPO could exert its beneficial effect also through the modulation of soluble Klotho.


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Introduction and Aims: We evaluate thegestations of transplant patients analyzing outcomes and complications.

Methods: Outcome of 101 pregnancies in 89 renal transplant recipients. Variables: Type of nephropathy age when dialysis started, at transplantation, at pregnancy, time between dialysis and transplantation, and between transplantation and birth.

Results: In 9 pts diagnosed: chronic pyelonephritis, 1 post partum cortical necrosis .11 IgA GN, Sclerotic nephropathy .35 unknown nephropathy .1 ADPKD .5 Nephrolithiasis .26 Glomerulonephritis, 2 cystic kidney disease, 1 Nephropthisis, 1 Tubulo intestinal Nephropathy, 2 Obstructive Nephropathy, 1 Aloport syndrome, 1 Renal displasia. The patients’ age at the start of hemodialysis 28,05±2,35 years, the patients’ age at transplantation 30,25±3,22 years, the patients’ age at pregnancy 33,9±3,1 years, the interval between the start of hemodialysis and transplantation 16±2,3 months, the time between transplantation and childbirth 4,45±3,15 years. Immunosuppressive therapy: Prednisone, Azathioprine and CyA in 39, Prednisone and Tacrolimus in 1, Preixonse e CyA in 16, Aza e Prednisone in 3, Prednisone, Aza, CyA, Fkm in 1, Aza, Prednisone, Fk in 5, Fk5 e Aza 2, 5 FK 5, Aza1 e CyA 7. The renal function normal before (creatinine 1,1±0,115 mg/dL), during (0,9±0,10 mg/dL) and after pregnancy (1,09±0,125 mg/dL). Mode of delivery: Caesarean section in 99% cases, 1% vaginal delivery.

Mothers’ complications: Non Nephrotic Proteinuria 6, Urinary Tract Infection 4, Preeclampsia 4, Internal Placenta Detachment 1, Spontaneous Abortion 26, High Blood Pressure 1, acute rejection 3. During the mother’s follow up there was no acute rejection episode. Currently all patients show good renal function (creatinine 1,09±0,25 mg/dl) Observed 35 term births, 60 preterm births with 26 cases of child weight at birth lower than expected by the gestational age. Mean gestational age 35,4±3,1 weeks, the birth weight was 2350±890 grams, Apgar score between 4/8 and 6/9.5 babies were admitted to the neonatal intensive care unit. Fetal complications: IUGR 2, Acute Distress Respiratory Syndrome 2, Klinefelter Syndrome 1. Breastfeeding was discouraged due to the transmission of the immunosuppressive medications into breast milk. Any significant disease in child’s follow up.

Conclusions: The majority of pregnancies have a good outcome with increased irrepoclaemia reduced gestational age and low birth weights and patients therefore to be referred to highly specialised centres where nephrologists obstetricians providing surveillance and treat.
progressive interstitial fibrosis and tubular atrophy. Although graft biopsy provides the definitive diagnosis and indicates the degree of fibrosis, it is an invasive procedure and not free of risks. Urinary procollagen is associated with degree of renal fibrosis detected by biopsies performed on patients with chronic kidney disease and renal transplant protocol biopsies. The aim of this study is to find out the predictive role of urinary procollagen in determining the amount of fibrosis in renal transplant recipients with a pre-biopsy clinical diagnosis of chronic allograft injury.

Methods: Adult renal transplant recipients under current graft biopsy with a probable diagnosis of chronic allograft injury in Hacettepe University Medical Faculty in a 12 month period were included in this study. Renal fibrosis was quantified by using Bannf classification (grade 0<10%, grade 1:10% to 25%, grade 2:25% to 50% and grade 3: >50%). Urine samples were collected from all patients on the same day with biopsy to determine procollagen levels. Procollagen/creatinine ratio was used in analyses to eliminate the effect of urine volume. The relation between fibrosis score and urinary procollagen/creatinine ratios was investigated.

Results: Seventy patients (45 male, 25 female; mean age 36.5±10.1 years) were included in the study. Biopsy specimens of 64 patients were adequate for fibrosis assessment. Mean urinary procollagen/creatinine ratios of the patients in each group according to Bannf classification score were presented in table. Mean urinary procollagen/creatinine ratios were lower in the grade 0 group and highest in the grade 3 group. Urine procollagen/creatinine ratio was significantly correlated with degree of fibrosis (r=0.251, p=0.04).

Conclusions: Urine procollagen measurements can be a reliable predictor of degree of renal interstitial fibrosis in renal transplant recipients that underwent renal biopsy with a pre-biopsy diagnosis of chronic allograft injury.

CLINICAL EPIDEMIOLOGY OF RESISTANT HYPERTENSION IN RENAL TRANSPLANT PATIENTS

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INTRODUCTION AND AIMS: Adequate treatment of hypertension is considered as an absolute priority by current KDIGO renal transplantation guidelines. However, only scattered information exists on treatment-resistant hypertension in renal transplant recipients that underwent renal biopsy with a pre-biopsy diagnosis of chronic allograft injury.

Methods: Adult renal transplant recipients under current graft biopsy with a probable diagnosis of chronic allograft injury in Hacettepe University Medical Faculty in a 12 month period were included in this study. Renal fibrosis was quantified by using Bannf classification (grade 0<10%, grade 1:10% to 25%, grade 2:25% to 50% and grade 3: >50%). Urine samples were collected from all patients on the same day with biopsy to determine procollagen levels. Procollagen/creatinine ratio was used in analyses to eliminate the effect of urine volume. The relation between fibrosis score and urinary procollagen/creatinine ratios was investigated.

Results: Seventy patients (45 male, 25 female; mean age 36.5±10.1 years) were included in the study. Biopsy specimens of 64 patients were adequate for fibrosis assessment. Mean urinary procollagen/creatinine ratios of the patients in each group according to Bannf classification score were presented in table. Mean urinary procollagen/creatinine ratios were lower in the grade 0 group and highest in the grade 3 group. Urine procollagen/creatinine ratio was significantly correlated with degree of fibrosis (r=0.251, p=0.04).

Conclusions: Urine procollagen measurements can be a reliable predictor of degree of renal interstitial fibrosis in renal transplant recipients that underwent renal biopsy with a pre-biopsy diagnosis of chronic allograft injury.

OPTIMIZING ORAL GLUCOSE TOLERANCE TEST FOR THE PREDICTION OF PREDIABETES IN RENAL TRANSPLANTATION

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INTRODUCTION AND AIMS: Prediabetes i.e. impaired fasting glucose (IFG: ≥100-<126mg/dL) or impaired glucose tolerance (IGT: 2-h glucose ≥140-<200mg/dL) is highly prevalent in renal transplantation (RT). Importantly, prediabetes affects about 20 to 30% of non-diabetic renal transplant patients, with IGT being more frequent. This represents a prevalence 2 to 4 times higher than the general population. Diagnosis is made by oral glucose tolerance test (OGTT), a time-consuming non-standard practice. We wished to optimize the use of OGTT by identifying patients with prediabetes.

Methods: Eight Spanish centers each contributed 50-100 non-diabetic patients. After RT they underwent OGTT at 3months and annually for 5 years. Stable patients beyond 12 months without new-onset diabetes were studied. ROC curves were used to analyze the goodness of fit of different markers: fasting glucose (FG), HbA1c, triglycerides (TG) and BMI or their combination to predict prediabetes. These variables were selected since they are frequently associated with prediabetes.

Results: A total of 527 (144 prediabetic) patients were studied. Areas under the curve (AUC) were 0.713 (FG), 0.694 (HbA1c), 0.557 (TG) and 0.599 (BMI). With FG > or =: 90 mg/dL. AUC was 0.657 and 0.493; with TG > or =: 150 mg/dL. AUC was 0.574 and 0.511, respectively. The best predictor of prediabetes was a combination of both: group A: FG > or = 90 mg/dL and group B: TG > or = 150 mg/dL. This strategy yielded overall AUC 0.61 (95%CI: 0.58-0.65), p<0.001, sensitivity 79.17 (71.6-85.5), specificity 42.66 (37.5-47.5), likelihood ratio 1.38 (1.2-1.6) and - likelihood ratio 0.49 (0.4-0.7). Other analyses with HbA1c or BMI did not improve the prediction. This strategy detected 114 of 144 (79.16%) prediabetic patients. With this strategy only 314 of 527 OGTTs (59.58%) were needed to detect almost 80% of the cases of prediabetes.

Conclusions: The use of OGTT to detect prediabetes in stable RT patients can be optimized by using the thresholds of FG > or = 90 mg/dL and TG > or = 150 mg/dL.

