Introduction and Aims: Endothelial dysfunction can be detected at early stages of chronic kidney disease (CKD). Although endothelial functions improve after successful renal transplantation, renal transplant recipients still have worse endothelial functions compared to healthy subjects. Recent trials showed that vitamin D deficiency and high fibroblast growth factor 23 (FGF-23) levels may have a role on endothelial dysfunction in CKD patients besides their well-known effects on calcium and phosphorus metabolism. Aim of this study is to investigate the association between endothelial functions, vitamin D and FGF 23 levels in renal transplant recipients.

Methods: One hundred-nine renal transplant recipients (71 male, 38 female) underwent brachial flow mediated vasodilatation (FMD), serum 25 OH vitamin D and FGF-23 level measurements. Patients were divided into two groups based on endothelial functions. Vitamin D and FGF-23 levels were compared between patients with normal and abnormal endothelial functions. Correlations between amount of FMD, vitamin D level and FGF-23 were also investigated.

Results: Mean ages of the patients was 40.4±11.5 years, mean duration after transplantation date was 74.7±69.5 months. Endothelial functions were abnormal in 79 patients (72.5%). Prevalence of vitamin D deficiency (<15 mcg/L) was 65.1%. Patients with normal endothelial functions and endothelial dysfunction had similar demographic, clinical characteristics and laboratory values.itamin D levels were significantly lower in patients with endothelial dysfunction compared to patients with normal endothelial functions (12.6± 6.6 mcg/L vs 17.3±10.0 mcg/L, respectively, p=0.02). PFG-23 levels were not different between two groups. Vitamin D levels had a significant positive correlation with amount of FMD (r=0.218 and p=0.02).

Conclusions: Vitamin D deficiency is one of the causes of endothelial dysfunction in renal transplant recipients. Further studies are needed to clarify whether FGF-23 is a marker or a potential initiation for endothelial dysfunction and the effect of vitamin D replacement on endothelial functions in these patients.

Conclusions: In post transplantation period, metabolic syndrome indices as high blood pressure, hyperuricemia, hyperglycemia and increased waist and hip circumferences are closely related with arterial stiffness. For cardiovascular risk reduction after renal transplantation; blood pressure, serum glucose and uric acid levels should be under strict control.

Introduction and Aims: Arterial stiffness plays an important role in cardiovascular diseases and is an independent predictor for cardiovascular mortality. The QTc interval has been reported to be increased and to be associated with high-risk ventricular arrhythmias and sudden death. Although renal transplantation improves survival, cardiovascular morbidity and mortality still remain as a significant problem compared with nonrenal populations. The aim of this study is to evaluate the association between the QTc interval changes and arterial stiffness in kidney transplant recipients.

Methods: One hundred kidney transplant recipients from our renal transplant outpatient clinic were enrolled into the study. All patients were evaluated for their standard clinical (age, gender, duration of hemodialysis, post-transplant time), biochemical parameters. Anthropometric and body composition analyses were performed for all patients. Body compositions were analyzed by using the Body Composition Analyzer (Tanita BC-420MA). PWV was determined from pressure tracing over carotid and femoral arteries using the SphygmoCor system. Pre-retrospectively and post-transplant electrocardiographic (ECG) evaluations were performed. Each QT interval was corrected for the patient’s heart rate using Bazett's Formula. A QTc interval greater than 440 ms was considered abnormally prolonged.

Results: After renal transplantation maxQTc intervals (456.7 ms to 414 ms) and QTdc (54 mto 34 ms) of all patients were significantly decreased. In post transplantation period, patients with high QTc intervals had significantly higher PWV (p:.009) and higher serum CRP levels (p:.001) than patients with QTc<440 ms. Patients with PWV>7 m/s had significantly higher maxQTc interval decline than patients with PWV<7 m/s (p:.05, r:-.206).

Conclusions: High QTc interval after renal transplantation could be a predictor of arterial stiffness in renal transplant recipients. Electrocardiography evaluation is seem to be a cheap and reliable way to detect arterial stiffness.
Conclusions: All 54 patients completed their repletion course. In all cases plasma vitamin D concentrations rose to >25 nmol/L and in 80% to >50 nmol/L. Two patients experienced a >20% rise in plasma creatinine (biopsy proven rejection in both cases). The remaining patients had a very modest change in plasma creatinine (proportional to the rise seen in plasma calcium, also modest). Only 5 patients experienced a plasma calcium concentration of >2.60 mmol/L and in no case was it necessary to discontinue vitamin D treatment. The fall in plasma alkaline phosphatase values just missed significance. Monthly bolus oral cholecalciferol seems a safe and effective means by which to render RTx patients vitamin D replete.

<table>
<thead>
<tr>
<th>Vitamin D (nmol/L)</th>
<th>PTH (pg/ml)</th>
<th>Alk Phos (IU/L)</th>
<th>Calcium (mmol/L)</th>
<th>Phosphate (mmol/L)</th>
<th>Creatinine (umol/L)</th>
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<tbody>
<tr>
<td>PRE 17.4 (9)</td>
<td>138(115)</td>
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<td>2.40(0.12)</td>
<td>1.0(0.2)</td>
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<tr>
<td>POST 71.9 (50)</td>
<td>106(65)</td>
<td>66(31)</td>
<td>2.42(0.14)</td>
<td>1.1(0.2)</td>
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Introduction and Aims: To follow the clinical outcomes of 45 highly sensitized patients who had undergone a desensitization protocol prior to kidney transplantation, and report the incidence of complications, allograft survival, and Patient survival.