THE EFFECT OF CALCINEURIN INHIBITORS ON ADIPOCYTOKINES AND NECK CIRCUMFERENCE IN KIDNEY TRANSPLANT RECIPIENTS

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INTRODUCTION AND AIMS: Fat tissue has biological activities related with energy metabolism, neuroendocrine and immune functions. There may have a relationship between obesity and fat tissue, which is a metabolic and endocrine organ. Prevention of the balance of the cytokines, secreted from fat tissue (adipocytokine) has an important role in homeostasis of glucose and lipid metabolism. Immunosuppressive drugs (especially corticosteroids and calcineurin inhibitors-CNI) that used after kidney transplantation (KT) leads to cardiovascular disease related morbidity and mortality by increasing development of obesity, HT, DM and dis ciplasia. CNI’s effects on adipocytokines are unknown. In this study, we compared the effects of CNIs

Abstracts
MP652

ACCESS TO RENAL TRANSPLANTATION AT FOUR CENTRES IN WALES

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Introduction and Aims: Duration of dialysis is a significant risk factor for transplant recipient death and graft failure over time, and especially after dialysis for greater than six months. Pre-emptive renal transplants have been demonstrated to reduce graft failure and patient death. All suitable patients should be listed for cadaveric transplantation six months prior to the anticipated start date for dialysis (UK Renal Association Guideline, 2009). This study looked at the time taken for dialysis patients in Wales to be referred for transplantation work up, and the time taken from referral to activation on the waiting list. This could then be used to identify ways to expedite listing for renal transplantation.

Methods: A questionnaire was sent to all Welsh renal units to identify all chronic dialysis patients on the transplant waiting list at a single time point. Data collected included patient age, sex, date of first dialysis, date of referral and date of activation on the waiting list. There was also an opportunity for units to convey barriers encountered during the referral and activation process. An Audit standard was set at transplantation listing within 6 months of commencing dialysis and our data compared to this. Patients who were transplanted pre-emptively were not included in this study.

Results: Data was received from 4 Welsh renal units. There was no difference in gender distribution of listed patients between units (mean 45.56%). The median waiting time from starting dialysis to referral for transplantation varied between units. Although one unit referred for transplantation early, this did not translate into quicker activation of the transplant waiting list. The median time from starting dialysis to activation on the waiting list were 321 days (unit 1), 168 days (unit 2) and 451 days (unit 4). Between 35% and 52% of patients were listed for transplantation before or within 6 months of starting dialysis. Reasons given for long work up times included raised BMI, and patients' initial reluctance to consider transplantation. There was an especially long delay in listing patients with failing transplants.

Conclusions: There is much scope to improve timely referral for transplantation in all renal units within Wales. There are geographical variations which may account for differences seen. Some units are further away from transplant and cardiac centres. This may lead to delays in workup investigations, and seeing surgeons. Patients with progressive renal disease need to be identified earlier to take this into account. We plan to further breakdown the data in order to identify exact causes of delays within the current system. We can then improve patient access to and outcomes of transplantation.

MP653

EPIDEMIOLOGY AND CLINICAL CHARACTERISTICS OF LOWER RESPIRATORY TRACT INFECTIONS AMONG KIDNEY TRANSPLANT RECIPIENTS

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Introduction and Aims: Infections, especially pneumonia, continue to be an important cause of disability and death in renal transplant recipients. An appropriate empirical treatment of post transplant pulmonary infections requires knowledge of the spectrum of the microorganisms involved in causing these infections. We investigated the epidemiology and outcome of pulmonary infections in transplant patients over an 24-year period.

Methods: This is a retrospective study of kidney transplant recipients who were transplanted at our center between December 1988 and April 2011. Subjects were included if they developed radiological features suggestive of pulmonary infection, with one or more of the following respiratory manifestations: cough with or without expectoration, dyspnea, pleuritic chest pain and reduced partial pressure of oxygen in arterial blood.

Results: We reviewed the clinical records of 406 consecutive kidney transplant recipients, of whom 248 (61%) was male. Approximately 37.4% (152) of the cohort received a deceased donor kidney. Eighty-two recipients had 111 episodes of pneumonia throughout the study period, an incidence of 0.72 % per month. Among 38%, there was no positive microbiologic isolation. Of the total number of episodes, fungal infections, especially Aspergillus fumigatus, represented 22.5% and viral 9%. Diagnosis was achieved in 35 episodes by only physical examination and chest radiography. Bronchoscopy was performed in 23 episodes, giving a final overall diagnostic yield of 12 patients (52.2%). The most common presenting symptom was fever with or followed by cough (n=81) or sputum (n=51). At least one complication developed in 40 (36%) pneumonia episodes during treatment of pneumonia. Hematologic complications developed in 22 episodes, renal impairment in 14 episodes developed in 40 (%36) pneumonia episodes during treatment of pneumonia. Among 38%, there was no positive microbiologic isolation. Of the total number of episodes, fungal infections, especially Aspergillus fumigatus, represented 22.5% and viral 9%. Diagnosis was achieved in 35 episodes by only physical examination and chest radiography. Bronchoscopy was performed in 23 episodes, giving a final overall diagnostic yield of 12 patients (52.2%). The most common presenting symptom was fever with or followed by cough (n=81) or sputum (n=51). At least one complication developed in 40 (36%) pneumonia episodes during treatment of pneumonia. Hematologic complications developed in 22 episodes, renal impairment in 14 episodes and hepatotoxicity in 7 episodes. Nosocomial pneumonias accounted for 71.4% of pneumonia episodes resulting in mortality (p<0.001). Pneumonia occurring time was significantly earlier in nosocomial pneumonia than in community acquired (15 and 27.9 month, respectively). Nosocomial pneumonia episodes had higher procalcitonin, urea and LDH values and lower hemoglobin and albumin values.

Conclusions: In our cohort, bacterial pneumonia was the most common cause, but it is necessary to rule out other pathogens that affect immunosuppressed hosts. Fungal infections were significantly more frequent in the interval of 1-6 month after transplantation. Early diagnosis of pneumonia in renal transplant recipients reduces morbidity and mortality.

MP655

BEHAVIOUR OF DONOR-SPECIFIC ANTIBODIES IN KIDNEY TRANSPLANTATION: POSTTRANSPLANT DQ HLA CLASS II DSA HAVE THE STRONGEST IMPACT

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Introduction and Aims: The impact of donor-specific antibodies(DSA) after kidney transplantation(KT) on graft survival is becoming clearer, but which DSA have the greatest impact or how they behave after KT is still imprecise.
Methods: In this study we focused on KT recipients with grafts functioning more than 3 months. 440 KT performed between 1979-2012 with a negative CDC crossmatch were included in a prospective observational study between 1/2008-12/2012. Anti-HLA antibodies were tested using Luminex Multidplex Lifescreen and LSA Class I and/or Class II assays (Gen-probe, Stanford, CT). Cut-off for a positive reaction was set in MFI raw value-1000.

Results: During the 4 years of follow-up, 33 patients lost their grafts, 21 died and 5 were lost to follow-up. We found: - PreKT DSA in 43/289 (14.9%) patients: 5 HLA-I, 36 HLA-II, 7 HLA-I&II. Graft survival was not significantly different to preKT DSA-negative patients. AlprerKT DSA-1 and 50% DSA-II disappeared postKT. First postKT tests showed DSA in 26/247 (6.7%), median 54 months post KT. HLA-I and 33 HLA-II (immunodominance: 16 DQ,D,DRB1,DRB3,DRB4,DRB5). Graft survival was lower in DSA-positive patients (p<0.001 uncorrected, p=0.02 censored, median follow-up 32 months). Graft loss occurred in 58% DSA-positive KT patients (5 years before, 37.5% transplanted 1-5 years before and 0% DSA+ patients: 1 year after KT. Interestingly, 50% DQ DSA 1/5000MFI lost their grafts. Second monitoring showed DSA in 41/288 (10.6%), median 59 months post KT and 32 after first post-KT tests: 3 HLA-I, 35 HLA-II, 3 I&II. Immunodominant DSA were again 58% DQ. At least 18 were de novo DSA, 19 preformed and 5 unknown. There were not significant differences between de novo and preformed DSA groups except for less retransplants, lower PRA and longer postTR follow-up (103.8±78 vs 38.2±9 months, p=0.003), but similar DSA specificity and MFI level (1179±713 vs 896±1492).

Conclusions: PreKT DSA not associated to early graft loss disappeared after KT under conventional immunosuppression, as well as 50% of DSA-II. Posttransplant DSA significantly impact graft survival, especially high MFI DQ DSA or DSA in long-term transplant patients. Around half posttransplant DSA are de novo but are similar to preformed DSA in MFI or specificity.
**Abstracts**

**MP668 OUTCOME OF KIDNEY TRANSPLANTATION IN HEPATITIS C INFECTED PATIENTS: A SINGLE CENTRE STUDY**

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Introduction and Aims: Hepatitis C Virus infection is not uncommon in patients of CKD on Haemodialysis. The incidence of HCV infection in our haemodialysis population is 10%. It has been documented that Transplantation (Kidney) gives a survival benefit than dialysis to even to HCV infected patient. It also significantly improves the quality of life. Ours is a large dialysis and transplant unit. We do around 3500 dialysis of per month and 200 kidney Transplantation in a year.

Methods: We retrospectively analysed the HCV infected patients who received Renal Transplantation from January 2007 to December 2011. Over a period of five years 25 Transplants out of 642 Transplants (with live kidney donors) had HCV infection pre Transplant. All these patients had HCV RNA PCR quantitative and Genotype study pre Transplant. 16 of these patients received Peg-Interferon varying from one to three months pre transplantation. The rest did not receive interferon for either economic or medical reason. Cirrhosis of Liver was excluded in all patients.

Results: Two of the patient received ATG on induction because of previous crossmatch positivity. The rest of the patients received Cyclosporine, Prednisolone and Mycophenolate on induction. Though in four of them Cyclosporine was converted to Tacrolimus for rising Creatinine. The acute rejection rate was 20%, which was more than the other transplant recipients (8%) in our center. Two of the acute rejection patients needed ATG treatment. And one needed Plasmapheresis and IVIG therapy because of severe antibody mediated rejection. The One year patient survival was 92%, comparable to the other transplant recipients (97%). Both the deaths were due to severe Pneumonia. The One year death censored Kidney survival has been 100%. The incidence of NODAT has been less (12%), less than the non HCV infected patients (15%) possibly because of non use of Tacrolimus in this group. Besides mildly deranged Liver function in four patients, none had any significant liver disease in one to six years of observation.

Conclusions: We conclude that the kidney survival and patient survival in HCV infected patients is nearly similar to HCV negative patients after living donor kidney transplantation. In short term observation they donot suffer from any liver ailments after transplantation.

**MP659 OUTCOMES OF LIVING UNRELATED ABO BLOOD TYPE INCOMPATIBLE KIDNEY TRANSPLANTS**

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1Surgical Branch, Institute of Kidney Disease, Jichi Medical University Hospital, Shimotsuke, Japan

Introduction and Aims: Due to the severe shortage of deceased donor kidneys in Japan, ABO incompatible (ABoi) living donor kidney transplantation (LKT) has been performed since the late 1980s. Recently, ABO LKT has been performed in patients with various backgrounds such as unrelated combinations. We compared the results of ABOi unrelated LKT with those of ABO related LKT.

Methods: Thirty-four consecutive ABOi LKT recipients were included. Patients were divided into two groups: G1 (unrelated donors, n = 23), G2 (related donors, n = 11). Mean recipient/donor age was 57.1±7.4/56.7±8.2 yrs in G1 and 39.8±14.5/57.9±11.1 yrs in G2. Mean duration of dialysis was 54.0±58.2 months in G1 and 24±6.24 months in G2, respectively. We compared the difference in the patient and graft survivals, and complications, such as acute rejection, cytomegalovirus antigenemia, and surgical complications between the groups. All patients received desensitization with plasmapheresis until pre-transplant ABO IgG titers became <16. Seven patients of G1 and 5 patients of G2 received rituximab before transplantation and others underwent spleenectomy at the time of transplantation.

Results: The patient/graft (death censored) survivals were 100%/100% at 1 and 3 years and 91%/100% at 3 years in G1. 100%/100% at 1 year and 91%/100% at 3 years in G2. Acute rejection occurred in 5 (22%) of G1 and 3 (27%) of G2. The incidence of cytomegalovirus antigenemia was 70% in G1 and 73% in G2. Surgical complications occurred in 4 (17%) of G1 and 3 (27%) of G2. The serum creatinine levels at 1 and 3 years were 0.9±0.3 and 0.9±0.2 mg/dl in G1, 1.1±0.3 and 1.0±0.2 mg/dl in G2.

Conclusions: The patient and graft survivals, graft function and complications after LKT were the same in both groups. Unrelated donor kidneys had no negative impacts on the outcomes of ABOi LKT.

**MP660 SAFETY OF LOW THYMoglobulin DOSES IN RENAL TRANSPLANT**

Eva E. Gavela1, Asuncion A. Sancho1, Julia J. Kantor1, Ana A. Avila1, Sandra S. Botín1,2 and Luis I. Pollarès1,2

1Nephrology, Hospital Passef, Valencia, Spain

Introduction and Aims: Transplantation of kidneys from old donors is followed by an increase of delayed graft function (DGF) and acute rejection. In these circumstances, induction treatment with antithymocyte globulin or with interleukin-2 receptors blockers could delay the introduction of calcineurin inhibitors with effective prevention of rejection episodes. However, treatment with antithymocyte globulin has been associated with an increase in the development of infections and neoplasia. AIMs We analyzed the efficacy and safety of induction treatment of two low doses of thymoglobulin comparing to two doses of basiliximab.

Methods: We compared a group of 47 patients, treated with thymoglobulin, with 61 patients treated with basiliximab. The patients presented a minimal follow up of two years. All of them received tacrolimus as calcineurin inhibitor. Thymoglobulin group received two doses of 1.25 mg/kg on alternate days, and basiliximab group two doses of 20mg.

Results: Despite a higher donor and recipient age in Thymoglobulin group, no differences were observed in relation with incidence of DGF (p = 0.938). Only 1 rejection (2.3%) was diagnosed in thymoglobulin group, but 12 patients (20%) were diagnosed in basiliximab group (p = 0.008), and three of them needed rescue treatment with thymoglobulin. We did not find any differences in the incidence of CMV disease (p = 0.59), admission due to infections (p = 0.428), urinary tract infection (p = 0.278) and neoplasia (p = 0.709). There was not any case of lymphoproliferative disease in both groups. We did not observe any differences in graft (p = 0.74) and patient (p = 0.71) survival.

Conclusions: In our series, low thymoglobulin doses are not associated with a higher risk of infection and neoplasia compared to basiliximab treatment in long term follow up. Similar survival was observed, in spite of higher donor and recipient age in thymoglobulin group.

**MP661 NEW ONSET DIABETES MELLITUS POST RENAL TRANSPLANT IN SOUTH WEST WALES**

Farid G. Dawoud1, Vandase Aithal1 and Ashraf Mkhait1

1Renal Medicine, Morriston Hospital, Abertawe Bro Morgannwg University Health Board Swansea, South Wales, United Kingdom

Introduction and Aims: New-onset diabetes after transplantation (NODAT) is a multifactorial metabolic disorder associated with impaired long-term graft function, reduced recipient survival and increased risk of cardiovascular events. The incidence and impact of NODAT is generally underestimated due to inconsistent diagnostic criteria and to the generally short observation periods in previous trials. NODAT is currently defined as diabetes developing in any patient without history of diabetes before Tx and sustained hyperglycemia. The incidence quoted in literature is variable ranging from 2-50%. The aim of this study was to assess the prevalence of NODAT in South West Wales, to identify possible factors predisposing to the development of NODAT and to evaluate the management of diabetes and the associated risk factors.

Methods: All transplant patients cared for by Morriston Hospital (South West Wales, n = 284) were evaluated. NODAT was defined using ADA criteria. Hemoglobin A1c ≥ 5.6% (48 mmol/mol) + Fasting blood glucose ≥ 7.1 mmol/L on 2 consecutive occasions + Random blood glucose ≥ 11.1 mmol/L + Blood glucose ≥ 200 mg/dl (11.1 mmol/L), 2 hours after 75 grams of glucose after an overnight fast. We specifically looked for: 1) Factors related to the aetiology and onset of DM. Onset of DM post Tx in months, Weight gain post Tx to onset of NODAT. Immunosuppressive regimen , Episodes of rejection treated with pulse steroids and primary renal diagnosis for ESRD 2) Factors related to control of new onset DM and other metabolic risk factors: Treatment of NODAT , HBA1c, Lipid control , Blood pressure control,land graft function.

Results: The prevalence of NODAT in our patients was 7.39%. This is comparable with data from other units (Glasgow 7,7%) . 33% had a weight gain >10kgs and 52.4 > 5 kg prior to the diagnosis of NODAT. All except one patient was on steroids and 66.6% were on Tacrolimus. Glycaemic control was satisfactory in our patients (Median HBA1c was 5mmol/mol) . Blood pressure and Lipid management for some patients

**MP661**

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Immunosuppressive Drug n (%) of NODAT patients

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**MP661**

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Conclusions: Renal Transplant patient should be assessed for risk of NODAT and risk factors should be addressed. Patients at risk of NODAT would benefit from strategies including exercise programme pre and post transplantation, tailoring immunosuppressive therapy (early steroid withdrawal and rationalized Tacrolimus usage) and a multidisciplinary approach with close liaison with the diabetic team. National guidelines specific for NODAT may be helpful.

Introduction and Aims: Findings on the association between anaemia and mortality in post-transplant patients are scarce. This study therefore explored whether post-transplant anaemia (PTA) shortly after kidney transplantation (KT) predicts mortality at up to 10 years follow-up.

Methods: We performed a prospective observation cohort study of 318 patients (58% of male; average age 47.9±12.2 years) between the 3rd and 12th month after successful KT. Demographic and clinical data were retrieved from medical records. Estimated glomerular filtration rate (eGFR) was calculated using the CKD-EPI formula. PTA was divided into 3 categories according to the haemoglobin (Hb) level: 1) severe PTA (Hb<10 g/dl), 2) mild PTA (Hb 10-11.9 g/dl) and 3) no PTA (Hb≥12 g/dl). The observation period was up to 10 years follow-up. Cox regression was used to identify whether different categories of PTA predicted mortality in KT recipients.