Methods: We conducted a retrospective review of 45 kidney transplant recipients transplanted between 9/2002 and 10/2011, who had a positive T or B cell complement dependent cytotoxic (CDC) crossmatch assay. B cell CDC crossmatches were confirmed with a solid-phase assay to determine presence of class II anti-HLA antibodies.

Results: All subjects completed a desensitization protocol of plasmapheresis, intravenous immunoglobulin, +/- rituximab to render a negative T cell crossmatch or a negative or weak titer B cell crossmatch 24 hours prior to transplantation. Post-transplant all recipients received antibiotic and antiviral prophylaxis; alloplastic biopsies were performed when clinically indicated. The mean and median follow-up was 5 years. Thirty-three subjects (73%) suffered acute rejection of the allograft, 30 (67%) occurred in the first year post-transplant, and 27 (60%) occurred in the first year post transplant. There was a case of hyperacute rejection necessitating transplant nephrectomy. Twenty-nine of the 33 (88%) were cases of acute antibody dependent cytotoxic (CDC) crossmatch assay. B cell CDC crossmatches were confirmed with a solid-phase assay to determine presence of class II anti-HLA antibodies.

Conclusions: All 54 patients completed their repletion course. In all cases plasma vitamin D concentrations rose to >25 nmol/L and in 80% to >50 nmol/L. Two patients experienced a >20% rise in plasma creatinine (biopsy proven rejection in both cases). The remaining patients had a very modest change in plasma creatinine (proportional to the rise seen in plasma calcium, also modest). Only 5 patients experienced a plasma calcium concentration of >2.60 mmol/L and in no case was it necessary to discontinue vitamin D treatment. The fall in plasma alkaline phosphatase values just missed significance. Monthly bolus oral cholecalciferol seems a safe and effective means by which to render RTx patients vitamin D replete.
**SP644 DOUBLE FILTRATION PLASMAPHERESIS IN THE PREVENTION AND TREATMENT OF ACUTE REJECTION OF RENAL TRANSPLANT**

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**Introduction and Aims:** One of the current tasks of transplantation is to overcome “graft-host” immune conflict. Partially this conflict caused by the presence of circulating pre-existing antibodies. Highly sensitized patients are at greater risk of rejection and subsequent graft loss. There are several methods to remove the anti-HLA antibodies, one of which is a double filtration plasmapheresis (DFPF).

This report presents our experience of DFPF in recipients of high immunologic risk.

**Methods:** The study included 18 patients after kidney transplantation. All were classified as high-immunologic risk group. The preexisting factors were only one HLA-match (7 patients) re-transplantation (9 patients), the presence of anti-HLA antibodies – (2 patients). These patients DFPF performed before transplantation, in the first days after transplantation, and two days after the transplantation.

**Results:** Immunosuppressive therapy included calcineurin inhibitors - tacrolimus, mycophenolate, and corticosteroids. Induction therapy was a monoclonal anti-CD25 antibodies.

Administration of prednisolone reduces granzyme B transcripts after acute rejection episodes. ACE antibodies and methylprednisolone. We monitored the immune status: total number of lymphocytes, including granzyme B, may be associated with outcome after kidney transplantation. These preliminary data suggest that after induction with methylprednisolone (M) and Thymoglobulin (ATG) dosage 2.5 mg/Kg, immunosuppression is interrupted for 72 hrs, and resumed with Tacrolimus (low-dose) +Everolimus+Mycophenolate sodium (MPS, withdrawal at 6° month) + M (withdrawal at 1° month); b) standard arm (group B) induction with ATG and maintenance with Tacrolimus+MPS+M. Up to the present we have recruited 31 patients (14 males and 17 females): 15 in the group A and 16 in the group B. On enrolment blood samples were collected before the transplant (BAS) and at 6 month after kidney transplantation (Tx 6mo). The frequency of CD4+CD25high and CD127-.

**Conclusions:** DFPF can safely and effectively reduce the high titers of antibodies that are responsible for humoral rejection of renal allograft.

**Introduction and Aims:** Serum ADMA levels increased significantly up to the 6th month after transplantation only in group A (0.60±0.9 vs 1.08±0.16 and 0.74±0.28 vs 0.86±0.2 μmol/l, A vs B group, p<0.01). Renal function and number of acute rejections were not different between the two groups at 12 months.

**Conclusions:** CMV infection after kidney transplantation (especially when clinically associated with higher granzyme B transcripts.

**SP646 EVEROLIMUS AND LOW DOSE OF TACROLIMUS COMBINED WITH THYMoglobULIN INDUCTION INDUCES regulatory T CELLS EXPANSION IN DE NOVO KIDNEY TRANSPLANT RECIPIENTS: PRELIMINARY DATA OF CONTROLLED RANDOMIZED STUDY (EVER TWIST)**

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**Introduction and Aims:** Immunosuppressive drugs are essential for the prevention of acute transplant rejection, but they probably also prevent tolerance. Among lymphoid cells the regulatory T cell (T-reg) play a central role in the balance between tolerance and immunity as they are responsible of peripheral tolerance. T-reg have most often been associated with tolerance to allogeneic transplantation in mice and humans. Aim of this clinical trial is to evaluate the effect of different immunosuppressive regimes on T-reg cells.

**Methods:** According to Calne’s “window of opportunity for immunologic engagement” concept to favor tolerance, we have designed a prospective, randomized, open-label clinical trial in which de novo renal transplant recipients will be randomized according to: a) new immunosuppressive protocol (group A) that after induction with methylprednisolone (M) and Thymoglobulin (ATG) dosage 2.5 mg/Kg, immunosuppression is interrupted for 72 hrs, and resumed with Tacrolimus (low-dose)+Everolimus+Mycophenolate sodium (MPS, withdrawal at 6° month) + M (withdrawal at 1° month); b) standard arm (group B) induction with ATG and maintenance with Tacrolimus+MPS+M. Up to the present we have recruited 31 patients (14 males and 17 females): 15 in the group A and 16 in the group B. On enrolment blood samples were collected before the transplant (BAS) and at 6 month after kidney transplantation (Tx 6mo). The frequency of CD4+CD25high and CD127-

**Conclusions:** These preliminary data suggest that after 6 months, T-reg in patients of group A are significantly increased when compared both to the BAS and group B, while T-reg cells are suppressed by standard immunosuppressive therapy (group B). These results suggest that sperimental immunosuppressive protocol in vivo may improve peripheral tolerance in kidney transplant recipients.

**SP647 TRANSPLANT GLOMERULOPATHY AND DE NOVO THROMBOTIC MICROANGIOPATHY: DIFFERENT MANIFESTATIONS OF HUMORAL REJECTION**

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1Nephrology CHFMAD Vila Real Portugal, 2Pathology CH Juan Canalejo Coruña Spain, 3Nephrology CH Juan Canalejo Coruña Spain

**Introduction and Aims:** This study characterizes clinical and pathological relationships between transplant glomerulopathy (TG) and de novo thrombotic microangiopathy (TMA) in renal allograft biopsy samples.
ROLE OF eGFR EQUATIONS IN EVALUATING DECEASED DONOR KIDNEY FOR TRANSDUCTION: SUFFICIENT AND APPROPRIATE OUTCOME MARKERS?

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Introduction and Aims: Donor evaluation is crucial in organ allocation for kidney graft, especially with the growing use of ECDs. Donor kidney function is decisive to predict graft outcome. Nevertheless, serum creatinine (eGFR) is still a widespread benchmark, and few data about eGFR equations are available. Aim was to compare the accuracy of eGFR formulas in estimating donor kidney function and predicting recipient and graft outcome. Secondary endpoint was to assess the predictive role of donor demographic, clinical and renal histological data.

Methods: The study enrolled 625 single kidney graft recipients and the corresponding 481 donors (144 kidneys were allocated elsewhere). Mean ± SD: 40.6±17.5 years, 68.6% males. eGFR was estimated using Cockcroft-Gault (CG), MDRD and CKD-EPI. To balance GFR overestimation in obese donors, CG formula was assessed with actual (ABW) as well as with ideal body weight (IBW).Recipient kidney function was evaluated with MDRD formula at discharge and after 3, 6, 12, 24 months from surgery. BMI, age, gender, history of hypertension or diabetes mellitus, cause of death and histology were recorded. Survival curves were obtained for grafts and recipients.

Results: Results: male 61.6%, age 57.5±11.8 yrs, BMI 24.1±3.7 kg/m2 (23±37%). Donors: mean ± SD: 60.4%, age 56±15.1 yrs, eGFR 81±30 ml/dL, diabetes 5.3%, BMI 25.3±3.8 kg/m2 (22±49.5%). Preimplantation biopsy was performed in 57.6%. Median eGFR (mL/min): CG:ABW =104, CG (IBW) =87, MDRD =99, CKD-EPI =92. All eGFR formulas were equally predictive of recipient renal function during f up (p=0.05), but only CG was significantly correlated with graft survival (p=0.03). Univariate analysis showed, for 1-year graft function, a negative predictive role of donor hypertension (p=0.00), donor age (p=0.00), female donor gender (p=0.00), cerebrovascular death (p=0.01) and high recipient BMI (p=0.002).

Conclusions: In conclusion, donor eGFR with all formulas predicted graft function. Since TG predicts graft survival, its use with IBW may be more appropriate. Other clinical (donor hypertension, recipients BMI) and demographic (donor age and gender) data should be considered in organ allocation, while the role of histology might be reassessed.

**SP649**

**CLINICAL RESULTS OF COMBINED AND SEQUENTIAL LIVER-KIDNEY TRANSPLANTATION: A SINGLE CENTER EXPERIENCE**

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1Molinette Hospital Nephrology, Dialysis and Transplantation Unit Torino Italy

Introduction and Aims: Since 2002, when the end-stage liver disease model score (MELD) was adopted, the number of combined liver-kidney transplantsations increased. Between January 1995 and December 2011 we performed 38 combined liver-kidney transplantation (CLKT) and 6 sequential liver-kidney transplantation (SLKT).

Methods: This study compares the outcomes of CLKT and SLKT with the controateral kidney (31 of the first group and 6 of the second one) used for the kidney alone transplantation (KTA 1 and 2).