Results: Older age (HR=1.1, p<0.001), male gender (HR=2.2, p<0.05), worse eGFR (HR=1.0, p<0.01) and severe PTA (HR=10.0, p<0.001) contributed significantly to this model on mortality. The risk of death in patients with severe PTA starts to rise at 3 years after KT.

Conclusions: Severe PTA compared to no and mild PTA in the first year post-transplantation indicated a 10-fold higher risk of mortality during 10 years follow-up. PTA should be closely monitored in patients post kidney transplantation and patients with PTA should undergo clinical investigation and treatment (e.g. Erythropoiesis Stimulating Agents, iron therapy, and etc.) to reduce their high risk of mortality.


Methods: The patient age range was 32-71 years, male: female ratio (70.4%: 29.6%), and all patients were included in this study. The aim of this study is to describe the single center experience in the Netherlands of ABOi kidney transplantation.

Results: 71% patients were male, 68% were Caucasian, 7.4% Black, 8% Asians and 11.1% others. The etiology of primary renal disease was variable and not necessarily related to the cause of the failing transplant. Transplant age ranged: 3 to >15 years. The eGFR on establishing therapy was 10.7 years, male: female ratio (70.4%: 29.6%). 70.3% Caucasians, 7.4% Blacks, 11.1% Asians and 11% others. The anti-Dengue positive rate in patients was 100%.

Conclusions: Dengue virus infection in renal transplant patients is a real problem in Paraguay.

Introduction and Aims: Patients with failing transplants represent a unique group as a result of immunological, non-immunological and psychological factors which all impact on patient subsequent co-morbidity. In 2005 we reported the outcomes of our failed transplants over a 10-year period (Renal Association, UK). The majority were starting renal replacement with an average eGFR of 7mls/min/1.73m² (less than Renal Association (RA) guidelines for the non-transplant population). A number were poorly adjusted psychologically and had significant co-morbidity. We proposed it essential to have a well-defined pathway for patients with failing transplants, intercalated into existing care pathways for patients with end-stage renal failure (ESRF).

Methods: Between the years 2008 and 2012, a total of 27 patients reached end stage renal failure. All patients were reviewed at a dedicated pathway clinic. Patients served as their own controls. We performed a prospective observational study of 318 patients (58% of male; average age 47.9±12.2 years) between the 3rd and 12th month after successful KT. Demographic and clinical data were retrieved from medical records. Estimated glomerular filtration rate (eGFR) was calculated using the CKD-EPI formula. PTA was divided into 3 categories according to the haemoglobin (Hb) level: 1) severe PTA (Hb<10 g/dl), 2) mild PTA (Hb 10-11.9 g/dl) and 3) no PTA (Hb≥12 g/dl). The observation period was up to 10 years follow-up. Cox regression was used to identify whether different categories of PTA predicted mortality in KT recipients.

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of minimum 6 months. Immunosuppressive protocols in PKT was tacrolimus + mycophenolate and steroids in 34 (52%) of patient, steroid free (SF) protocol with antibody induction+Tac and MMF in 27 (44%) and Tac+ AzA+ steroids in 2 patients . Immunosuppression in dialysis group was Tac+MMF+St in 56 (66.8%), steroid free protocol in 18 (21.6%) patients, Cyclosporin+MMP+ St in 5 (5.7%) and 5 patients received Tac+Aza+ Steroids. They were started on tacrolimus at a dose of 0.1 mg/kg or cyclosporine 7 mg/kg in two divided dose and MMF/Mycophenolate sodium at doses of 1.000 mg/day. The period required hormone tapering was 3 months. The prednisolone was kept between 8-12 mg/d in first three months, 6-8 mg/ml for next 3-6 months and 3-6 mg/ml thereafter. Outcomes were evaluated in terms of acute rejection, infections, new onset diabetes after transplant, and graft or patient loss.

Conclusions: The baseline characteristics like age, sex, duration of follow up, donor’s age, HLA mismatch and basic disease were similar in both groups. Antibody use for induction was similar in both groups 42/63 in PKT vs 46/84 (p=0.14). Significantly higher number of patients in dialysis group had pre transplant hepatitis C, 10(13%) as compared to 1 only (1.5%) in PKT group ( p<0.001). In PKT group 12/63 (19%) patients developed AR as compared to10/84 (11.9%) in dialysis group (p=0.25). The incidence of infections and post transplant diabetes was similar in both groups. In PKT group 1 patient lost his graft and one died (survival 98.4%), as compared to 4 graft loss and 4 deaths (survival 95.2%) in other group.

Conclusions: PKT is associated with less chances of dialysis related complications like chronic viral hepatitis and CAD. However there was no difference in graft and patient survival in this short term study. Longer follow up is required to see difference in these outcomes.

Introduction and Aims: Results from international registries showed that simultaneous pancreas kidney transplantation (SPKT) is the best treatment for type 1 diabetics with end-stage renal disease who have the conditions for this kind of transplant.

Methods: We retrospectively studied the outcome results from the 150 SPKT performed at our centre for the last 12 years, since May2000.

Results: At transplantation date, the 81 females and 69 males had a mean age of 35±6 years; were diabetic for 24±6 years; and were on dialysis for 30±21 months (except 5 preemptive). Anti-lymphocyte globulin, tacrolimus, mycophenolate and steroids were used as induction therapy. Decreased donor mean age was 28±11 years. In 28.7% the transplant was performed with 6 HLA-mismatches. Acute rejection incidence was 16%. In 21 SPKT the pancreas failed, mainly due to thrombosis or bleeding; in other 4 only the kidney failed due (chronic rejection); and in other 5 both grafts failed. Ten SPKT died and 7 were in infection (4 cases in each group). The leading cause of death was: vascular (7 cases), cardiovascular (3 cases). We analyzed the 110 SPKT (73.3%) with both grafts functioning. Their mean serum creatinine is 1.2±0.4mg/dl; creatinine-Clearance is 76±24 ml/min; fasting glycemia is 8±10mg/dl; and HbA1c=5.3±0.4%. Hypertension was treated in 52 SPKT (47.2%) with antihypertensive therapy. Hyperlipidemia was treated in 22 SPKT (20%) with statin medication. All SPKT were treated in 1000/720 mg twice daily on day-1 of transplant. All paients received inj.

Conclusions: From our cohort of SPKT, 93.5% of the patients are alive; the pancreas is functioning in 76%; the kidney in 87.3%; and both grafts in 73.3%. Hypertension was the most frequently found cardiovascular risk factor. The prevalence of hyperlipidemia was inferior to 20%. Infection was the cause of death in 3.3% of the patients and cardiovascular/cerebrovascular disease in 2%.

Introduction and Aims: In an effort to minimize hospital length of stay (LOS), our center instituted outpatient (outpt) administration of rabbit antithymocyte globulin

EFFICACY AND SAFETY OF OUTPATIENT RABBIT-ANTITHYMOCYTE GLOBULIN INDUCTION IN DE-NOVO KIDNEY TRANSPLANT RECIPIENTS

Tracey M. Sparkes1, Jennifer Trofe-Clark2,3, Peter P. Reese2,3, Diane Jakobowski4, Simin Gorn2, Stacey L. Dott1, Peter L. Abt5, Deirdre Sawinski4 and Roy D. Bloom2
1Pharmacy, Hospital of the Univ of Pennsylvania, Philadelphia, PA, United States, 2Feinstein Institute, Peninsula School of Medicine, Univ of Pennsylvania, Philadelphia, PA, United States, 3Center for Clinical Epidemiology and Biostatistics, Univ of Pennsylvania, Philadelphia, PA, United States, 4Peru Transplant Institute, Hospital of the Univ of Pennsylvania, Philadelphia, PA, United States, 5Transplant Surgery, Division of Transplantation Medicine, Univ of Pennsylvania, Philadelphia, PA, United States

Introduction and Aims: We included 63 patients who were PKT and compared them with 84 patients on dialysis for > 6 months between Feb 2010 and April 2012. All patients had follow up

PRE EMPTIVE KIDNEY TRANSPLANTATION

Shyam Bihari Bansal1, Saurabh Pokhriyal1, Sall Jain1, Siddharth Sethi1, Rajesh Anihawat2 and Vijay Khel1
1Nephrology and Kidney Transplantation, Medanta Hospital, Gurgaon, Gurgaon, India, 2Department of Urology & Kidney Transplantation, Medanta Kidney and Urology Institute, Gurgaon, India

Introduction and Aims: Pre-emptive kidney transplantation (PKT) is considered optimal treatment for patients with advanced chronic kidney disease. It is associated with improved patient and graft survival, less chances of cardiovascular disease progression, less risks of dialysis related infections and no need of long term vascular access. We undertook this study to see the outcomes of PKT in our living donor kidney transplant programme.