Results: The indications for CLKT were: polycystic disease (60.6%), primary hyperoxaluria type 1 (21%), end-stage liver disease and cirrhosis (18.4%). In SLKT, the major cause of renal failure was calcineurin inhibitor nephropathy (83.3%) and dialysis started on a 7 years average time after liver transplantation. Delayed renal graft function (DGF) occurred in the 52.6% of CLKT vs. 38.7% in the KTA, despite a minor cold ischemia time and lower donor age in CLKT group. Infections and bleedings were more common in CLKT patients (86.8% vs. 61.5% in KTA P=0.034), as well as surgical complications (42% vs. 11.5% in KAT P=0.03). The immunosuppressive protocol mostly used was tacrolimus, mycophenolate mofetil and prednisone. In CLKT recipients tacrolimus levels were lower and steroid was stopped earlier than KTA. The acute renal rejection frequency was lower in CLKT (2.6% in CLKT, 7.7% in KTA and 16.6% in SLKT, p = not significant) despite a major HLA mismatch, positive X-match, specific anti-donor antibody and lower immunosuppression. Mean creatinine serum levels were lower in CLKT group. At 5 years, patient survival rates in SLKT were lower than those in CLKT (75% in SLKT vs 90% in CLKT), and in KATI-2 (100%). Kidney graft survival rates: 1, 5 years were 92% and 84% in CLKT, 100% and 75% in SLKT, 97% and 97% in KATI, 100% and 97% in KAT2. CLKT and KATI kidney graft survival compared using “death censored” curves was the same in both groups (97%) at 1 and 5 years.

Conclusions: In comparison CLKT recipients, although complications and mortality were more frequent in the first three months after transplantation, the patient and kidney allograft survival rates appeared to be superior than those in SLKT. In addition, in CLKT there were lower serum creatinine levels despite a major incidence of DGF. These results seem to indicate that the liver allograft has an immunoprotective effect on the renal allograft from the same donor.
Introduction and Aims: Measurements of glomerular filtration rate (GFR) are frequently interpreted assuming a linear variation with age. However this may be simplistic. Non-linear relationships may give a better representation of the changes associated with "normal aging". This is a really important consideration in a population of potential living kidney donors generally considered to be even healthier than age-matched controls.

Methods: This was a retrospective study of 904 subjects (468 women, 436 men; age range 14–84 years) undergoing assessment as prospective living kidney donors. GFR was evaluated from 51Cr-EDTA plasma clearance using blood samples taken at 2, 3 and 4 hours. The slope-intercept GFR was corrected for body surface area (BSA) using the Haycock formula and for the fast exponential using the Brochner-Mortensen equation. The relationship between age, gender and GFR was examined using best-fit curve analysis. Non-linear relationships with age were explored using fractional polynomials.

Results: There was no gender difference in BSA corrected GFR over five decades of age (P = 0.40). However, female donors with a body mass index > 30 kg.m⁻² had a statistically significantly lower GFR than non-obese women (P < 0.01). The best-fit relationship between age and GFR was non-linear and described using a fractional polynomial model of degree 1 (GFR = 103.9 – 0.0061 * Age ² mL.min⁻¹.1.73 m⁻²) with an RMSE of 12.9 mL.min⁻¹.1.73 m⁻². The residual variance for this model was significantly smaller than for the best-fit linear model (P = 0.006).

Conclusions: GFR measurements in prospective healthy living kidney donors are best corrected for age using a non-linear relationship. Our results help to establish potential normative mGFR ranges for this important population, which will crucially inform decisions on potential wisdom of kidney donation.

ASSOCIATION BETWEEN A DECLINE IN DONOR CREATININE CLEARANCE AND ALLOGRAFT OUTCOMES

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Introduction and Aims: It has been well documented that development of compensatory hypertrophy of the solitary kidney and alterations of allograft kidney function following kidney transplantation (KT). It is conceivable that the given allograft function in recipients may be related with the remnant kidney function in donors. This study was undertaken to find whether the degree of decline in donor creatinine clearance (CrCl) after KT may be predictive of long-term outcomes of allograft kidneys.

Methods: The decline in CrCl of donor kidney was calculated by the difference over 30 days after KT. ΔCrCl = (CrCl at post-KT 30 days – CrCl at Pre-KT) / CrCl at Pre-KT x 100 (%). All recipients were divided into 2 groups according to ΔCrCl Group 1 (n = 69), < 10% and Group II (n = 138), > 10% (ΔCrCl > 10%). Multiple linear regression analysis was used to find associated factors with short- and long-term renal allograft function, and Kaplan-Meier (KM) analysis was used to compare dialysis-free survival between the groups.

Results: A total of 135 recipients were followed for 136 ± 63 months. At baseline, there was no significant difference in baseline donor, recipient, and KT-related characteristics. While there was no difference in recipient eGFR at 3 posttransplant, Group I had higher eGFR at 1 month (60 ± 24 vs. 50 ± 23 mL/min/1.73 m²), 3 months (61 ± 19 vs. 53 ± 22 mL/min/1.73 m²), 1 year (63 ± 19 vs. 52 ± 23 mL/min/1.73 m²) and 3 years (56 ± 20 vs. 45 ± 21 mL/min/1.73 m²) posttransplant as compared with Group II. However, eGFR at 10 years follow-up was not different between the groups. In linear regression analysis, donor ΔCrCl was significantly associated with eGFR at 12 months and 3 years posttransplant, but not eGFR at 3 month follow-up of allograft recipient. KM analysis revealed that Group I had a greater dialysis-free survival rate at 10 years’ follow-up as compared with Group II (79 vs. 71%, log-rank P = 0.05).

Conclusions: In this study, we showed that the change of donor GFR over 30 days after KT measured using CrCl was associated with recipient eGFR at 1- and 3-year posttransplantation. However, ΔCrCL had no association with eGFR at post-KT 10 years and kidney transplant recipients with higher ΔCrCl had no good over-all long-term dialysis-free allograft survival. These results suggest that the short-term allograft survival is longer when the initial decline in donor CrCl is less. Follow-up measurement of donor kidney function may be useful to monitor the patient at risk for allograft loss.

THE EFFECT OF MAGNESIUM SUPPLEMENTATION ON EARLY POST-TRANSPLANTATION GLUCOSE METABOLISM

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Introduction and Aims: Post-transplantation hypomagnesemia is associated with new-onset diabetes after transplantation (NODAT) in retrospective studies. Our aim was to prospectively evaluate whether oral magnesium (Mg) supplementation modifies the risk for NODAT.

Methods: Single-center, randomized, controlled, 3-month open label trial comparing Mg supplements (Mg oxide 450mg up to thrice daily) aiming at normalizing serum Mg levels vs no supplements in adult tacrolimus-treated non-diabetic renal transplant recipients (n=54). Ten patients, angiography or stenting was performed. The mean creatinine value at 14 days post-transplant (1.27± 0.48, 1.21±0.48, 1.04±0.32, 1.20± 0.27, respectively) did not significantly differ among the four groups (P = 0.495). The prevalence of graft loss (n=2, 14.3%) was high in patients with severe arterial stenosis, but there was no significant differences in these groups (P = 0.118). In group IV, multiplicity of renal arteries (n=8, 57.1%) and the type of end-to-end arterial anastomosis (n=12, 85.7%) were much higher frequency (P = 0.026, P = 0.362, respectively) than other groups.

Conclusions: The incidence of arterial flow stenosis is unexpectedly high in the early period after kidney transplantation even if creatinine level was normal. So, 3D CE MRA allows rapid global assessment of renal transplant arterial system. It can also help detect or exclude many of the various causes of renal transplant dysfunction.

EFFECTS OF GLUCOSE-CONTROLLING MEDICATIONS ON GRAFT FUNCTION IN TERTIARY CENTER IN KOREA

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Introduction and Aims: Our objective was to evaluate the usefulness of three-dimensional contrast enhanced MR angiography (3D CE MRA) for assessment of renal artery anastomosis in the early period after kidney transplantation.

Methods: Between January 2010 and February 2012, a consecutive series of 267 KTs was examined with 3D CE MRA 14 days after transplantation. The study recipients were divided into four groups by the degree of renal artery inflow stenosis qualitatively (group I: normal; group II: mild ≤ 50%; group III: moderate 50-70%; group IV: severe > 70%). The following variables were compared: donor and recipient characteristics, multiplicity of renal arteries, the type of the arterial anastomosis, and corticosteroid dosage. CE MRA was found to be a useful additional method for the management of kidney transplant dysfunction.
Results:
Renal function impairment occurred in 413 of 433 donors (34.6%). In multivariate analysis, the following factors were associated with renal function impairment after donor nephrectomy: hypertension, hyperparathyroidism, presence of SUA concentration >7 mg/dl in men and >6 mg/dl in women; odds ratio (OR), 3.78; 95% confidence interval (CI), 1.3–11.0; P = 0.022); older age (OR, 1.06; 95% CI, 1.02–1.09; P = 0.001); and lower baseline eGFR (OR, 0.92; 95% CI, 0.89–0.94; P < 0.001). An SUA concentration in the fourth quartile was associated with lower graft survival in women (OR, 1.56; 95% CI, 1.1–1.88; P = 0.04) but not in men.

Conclusions: Predonation SUA concentration is associated with renal function after nephrectomy in living kidney donors. The association is stronger in women than in men. Further studies with longer follow-up are needed to assess the prognostic value of predonation SUA concentration to long-term renal insufficiency in living kidney donors.

**SP667**

**PROGNOSTIC SIGNIFICANCE OF CHANGES IN PROTEINURIA IN EARLY STAGES OF RENAL TRANSPLANTATION**

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Introduction and Aims: Proteinuria is considered the main independent risk factor of end stage renal disease. Some authors consider that changes in proteinuria could be as a surrogate of kidney disease progression. Proteinuria is highly prevalent in renal transplantation and it has been associated to a lower graft and patient survival. There is not much information about the relationship between changes in proteinuria in early stages and long term graft and patient survival. To analyze the effect of the magnitude of proteinuria and its changes from 3rd to 12th month after transplantation on long term graft and patient survival.

Methods: Retrospective analysis of 701 kidney transplants from deceased donors. Minimum follow-up: 1 yr. Baseline proteinuria (3rd month) and proteinuria at 12th month after transplantation in 24h urine were analyzed. Proteinuria was categorized depending on its magnitude: (O) 0-149mg/dl, (1)50-299mg/dl, (2) 300-999mg/dl, (3)≥1g/dl. Relative changes of proteinuria from 3rd to 12th month was calculated and categorized as follows: (0) reduction ≤50%, (1) increase or decrease (Δ) 50%-50%, (2) increase >50% from baseline. Associations between baseline and 12th months proteinuria and changes of proteinuria and survival were examined using Kaplan-Meier and Cox analysis. 2x2 and T-test were used to analyze differences between groups.