Methods: We included 63 patients who were PKT and compared them with 84 patients on dialysis for > 6 months between Feb 2010 and April 2012. All patients had follow up of minimum 6 months. Immunosuppressive protocols in PKT was tacrolimus + mycophenolate and steroids in 34 (52%) of patient, steroid free (SF) protocol with antibody induction+Tac and MMF in 27 (44%) and Tac+ AzA+ steroids in 2 patients . Immunosuppression in dialysis group was Tac+MMF+St in 56 (66.8%), steroid free protocol in 18 (21.6%) patients, Cyclosporin+MMP+ St in 5 (5.7%) and 5 patients received Tac+Aza+ Steroids. They were started on tacrolimus at a dose of 0.1 mg/kg or cyclosporine 7 mg/kg in two divided dose and MMF/Mycophenolate sodium at doses of 1.000 mg/day. The period required hormone tapering was 3 months. The prednisolone was kept between 8-12 mg/d in first three months, 6-8 mg/ml for next 3-6 months and 3-6 mg/ml thereafter. Outcomes were evaluated in terms of acute rejection, infections, new onset diabetes after transplant, and graft or patient loss.

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Abstracts
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(rATG) induction for kidney transplant patients (KTX pts). Purpose: To evaluate 6 month safety and efficacy outcomes in KTX pts who received the first 2 doses of rATG induction as an inpatient (inpt) followed by one or more doses as outpt.

Methods: Retrospective study of 217 pts (excluded simultaneous organ transplants or prior transplant other than KTX) with graft survival > 3 years, transplanted Jan 1, 2008-Dec 31, 2011, and who received at least 2 doses of rATG as inpt followed by 1 or more doses outpt. We censored at 6 months of follow-up.

Results: Outpt rATG was administered to 328 (62%) KTX pts. Maintenance immunosuppression was tacrolimus, mycophenolic acid, steroids in 94% of pts. Mean (SD) age was 50±13 years, 62% were male. Ethnicities were: 52% Caucasian, 36% African American, and 12% other. Seventy-two percent of pts received deceased donor organs (16%). Sixteen percent of pts were re-transplants, 33% had PRA > 20% and 27% had DGF (diagnosis in 7 days post-KTX). First outpt rATG dose could have been rATG dose 3, 4 or 5 of the rATG induction course. In 266 (69%) pts dose 3 was the first outpt rATG dose, in 89 (27%) pts, dose 4 was the first outpt rATG dose and in 13 (4%) pts, dose 5 was the first outpt rATG dose. Mean (range) days from last inpt rATG dose to first outpt dose was 6 (1-19), first-second outpt dose 3 (1-12) days and second-third outpt dose 4 (2-5) days. Mean (SD) cumulative rATG dose was 5.3±1.4mg/kg/patient.

Conclusions: Outpt rATG administration lowered hospital LOS without compromising efficacy or safety, and remains a standard practice at our institution.

CLASSICAL CARDIOVASCULAR RISK FACTORS AND ANEMIA AFTER RENAL TRANSPLANTATION

Bojan Knap1, Jasmina Lukic1, Matej Lukin1, Igor Majcen1, Fedja Pavlovec1, Ajolja Kandus1 and Andrej F. Bren1, 1Nephrology, University Clinical Center, Ljubljana, Slovenia

Introduction and Aims: While transplantation does improve the quality of life in patients with end-stage renal disease, cardiovascular complications still remain the most common risk for mortality. The aim of this research is to identify the risk of cardiovascular disease in kidney transplant patients in connection with post transplantation and to find the Framingham heart risk factors within 5 years after the transplantation. Patients with normal red blood cell count and normal classical Framingham factors of heart disease, hence a lower Framingham score, will display a lower cardiovascular risk and have a better quality of life.

Methods: In this retrospective study a total of 722 renal transplant patients were included. They represent the majority of renal transplant patients in the Republic of Slovenia. All parameters were observed in the interval from 0 to 5 years after the transplantation. Patients that did not satisfy our criteria for post transplant anaemia or patients whose data was incomplete were excluded, thus giving us a final sample of 341 patients. In the first part, we compared cardiovascular incidents in our sample with the general population of Slovenia and the role of erythropoetin therapy. In the second part we tried to establish the predictive value of Framingham score immediately after transplantation and 1 year later. We also analysed the change of average Framingham score between 1 year and 5 years after transplantation.

Conclusions: It is evident from our results that these patients are at greater risk, which dictates a more thorough management and follow up of anaemia. Perhaps it would also be sensible to start the epoetin therapy at higher haemoglobin values than currently. Patients would benefit from routine Framingham score assessment as it showed a good predictive value. The acquired data was statistically processed with descriptive analysis and cross tabulation.

NUTRITIONAL STATUS AND CARCININE LEVEL IN KIDNEY TRANSPLANT RECIPIENTS

Beata Czajka1, Sylwia Małgorzata2, Alicja Debksa-Slizien1 and Bolesław Rutkowski1
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Introduction and Aims: Overweight and obesity are common in subjects after kidney transplantation. On the other hand, sags of malnutrition and abnormalities in carbohydrate metabolism are common in this group of patients. The aim of this study was to evaluate the prevalence of nutritional status abnormalities in a cohort of stable kidney transplant recipients (KTXs). We also investigated associations between nutritional status, graft function and carcinitine concentrations.

Methods: 80 (5m/55f) prevalent kidney transplant patients 52.4 ± 13.9 years of age (without carntnine supplementation). Body composition (% of fat, lean body mass (LBM), water content) was measured by multifrequency bioelectrical impedance (Body Composition Monitor). Nutritional status was determined by a 7-point Subjective Global Assessment (SGA), anthropometric measurements and s-albumin concentration. C-reactive protein (CRP), IL-6 and plasminogen activator inhibitor -1 (PAI-1) were used as markers of inflammatory status. Urinary excretion and serum concentration of total (TC), free (FC) carnitine were measured using enzymatic methods according to Cederblad.

Results: Diabetes mellitus was present in 29% (n= 23) of KTX patients. Mean KTX vintage was 82.5±56.5 months (median = 73 months). Mean eGFR was 41.7±14.9 mL/ min/1.73 m2), BMI was 25.7 ± 4.2. Overweight and obesity were noticed in 41% and 14% of pts, respectively. Malnutrition was observed in 21.3% of the KTX subjects. Signs of malnutrition were present in 64% (21/33) of the overweight patients and in 91% (10/11) of the obese patients. KTX patients with malnutrition (SGA ≤ 5 points) were significantly older, with longer transplantation vintage, presented lower level of eGFR, higher BMI, higher body fat and decreased hand grip strength in comparison to KTX patients with good nutritional status. In 8.6% of KTX patients deficiency of FC (in serum and urine) was observed Carnitine (TC and FC) and PC/TC ratio not correlated with anthropometric and laboratory parameters of nutritional status. Serum levels of TC and FC were negatively correlated with graft function (eGFR).

Conclusions: 1. The prevalence of overweight/obesity was high in the studied cohort of KTX recipients. In spite of overweight/obesity KTX recipients showed signs of malnutrition. 3. KTX patients need thorough nutritional evaluation and appropriate nutritional interventions.

ANALYSIS OF CORPORAL COMPOSITION BY BIOIMPEDANCE SPECTROSCOPY IN KIDNEY TRANSPLANT PATIENTS

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Introduction and Aims: Kidney transplantation is often associated with weight gain, increased fat tissue and sometimes with metabolic syndrome. The objective of the study is to analyze the effect of renal transplantation on patient’s body composition.

Methods: This is a retrospective study in which we analyze a population of 169 patients with functioning kidney graft and a mean age of 56.3 ± 13.6 years, of whom 56.2% were male, 8.8% were diabetic and 21% previously received another kidney transplant. 21% had had at least one episode of acute rejection and 27% were treated with ESA. In 47 patients (27.8%), steroids were discontinued completely during the follow-up period. In all patients, we analyzed body composition using bioimpedance spectroscopy (BICM, FMC), collecting data on overweight/hydration (OH) with respect to the water content of normobezhydrated total body water (TBW), extracellular water (ECW), and intracellular (ICW) as well as body composition data: lean mass (LTM) and adipose mass (ATM). Differences were calculated with respect to reference values

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adjusted for age, sex, body composition. Lean tissue (LTI) and fat tissue indexes (FTI) were calculated (kg/m²). Renal function is determined by the CrCl.

Results: Patients had an average OH 0.91 ± 1.65 liters, equivalent to a state of relative overhydration (OH < 0.8% and 0.8% ≤ 8.9%). The OH is inversely related to the fat content (r = 0.430, p < 0.001) and CrCl (r = -0.20, p < 0.019), but unrelated to blood pressure. Patients exhibited a higher FTI 5.0 ± 5.8 Kg/m² with respect to reference values. Relative adipose tissue ratio (ATM / weight %) directly correlates with the CrCl (r = 0.196, p < 0.003), which is unrelated to the duration of tertiled therapy. The FTI and adipose tissue differences with respect to the reference were significantly higher in patients in whom steroids had been withdrawn, which can be interpreted as a prescription bias in drug withdrawal. Decreased renal function is significantly associated with increased overhydration (p = 0.015), higher systolic BP (p = 0.003) and lower fat mass (p = 0.023). We did not find differences in body composition when comparing between patients with or without previous acute rejection history.

Conclusions: We conclude that renal transplantation has an important impact on body composition, and is related to moderate hyperhydration and increased fat mass. Controlled studies are needed to assess possible interventions in order to modify these changes.