Results: We studied 593 patients, mean follow-up of 84.5±8.6 months (2±12.1-191.6). Proteinuria ≥150mg/d was present in 49.9% at 3rd month, 47.0% at 12th month. At 3rd month distribution of proteinuria was: (0) 50.1%, (1) 17.9%, (2) 28.3%, and (3) 3.7%. Presence of increasing degrees of proteinuria at 3rd and 12th month was associated with long term graft failure (P=0.000), and mortality at case of 12th months (P=0.000). We observed an increasing relative risk of graft failure and mortality from category 2 at 3rd month (HR 2.083, 95%CI: 1.362-3.187, P=0.001) and in the 12th month (HR 3.051, 95%CI: 1.966-4.733P=0.000) that increases in category 3 (P=0.000). Between 3rd and 12th month we observed an increasing relative risk of graft failure and mortality from category 3 at 12th months (HR 3.172, 95%CI: 1.966-5.373P=0.000) and in every category of baseline proteinuria analyzed (P=0.000), not with mortality (P=0.183). Progression ≥50% was an independent risk factor of graft failure (HR 2.378 (95%CI: 1.540-2.167, P= 0.000). Proteinuria progression ≥50% was related to a higher serum creatinine at 12th month (P<0.05) with a different glomerular filtration rate at 12th months (MDRD-4).

Conclusions: Risk of graft failure and mortality increases with increasing amounts of proteinuria and with time from transplantation, since early stages of kidney transplant. Proteinuria progression ≥50% in early stages of renal transplantation could be considered as a marker of graft failure, regardless of baseline proteinuria category.

**SP668**

**EFFECTIVENESS IN KIDNEY DONATION OF UNCONTROLLED DONATION AFTER CARDIAC DEATH (UCDCD) PROGRAM WITH OUT-OF-HOSPITAL DECEASED PEOPLE**

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Introduction and Aims: Thousands of people suffer out-of-hospital cardiac arrest worldwide every year, death being declared in situ after 30min. of unsuccessful advanced life support maneuvers. Some authors could be UDCD programs (UCDCD) if quickly transferred to the hospital for organ preservation procedures.

Methods: In July 2005, our hospital and 2 out-of-hospital emergency services (SUMMA 112 and SESCAM) started a UCDCD program with non-hospitalized irreversible cardiac arrest subjects who were rapidly transported to the hospital. Until Dec. 2011, 181 of 351 potential UCDCDs met the inclusion criteria and were transferred to our hospital by helicopter (49, 27%) or ambulance (132, 73%) under cardiac massage and mechanical ventilation. On arrival to the hospital, medical and
Introduction and Aims: Persistent secondary hyperparathyroidism (SHPT) and residual proteinuria are important problems in kidney transplant patients. Both conditions can contribute to graft loss. Paricalcitol has shown a beneficial effect on chronic kidney diseases (CKD)-related SHPT and decreases proteinuria in diabetic nephropathy. Information about paricalcitol treatment in kidney transplant patients is very scarce. Our objectives were to analyze the influence of paricalcitol on markers of mineral metabolism, residual proteinuria, renal function, and inflammation.

Methods: In a historical cohort of 58 kidney transplant patients with SHPT, we studied the impact of paricalcitol (initial dose 1 μg/48 hr) on the control of intact-parathormone (iPTH) and other markers of mineral metabolism, on the amount of residual proteinuria, renal function, blood pressure and inflammation. We used bone standard deviation, paired t-tests and Wilcoxon test. Remission ≥30% of iPTH and ≥50% of 24 hours proteinuria were calculated by logistic regression.

Results: Baseline characteristics: 26 men (44.8%), 55.7±12.7 years, creatinine 2.1±0.7 mg/dL, 24 hours proteinuria 1.1±0.7 g, calcium 9.3±0.5 mg/dL, phosphorus 3.4±0.5 mg/dL, iPTH 333.1±225.9 pg/ml, 25(OH)D 17.6±3.3 ng/ml. Serum iPTH significantly decreased after paricalcitol treatment (333.1±225.9 to 187.4±88.9 pg/ml) and 44 patients (76%) achieved a decrease of baseline of iPTH≥50%. A baseline iPTH ≥500 pg/ml was associated with an iPTH reduction ≥20% (OR: 5.6; 95%CI: 1.3-24.6; p=0.022). Proteinuria decreased from 1.1±0.7 to 0.7±0.6 g/24 hours (<0.05) (mean reduction 35%) and 26 patients (45%) achieved a ≥50% decrease of baseline proteinuria. Serum CRP <1.2 mg/dL was associated to proteinuria reduction ≥50% (OR: 13.8; 95%CI: 2.0-95.1, p=0.008). Renal function, with a significant decline during the 2-year period before treatment, remained stable during paricalcitol treatment. C-Reactive Protein (CRP) showed a significant decrease with paricalcitol. Paricalcitol doses were reduced since the third month of treatment until the end of the follow-up (4.1±1.8 μg/week to 3.3±1.2 μg/week, p=0.05). Mild increases of serum calcium (10-10.5 mg/dL) and phosphorus (4-4.5 mg/dL) were detected in 4 (6.9%) and 7 (12.1%) patients, respectively, and responded to reduction of doses.

Conclusions: Oral paricalcitol is a safe and efficacious therapy of SHPT in kidney transplant patients, reducing residual proteinuria as well as systemic inflammation.
characteristic disease-specific HDL protrome. Of note, alterations of HDL were virtually identical between patients with CKD I-II and III-IV and independent of transplant vintage and both were similar to ESRD patients. Furthermore, transplant HDL displayed decreased cholesterol capacity, but substantial increase in free cholesterol in PBMCs of the patients. Finally, impaired anti-inflammatory HDL function could be demonstrated by increased expression of inflammatory cytokines including IL-6, IL-12p40 and TNF-α in monocytes compared to healthy HDL.

**Conclusions:** We demonstrated unique modifications of HDL from renal transplant recipients at the molecular and functional level. Importantly, remodeling of HDL including enrichment of distinct proteins previously identified from uremic HDL was also observed in patients with excellent graft function independent of the transplant vintage. These data not only help to unveil the causes of the excessive cardiovascular risk in renal transplant patients, but may also pave the way for novel diagnostic and innovative therapeutic directions.

**Introduction and Aims:** The utilization of expanded criteria donor (ECD) kidneys needs to be evaluated within the objective perspective of critical organ shortage and graft function and survival. Our objective was to compare the clinical outcomes of expanded criteria (ECD) in concurrent standard criteria (SCD) deceased donors in adult renal transplantation.

**Methods:** Between February 2000 and December 2011, we performed 195 deceased donor renal transplants included 31 grafts (15.9%) from ECD and 164 grafts (84.1%) from SCD. ECD kidneys were classified by the UNOS definition. Donor and recipient risk factors were separately analyzed and correlated with recipient graft function and survival (minimum 6-month follow-up).

**Results:** ECDs were older (56.8±6.3 yrs), showed an increased incidence of hypertension, diabetes mellitus and cerebrovascular brain death, and had a higher pre-replacement serum creatinine level compared with SCDs. ECD kidney recipients had a shorter survival (minimum 6-month follow-up).

**Introduction and Aims:** NMSCs are one of the most common human malignancies. EV-HPV infections occur more frequently in transplant (Tx) patients receiving immunosuppressive therapy than in the immunocompetent (IC) population but exact mechanism of carcinogenesis and types of viruses responsible for that process are still uncertain. We investigated the association between the presence of betaHPV in NMSCs and healthy skin in Tx recipients and IC population.

**Methods:** Skin biopsies (NMSC and healthy skin) were taken from 28 patients (11 Tx and 17 IC). Samples: 22 (8 Tx, 14 IC) from basal cell carcinoma (BCC) and 6 (3 Tx, 3 IC) squamous cell carcinoma (SCC) were tested for the presence of 25 different beta-HPV genotypes, including HPV 5, 8, 9, 12, 14, 15, 17, 19-25, 36-38, 47, 49, 75, 76, 80, 92, 93, and 96. DNA HPV was detected with the use of PCR with biotinylated PM primer set and by means of hybridization [RHA skin (beta) HPV assay, Diassay BV, The Netherlands].

**Results:** In this study, EV-HPV DNA within the area of NMSCs were detected in 9/11 examined Tx patients (81.8%) and in 5/17 IC patients (29.4%) (p=0.016). EV-HPV DNA in the clinically healthy skin was also more frequently found in Tx patients (4/9 patients, 44.5%), compared to the IC population (4/14 patients, 28.6%).

**Introduction and Aims:** The impact of non-HLA antibodies directed against endothelin-1 type A receptors (ETAR) on early renal transplant outcomes.

**Methods:** We evaluated the presence of anti-ETAR Abs in 116 consecutive renal transplant recipients in pre- and post-transplant screening (before and in 1st, 3rd, 6th, 12th month after transplantation). Additionally we assessed the presence of anti-HLA Abs. Anti-ETAR Abs were assayed by ELISA (Cell-Trend). The presence of Anti-HLA Abs was tested by Flow-FRA method (One Lambda). The diagnosis of acute rejection was based on Banff criteria. The immunosuppression consisted of: TAC, CSA, MMF, steroids and occasionally basiliximab.

**Results:** Anti-ETAR Abs were observed in 55 (47.4%) of the analyzed recipients before transplantation. The patients were divided into two groups: anti-ETAR positive (n=55) and anti-ETAR negative (n=61). The function of renal transplant was significantly worse in anti-ETAR+ group compared to anti-ETAR- group during first post-transplantation year (Table 1).

**Introduction and Aims:** EV-HPV presence in the examined NMSCs lesions occurred significantly more often in Tx patients, comparing to the IC population (81.8 vs. 28.4%).

**Conclusions:** The presence of anti-ETAR antibodies is associated with a worse renal transplant function during the first 12 months after transplantation. Anti-ETAR antibodies should be considered to be included in diagnostics of renal transplant recipient immune status for comprehensive assessment of humoral alloimmunity.

**Introduction and Aims:** The impact of non-HLA antibodies (Abs) targeting vascular receptors is considered to have an influence on renal transplant injury. Anti-Endothelin-1 type A receptor antibodies (anti-ETAR) were associated with rejection and early onset of vasculopathy in heart transplant patients but their role in renal transplantation remains unclear. The aim of our study was to assess the incidence and importance of anti-ETAR antibodies and their impact on renal transplant during first year observation.

**Methods:** We evaluated the presence of anti-ETAR Abs in 116 consecutive renal transplant recipients in pre- and post-transplant screening (before and in 1st, 3rd, 6th, 12th month after transplantation). Additionally we assessed the presence of anti-HLA Abs. Anti-ETAR Abs were assayed by ELISA (Cell-Trend). The presence of Anti-HLA Abs was tested by Flow-FRA method (One Lambda). The diagnosis of acute rejection was based on Banff criteria. The immunosuppression consisted of: TAC, CSA, MMF, steroids and occasionally basiliximab.