Methods: This study contrasted the prevalence of PTA and the use of Erythrocyte stimulating agents (ESA) and iron supplements for adult KTR attending the renal transplant outpatients' clinic in a single centre from 2008-9 and 2011-12. Exclusion criteria: patients < 3 months post transplant, pregnant patients and those with known malignancies. Valid haemoglobin (Hb), haematinics and standard biochemistry were analysed from the first trimesters of 2009 and 2012.

Results: The study population included 245 KTR in the 2008-9 (cohort A), aged 52.2 (+/-13.11) years versus (vs) 330 KTR in the 2011-12 (cohort B), aged 53.4 (+/-13.25) years (p=0.291). No significant difference was found in gender, ethnicity, primary diagnosis, number of transplants, duration of transplant or donor type between the two cohorts. Likewise there was no observed difference in immunosuppressant regimens with the exception of Mycophenolate mofetil (15.1% in 2008-9 vs 31.2% in 2011-12, p< 0.001). ACEI and ARB use was similar between cohorts A vs B (ACEI: 29.4% [72/245] vs 32.4% [107/330]; P=0.467), (ARB: 39.2% [96/245] vs 59.7% [201/330]; p=0.931). Hb values were similar (12.86 +/- 1.73 vs12.97 +/- 1.68 g/dl). There were no significant differences between groups in most biochemistry parameters, including creatinine, eGFR, LDL, HDL, CRP, as well as comorbidities: ferritin, B2 microglobulin, haemoglobin, creatinine and biochemistry parameters of iron (except age), anthropometric parameters, and comorbidities. The values of serum, phosphate, CrCl, serum creatine (sCr), parathormone, and creatinine clearance were found to be lower in cohort A. The values of serum creatinine (S-Cr) were significantly lower in cohort A vs B (S-Cr 304.86 ± 201.15 μmol/l before treatment vs. S-Cr 195 ± 8.68 μmol/l after treatment < 0.05) and class II (12822 ± 6264 MFI, 6200 ± 6099 MFI, respectively, p = 0.03). A trend towards the improvement of renal function was observed during the follow-up (r = 0.196, p = 0.003). We did not find differences in body composition when comparing between patients with or without previous acute rejection history.

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Conclusions: We conclude that renal transplantation has an important impact on body composition, and is related to moderate hyperhydration and increased fat mass. Controlled studies are needed to assess possible interventions in order to modify these changes.
polycystic fibrosis (3-4 microorganisms) and 16.2% had pulmonary tuberculosis. The most common clinical signs of PI were fever (100%), dyspnea (61.3%), and general fatigue (54.8%). Chest CT scan most often revealed consolidation (74.4%), ground glass (73.7%), local pneumoconiosis (45.4%) and mediastinal lymphadenopathy (45.5%). Overall mortality rate was 35.5%. The highest mortality was observed in patients with severe polycystic fibrosis. PI had a great negative impact on recipients and RT survival. Significant risk factors for PI were delayed graft function (OR 3.31, p = 0.014), chronic graft dysfunction (OR 3.48, p = 0.002), acute rejection of RT (OR 3.72, p = 0.004), treatment with antilymphocytic antibodies (OR 2.96, p = 0.011), CMV infection (OR 4.39, p = 0.0002), EBV infection (OR 3.49, p = 0.009) and leukaemia (OR 5.76, p = 0.0002).

Conclusions: Identifying patients with risk factors and careful clinical monitoring, posttransplant chemophrophylaxis with valganciclovir and trimethoprim-sulfamethoxazole, early diagnosis and early treatment are necessary to decrease the incidence of severe pneumocystis and mortality from PI in RT recipients.

**MP678** WHY ARE PATIENTS UNDER 60 YEARS NOT WAIT-LISTED FOR TRANSPLANT? A RETROSPECTIVE SURVEY

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Introduction and Aims: Patients under 60 who require renal replacement therapy (RRT) have longer survival and improved quality of life with transplantation. However, not all patients under the age of 60 are put on the transplant waiting list. Many of these patients will be unsuitable due to co-morbidities such as heart disease, obesity, diabetes or malignancy. We were interested to see on what grounds patients were not being listed and if we could identify if any improvements could be made to ensure that all patients suitable for transplantation are offered appropriate treatment options.

Methods: We looked at patients under 60 years old newly started on RRT at our hospital from 1 January 2010 to 31 December 2012. This list was obtained from the PROTON data recording system. The gold standard for comparison was the Renal Association/British Transplant Society Module 4: Assessment for renal transplantation. We used PROTON to find patient demographics (age and sex), comorbidities (diabetes, cardiovascular disease, respiratory disease, malignancy and obesity) and time between starting RRT and becoming active on the transplant waiting list. Where data entry on PROTON was limited we reviewed the patient’s written notes for further information.

Results: 221 patients fitted the entry criteria. Of these, 137 (62.0%) were wait-listed within 2 years of starting RRT. Of the 84 who were not listed, 9 went on to be listed over 2 years after starting RRT. There was no significant difference in age between those listed (average age 44.4 years, SD 10.9 years) and those not listed (average age 48.7 years, SD 9.2 years). 50 (41.2%) of those not listed had diabetes (type 1 or type 2) as their primary renal disease, compared to 28 (20.4%) of those suitable for listing. Of the 42 type 1 diabetics, 27 (64.2%) were wait-listed, but only 19 (70.3%) of these were considered for simultaneous pancreatic-kidney transplantation as per guidelines. The BMI of the non-listed group was significantly higher than that of those listed (32 compared to 26). However, 3 patients with a BMI of >40 at start of RRT went on to lose weight such that they became fit for transplant. Patients who “crashed” on dialysis (i.e. started RRT within 1 month of first seeing a nephrologist) were less likely to have been listed within 2 years than those in whom dialysis was anticipated (of the 84 not listed, 23.4% had “crashed” compared to 13 of the 137 listed (9.4%).

Conclusions: Diabetic patients are less likely to be fit for transplantation, probably due to associated co-morbidities such as cardiovascular and peripheral vascular disease. Patients who “crash-landed” compared to 13 of the 137 listed (9.4%).

**MP679** CONCORDANCE OF ESTIMATED GLOMERULAR FILTRATION RATES BY DIFFERENT FORMULAS IN RENAL TRANSPLANT RECIPIENTS

Pedro Ruiz-Esteban1, Veronica Lopez1, Patricia Garcia-Frias2, Mercedes Cabello1, Miguel Gonzalez-Molina1, Carmen Vozmediano1 and Domingo Hernandez1
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Introduction and Aims: Different equations have been used to estimate the glomerular filtration rate (GFR) in renal patients, including kidney transplant recipients. Controversy exists concerning which of these equations is more precise and exact to determine the degree of kidney failure. To analyze the concordance (bias, variability and exactness) of the GFR as estimated by the Modification of Diet in Renal Disease (MDRD4) and the Chronic Kidney Disease Epidemiology (CKD-EPI) equations using the Cockcroft-Gault (CG) method as the reference.

Methods: This observational, cross-sectional study included 153 clinically stable patients who received a kidney transplant between 2007 and 2009. The GFR was estimated 12 months after the transplantation by MDRD and CKD-EPI formula, using CG as the reference.

Results: The mean GFR for the various methods was: CG=65.6±23.3 ml/min/1.73 m², MDRD=54.9±19.3 ml/min/1.73 m², and CKD-EPI=55.8±19.6 ml/min/1.73 m². Good correlations were found between CG–MDRD (r=0.84; P<0.001), CG–CKD-EPI (r=0.87; P<0.001), and MDRD–CKD-EPI (r=0.90; P<0.001). The analysis of concordance detected a bias (normal difference) of -6.10±12.7 ml/min/1.73 m² for MDRD (P=0.006), a variability (percent difference) of 14.5±15.4% vs. 13.6±14.5% (P=0.31), and an exactness (P30) of 81.7% vs. 86.9% (P<0.001) of CG–MDRD versus CG–CKD-EPI, respectively. For a GFR<60ml/min/1.73 m² the exactness was 75.3% vs. 83.5% (P<0.001) for CG–MDRD versus CG–CKD-EPI, and for a GFR ≤60ml/min/1.73 m² was 89.7% vs. 91.2% (P=0.1).

Conclusions: In our population the CKD-EPI method most approached the CG values. This was more evident when the patients had a GFR>60 ml/min/1.73 m².

**MP680** MONITORING OF REMAINING KIDNEY FUNCTION AFTER DONOR Nephrectomy

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Introduction and Aims: Due to the constant shortage of sufficient number of cadaver organs for transplantation, the only alternative currently available is the living relative kidney transplantation. Primary aims of this study were to examine the overall function of the remaining kidney, to determine the frequency of post-op complications, as well as to examine any comorbidities (hypertension, chronic renal disease, diabetes mellitus) after the donor nephrectomy procedure.

Methods: Using a retrospective methods study, a total of 101 kidney donors that came for regular check-ups after the donor-nephrectomy were analyzed, mean age 56.6±8.7, of which 45 males. Mean monitoring time for monitoring the remaining kidney function was 48 months, while the longest control period was 25 years. The examiners were divided into two groups based on the age criteria: Group 1, donors younger than 60 years of age; Group 2 donors older than 60 years of age.

Results: There were a total of 70 examiners in the Group 1 (69.3%), while the Group 2 consisted of 31 donors. Apart from the age criteria, there were no differences in the two groups with regard to the demographic data. Prior to the donor-nephrectomy, the groups that were monitored weren’t showing any differences in both serum creatinine levels and proteinuria. However, the creatinine clearance was statistically significantly higher in Group 1 (p=0.002). Some of the most common post-op complications were diarrhoea (N=4), pulmonary embolism (N=3), pneumonia and pneumothorax, found at 2 patients, respectively. After the donor-nephrectomy, the level of creatinine, creatinine clearance and proteinuria were similar in both groups in question. Hypertension was more frequent in Group 1 (N=29, 41.4%, p=0.013), while the patients from Group 2 were more likely to develop chronic kidney disease (N=15, 48.4%, p=0.027). From the overall number of patients, seven of them were diagnosed with diabetes mellitus. Throughout the monitoring period, a total of five patients have died, out of which two women died from breast cancer, one of the donors had liver cancer, while the cause of death for the remaining two patients was unknown.

Conclusions: Even though the function of the remaining kidney, measured through serum creatinine and creatinine clearance levels, remained the same among both groups of donors, the frequency of the chronic kidney disease was significantly higher among the older donors. High numbers of hypertension and chronic kidney disease among both groups of donors is a sign of the need for more regular post-op monitoring, with the aim of timely discovery and treatment of before mentioned comorbidities.

**MP681** THE COMPARISON OF EFFICACIES OF CALCINEURIN INHIBITORS ON CYTOKINES AND TGF-BETA IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction and Aims: Calcineurin inhibitors (CNI) inhibit the synthesis of interleukin (II) 2 and other cytokines. CNIs are used to prevent rejection of transplanted organs. However, CNIs can cause inflammatory diseases itself. The effects of CNIs on proinflammatory cytokines have not been studied in previous clinical trials. In this study, the effects of CNIs (cyclosporin-Csa and tacrolimus-Tac) on proinflammatory cytokines and transforming growth factor (TGF) beta levels were evaluated in kidney transplant recipients.

Methods: The consecutive 59 patients with stable renal function and similar age were included in this study. Patients were divided into two groups according to their CNI medication. Proinflammatory cytokines and TGF-beta levels were measured in all patients.

Abstracts
Nephrology Dialysis Transplantation

Volume 28 | Supplement 1 | May 2013 doi:10.1093/ndt/gft155 |

Results: The characteristics of both groups were similar. Mean arterial pressure (103±9.4 vs. 97±13.2 mmHg), hemoglobin (13.2±3 vs. 12.8±2 g/dL), erythrocyte sedimentation rate (17.3±10.5 vs. 18.9±18 mm/hr), serum creatinine (1.38±0.62 vs. 1.37±0.49 mg/dL), GFR (75.8±20.3 vs. 70.3±20.3 mL/min) and albuminuria (1.1±1.6 vs. 0.5±1.0 g/day) levels were comparable in CAs and Tac groups, respectively (p>0.05). High sensitive C-reactive protein (hsCRP) (3.49±2.84 vs. 8.32±17.7 mg/dL), tumor necrosis factor-alpha (TNF) (0.14±0.17 vs. 0.12±0.12 ng/mL), IL-6 (35.56 vs. 42±3.9 ng/mL), IL-8 (0.97±7.2 vs. 9.4±12.7 ng/mL) and TGF-beta (185±103 vs. 188±16 pg/mL) levels did not show a significant difference in CAs and Tac groups, respectively (p>0.05).

Conclusions: There has not been a study on this subject in kidney transplant recipients. In experimental studies, regulatory and conventional T cell homoeostasis effects of CNIs were studied. Inflammation plays an important role in the formation of tumors. Inflammatory cytokines levels were increased in recipients. Use of CNI in these patients increases the risk of lymphoma. As a result, CNI type used in patients with kidney transplantation does not affect the levels of proinflammatory cytokines and TGF-beta.
patients were between 18 and 76 years of age who followed in our outpatient nephrology clinic. The collected data included demographic properties, platelet count, MPV, C - reactive protein (CRP), hemoglobin, ferritin, body mass indexes. The patient groups were matched in age and sex. All of the patients were at least 6 month of therapy of either renal replacement modality.

Results: Patient characteristics and results were given in Table 1. Mean CRP value of HD, PD, Rtx and CRF stage 3-4 were detected as 14.09±17.24, 4.31±3.22, 5.99±6.88 and 7.62±4.63 accordingly. Mean CRP value was detected statistically significantly higher in HD patients compared to PD, Rtx and CRF stage 3-4 patients (p<0.001, p=0.001 and p=0.005 in orderly). There was no statistically significant difference detected among mean MPV value of all the patient groups (p=0.05).

Conclusions: In conclusion, we detected that hemodialysis patients were in an increased state of inflammation compare to other groups of the patients according to CRP. We did not detect such a significant difference for MPV between the groups. We speculated that hemodialysis patients had an increased inflammatory state and MPV does not have a predictive value to indicate this inflammation in CKD patients.

**METHODS**

**MP685**

**IMPACT OF RENAL IMPAIRMENT ON LIVER TRANSPLANT PATIENTS - THE BONN EXPERIENCE**

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**Introduction and Aims:** Orthotopic liver transplantation (OLTx) nowadays is a common treatment for patients with end stage liver disease. However, renal insufficiency may be crucial for the outcome. We performed a retrospective study to evaluate the impact of renal function before and after OLTx on patients mortality.

**Methods:** In this study we identified a cohort of 146 patients with end stage liver disease who underwent OLTx between 2004 and 2011 at our centre. Mean age was 51.6 years (18 to 71 years). Patients with polycystic liver disease were excluded. Follow up was 12 months. We assessed renal function using modification of diet in renal disease (MDRD IV) formula prior and after OLTx. Renal function was considered mild impaired when glomerular filtration rate (GFR) was 60-89 ml/min, moderately impaired when GFR was 30-59 ml/min and severely impaired with GFR<30 ml/min. Patients outcome was analyzed with Kaplan-Meier survival curves and multivariate Cox hazard analyses.

**Results:** Prior OLTx the majority of patients (73.7%) had a GFR < 90 ml/min, of those 26.5% were on dialysis and 27.6% had a GFR < 30 ml / min. The remainder (26.3%) had normal renal function (GFR > 90 ml/min). Average eGFR of non-dialysis patients was 58.4% of patients required dialysis therapy. Mortality was highest among dialysis post-transplant was 22.6%, consisting predominantly (96.8%) on patients who were on dialysis. Overall mortality in the observation period was highest among dialysis patients 37.5% (hr=26.15, p=0.001). Conversely, the one year survival after transplantation of patients with preoperatively normal to mildly impaired GFR was 87% (p<0.002).

**Conclusions:** Our study confirms the importance of renal function on the outcome of OLTx. Pre-transplant renal impairment is a significant risk factor for mortality and one year survival.

**MP686**

**THE USE OF MAGNETIC RESONANCE ANGIOGRAPHY IN THE LIVING DONOR RENAL TRANSPLANTATION**

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**Introduction and Aims:** During the preoperative evaluation, the radiological evaluation is vital to determine the suitability of a donor. MRA is employed in many renal transplant centres to assess the vasculature of the donor. The aim of the study was to evaluate whether MR angiography results provided adequate preoperative information to the surgical team.

**Methods:** We conducted a retrospective study of all live donors at our centre that underwent OLTX over a 67 month period, from January 2007 to August 2012. The data included demographic data of the donor, number of arteries, veins and ureters identified were 10 (9%) and 3 (2.7%) respectively. MRA and operative findings were 18 (16%). The number of discrepancies for renal and veins identified respectively were 10 (9%) and 3 (2.7%) respectively.

**Conclusions:** Our study demonstrated that there are discrepancies between MRA and operative findings. Although there are no national recommendations, we believe that the discrepancies identified are high in numbers. The discrepancies may be a result of operator bias or modalities of imaging therefore further studies are needed to evaluate this further.

**MP687**

**ZIZYPHUS JUJUBA AS AN ANTILIPEMIC AND ANTIDIabetic AGENT IN CHRONIC KIDNEY DISEASE PATIENTS**

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**Introduction and Aims:** Zizyphus jujuba, an oriental traditional medicine, have been widely used as a hypoglycemic and antilipemic agent. Study in rats showed that Z. jujuba is an effective and safe treatment for diabetes and dyslipidemia. It reduce the glucose, cholesterol, triglyceride, LDL (low-density lipoprotein) and increase the HDL (high-density lipoprotein), and insulin levels. Administration of Z. jujuba has no toxic effect on kidney or liver in rats.However, little study is available on its effects in humans, and no data about the effect in chronic kidney disease (CKD) patients. In this study, the potential effect of Z. jujuba on plasma glucose and lipid levels were investigated in CKD patients.

**Methods:** A total of 83 diabetic and dyslipemic CKD patients with an estimated glomerular filtration rate between 15 to 60 ml/min and with an age of 18 to 80 years were included to the study. Patients were followed up for one month according to their medical history. HDL, LDL, triglyceride, glucose, HbA1c, Na, K, Ca, P, alanine aminotransferase, aspartate aminotransferase, creatinine, glomerular filtration rate, and proteinuria levels. Daily urine amount were reported. During the study period the patients were advised not to change their life style and dietary pattern. In addition, during the study patients antidiabetic and antilipemic drugs were not changed.

**Results:** None of the patients need to increase the dose of insulin or antidiabetic medications during the study. In 1 patient occurred sever hypoglycemia, therefore the dose of insulins were reduced. In 5 live patients occurred moderate, and in 7 patients occurred mild hypoglycemia. Therefore the insulin doses were decreased and in 5 patients the doses of oral antidiabetics were decreased and in 10 patients the doses of anti-lipemic agents were decreased. We have not reported any serious side effect secondary to the Z. Jujuba. Mild pruritus was noted in one patient. We have not detected any electrolyte disorders. Daily urine amount was increased significantly (p<0.05) . GFR levels was not changed. HbA1c, glucose, total cholesterol, and LDL levels were decreased significantly (p<0.05). There was not a significant change in HDL, triglyceride and proteinuria levels.

**Conclusions:** Z. jujuba is an effective and safe treatment for diabetes and hyperlipidemia in CKD patients. Z. Jujuba can be used in diabetic CKD patients for the purpose of glucose and lipid reduction.

**MP688**

**KIDNEY TRANSPLANTATION IN TYPE 2 DIABETIC PATIENTS: A MATCHED SURVIVAL ANALYSIS**

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**Introduction and Aims:** Diabetes mellitus (DM) is the most prevalent cause of kidney failure. Some concerns have been raised about the kidney transplantation (KT) results in diabetic patients. Therefore we compared outcomes between diabetic and non-diabetic patients after KT.

**Table:**

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<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>After Z. jujuba</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1c%</td>
<td>7.57</td>
<td>6.76</td>
</tr>
<tr>
<td>Fasting glucose, mg/dl</td>
<td>152.25</td>
<td>134.03</td>
</tr>
<tr>
<td>Total cholesterol, mg/dl</td>
<td>230.29</td>
<td>207.70</td>
</tr>
<tr>
<td>HDL, mg/dl</td>
<td>49.1</td>
<td>48.25</td>
</tr>
<tr>
<td>LDL, mg/dl</td>
<td>145.14</td>
<td>124.14</td>
</tr>
<tr>
<td>Triglyceride, mg/dl</td>
<td>171.85</td>
<td>166.66</td>
</tr>
<tr>
<td>GFR, ml/min</td>
<td>45.35</td>
<td>48.56</td>
</tr>
<tr>
<td>Creatinine, mg/dl</td>
<td>2.65</td>
<td>2.44</td>
</tr>
<tr>
<td>Urea, mg/dl</td>
<td>56</td>
<td>52</td>
</tr>
<tr>
<td>Ca, mg/dl</td>
<td>8.7</td>
<td>8.9</td>
</tr>
<tr>
<td>P, mg/dl</td>
<td>4.6</td>
<td>4.9</td>
</tr>
<tr>
<td>Na, mEq</td>
<td>138</td>
<td>141</td>
</tr>
<tr>
<td>K, mEq</td>
<td>4.7</td>
<td>4.5</td>
</tr>
<tr>
<td>AST, U/l</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>ALT, U/l</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Daily urine amount, ml</td>
<td>1800</td>
<td>2300</td>
</tr>
<tr>
<td>Proteinuria (mg/day)</td>
<td>250</td>
<td>240</td>
</tr>
</tbody>
</table>

**Conclusions:**
Methods: All kidney transplants performed in type 2 diabetic patients, from July 1983 to December 2009 in our centre, with a graft survival over 3 months, were included. Non-diabetic controls were individually matched with diabetic patients with respect to gender, age, year of transplantation, number of donor HLA mismatches and dialysis vintage. The two groups were compared concerning patient and graft survival, delayed graft function (DGF) and prevalence of acute rejection (AR).

Results: We included 62 type 2 diabetics and 62 non-diabetic patients who were followed for a mean period of 102±64 months after KT. Diabetic patients and controls were similar for the matched variables. Graft survival censored for patient death for diabetics and non-diabetics was 70 and 83% at 5 years and 54 and 71% at 10 years, respectively (log rank test p=0.13). Patient survival at 5 and 10 years was 69 and 50% for diabetic patients and 96 and 84% for non-diabetic patients, respectively (log rank test p<0.001). The prevalence of AR was 24.2% in diabetic and 17.7% in non-diabetic patients (X² test p=0.38). Occurrence of DGF did not differ (X² test p=0.12). Using multivariate Cox's proportional hazards analysis, DM (HR=7.72; p=0.001) and hepatitis (HR=4.18; p=0.02) correlated with reduced patient survival.

Conclusions: Diabetic patients' survival after KT was reduced when compared with non-diabetic matched patients. However, censored graft failure was similar between the two groups. Concerns about graft survival should not prevent KT in diabetic patients with kidney failure.
the practice patterns for transplant wait-listing that exist across the UK, and understand the perceived barriers of key stake holders.

**Methods:** Semi-structured interviews were conducted with 45 ‘key stakeholders’ involved in transplant listing (including clinical directors, physicians, surgeons, and nursing staff) in a purposive sample of nine renal units across the UK. Units were stratified by data on degree of listing for transplantation, whether a transplant or dialysis centre and geography to include spread of deprivation and ethnicity. Interviews were recorded and transcribed verbatim. Double coding was performed to improve validity of coding and thematic analysis undertaken using Nvivo 10.

**Results:** Thematic analysis identified a series of themes which included the role of cardiac services, with recipient cardiac work-up being a major source of ambiguity and delay. Variation in cardiac service delivery and granularity seen in both interpretation of test results and management strategies, were also seen as a source of strain on interpersonal relationships and subject to variable resource issues. Pathways of care involving living donation and pre-emptive transplantation was another major theme which was seen to pose ethical and financial dilemmas, and was a source of both dispute and innovation. Staff fatigue was another major theme seen across many professional ranks, often linked to resource shortages, feeling unappreciated and helpless whilst receiving little professional support.

**Conclusions:** Reaching a consensus on cardiac work up and resolving areas of contention surrounding living donation are important in improving access to transplantation and equity. There is also a need to address the causes of staff fatigue in renal services and improving support provisions whilst promoting innovation. It is hoped that the results of this study will inform a national survey aimed at identifying centre practice patterns influencing access to transplantation.

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**MP692 A SURVEY OF DIALYSIS PATIENTS ATTITUDES ON ORGAN DONATION AND KIDNEY TRANSPLANTATION IN A TURKISH COMMUNITY**

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1Internal Medicine, Mardin Devlet Hastanesi, Mardin, Turkey, 2Nephrology, Uludag University, Bursa, Turkey, 3Internal Medicine, SYEAH, Bursa, Turkey

**Introduction and Aims:** The most outstanding of renal replacement therapy is kidney transplantation (KT). However, there is no adequate information about dialysis patients’ thoughts on KT. This study investigated the opinions of chronic dialysis patients about KT. 

**Methods:** The study was performed in all dialysis centers in Bursa, Turkey, from January to December 2010. The response rate was 40%. 597 dialysis patients (547 on HD, 50 PD) were included in the study. We designed a questionnaire with many questions on attitudes toward organ donation and KT. The questionnaires were filled out in the course of face-to-face interviews by the same author.

**Results:** Chronic dialysis patients who wants KT was 414 (69.3%) and did not want KT was 183 (30.7%). Totally, 31 patients (14 -2.3%- had live donor KT and 17 -2.8%- had cadaveric KT) had a history of KT. While 60 patients (10%) did not want to have KT, 299 of them (50.1%) wants to receive from live donors and 238 of them (39.9%) wanted to receive from cadaveric donor. 70 (11.7%) patients had a live donor. Specification of live donor candidates stated in Graphic 2. Patients registered in the waiting list are 179 (30%) and the average waiting time of 2.84±2.1 years. While 90 of waiting list patients was stated that they did not called for any donors, 32 of them stated that they were called but they were found not suitable for KT nad 55 of them did not know the reason why they were not transplanted. While 212 patients (35.5%) wanted to donate their organs, 385 (64.5%) patients did not want. 342 (57.3%) patients thought that they could save the lives of other people by their bodies. Others states that they were on dialysis and their organs were not robust anymore. Dialysis because of kidney disease and solid organ others had already noted that entered. 38 (6.4%) patients’ relatives prepared organ donor card (10 mothers, 7 fathers, 10 siblings, seven wives and 4 others).

**Conclusions:** In spite of improvements in graft and patient survival rates, the number of cadaveric organ KT has not reached the desired level, and the number of patients on the waiting lists is increasing rapidly. Organ donation and KT will become our major concern in the very near future. As a result, dialysis patients are more informed for this issues. Organized training programs about KT should be organized for dialysis patients.