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**Conclusions:** The presence of anti-ETAR antibodies is associated with a worse renal transplant function during the first 12 months after transplantation. Anti-ETAR antibodies should be considered to be included in diagnostics of renal transplant recipient immune status for comprehensive assessment of humoral alloimmunity.
Introduction and Aims: Renal transplant (RT) is burdened by huge cardiovascular (CV) mortality which is 10 to 50 fold higher than general population, due to worsened CV risk factors. Among these, reduced physical activity (PA) is a modifiable major one and it favors diabetes, dyslipidemia, obesity, metabolic syndrome, hypertension. Hence, PA may impact on both graft and patient survival, but no reliable data on PA exist in RT patients. This in an observational, controlled study aimed at measuring duration and intensity of PA in RT patients.

Methods: We recruited 110 stable renal transplanted patients (RTx) from at least 6 months and 110 healthy controls (CON). All of them underwent anthropometric measures and continuous measurements of PA along 3 consecutive days by means of SenseWear Armband. BodyMedia, Pittsburgh, USA, a clinically-validated accelerometer device able to collect duration and intensity of PA in a free-living context. IPAQ questionnaire was also administered to evaluate the subjectively reported PA data.

Results: Males were 46% in both groups. RTx-age was 48.3±13.9 y; RTx patients were comparable to CON for age, 46.8±13.9 vs. 48.1±13.5 y. Body weight, 74.5±14.8 vs. 75.3±13.7 kg and BMI, 28.0±5.1 vs. 27.2±5.5 kg/m². Number of steps was lower in RTx patients than in CON, 9.27±4.17 vs. 11.10±4.03 steps/day (p<0.001). Intensity of PA, expressed as daily average METs, resulted similar in RTx and CON (1.5±3.2 vs. 1.5±3.2 METs/day). Duration of PA and moderate (intensity PA i.e. ≥ 3 METs) was similar in Males (166.1±32 vs. 135.8±66 min/day), but lower in RTx Females (97.8±4 vs. 138.1±133 min/day, p<0.05) than CON Females. In RTx the number of steps per day inversely correlated with body weight (r=-0.252, p<0.01) and BMI (r=-0.288, p<0.01); intensity of PA, in addition to BW and BMI, even inversely correlated with METs/day (p<0.01). Despite the reduced PA reported by accelerometer, 89% of RTx declared a subjective perception of PA of moderate-high degree by IPAQ.

Conclusions: Renal transplanted patients showed a reduced physical activity, mainly as duration but also as intensity, in female group at least. Reduced physical activity is age/ gender related and the major modifiable determinant is increased body weight. Despite the low physical activity, renal transplanted patients has a subjective perception of adequate physical activity.

**SP666 RELATIONSHIP BETWEEN LIPID PEROXIDATION AND ARTERIAL STIFFNESS IN RENAL TRANSPLANTED PATIENTS**

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Introduction and Aims: Lipid peroxidation and atherosclerosis development remain accelerated in patients with chronic renal failure even after renal transplantation. Oxidative stress and inflammation facilitate atherosclerosis develepoment all over the peripheral, central and coronary arteries. We investigated the connection between lipid peroxidation and arterial stiffness parameters after renal transplantation.

Methods: 131 renal transplanted patients (46.40±14.20 years) and 63 healthy controls (48.20±10.80 years) were involved in this study. Fasting serum creatinine, urea, cystatin-C, homocysteine, lipids, glucose, C-reactive protein (CRP), asymmetric-dimethyl arginine (ADMA), adiponectin (ADPN), leptin (LEP) concentrations were measured with ELISA and paraoxonase (PON1), arylersterase activities were measured spectrophotometrically. Arterial stiffness parameters (PWV-pulse wave velocity, AIx augmentation index, PP systolic area index, systolic area index, DIA-diastolic index, systolic and diastolic blood pressure, and MAP-mean arterial pressure) were measured with Arteriograph (TensioMed).

Results: In case of kidney transplanted patients with dyslipidemia we found significant lower PON1 activity (10.71±5.23 U/L) compared to controls (p<0.01). Significant negative correlation were found between serum cystatin-C level, homocysteine (p<0.05), and ADMA (p<0.05), and there was significant positive correlation in case of homocysteine and ADMA concentrations. Significant positive correlation were found in case of PON1 activity and PWV (r=0.2315, p<0.0488); DAI, LDL, LEP (p<0.0452), and total cholesterol (p<0.0301); MAP (p=0.0057) and ADMA concentrations. There was positive correlation between PWV and CRP (p=0.03); PWV and total cholesterol (p=0.0125); PWV and LDL (p=0.0145). In obese transplanted patients we measured significant higher LDL and leptin levels (p<0.05). Positive correlation was found between PWV and Alx; systolic diastolic blood pressure and MAP (p<0.01).

Conclusions: Reduced paraoxonase activity, enhanced ADMA levels together with arterial stiffness parameters are objective, suitable predictive markers of cardiovascular diseases.

**SP667 HOW TO IDENTIFY ECD POSITIVE DONORS AT LOWER RISK OF DELAYED GRAFT FUNCTION**

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Introduction and Aims: Organ shortage leads to increased use of extended criteria donors (ECD) kidneys that are at high risk of delayed graft function (DGF). Nowadays, no consensus on assessment of donor organ quality exists. Furthermore, ECD classification forms heterogeneous donor cohort with unequal risk of DGF. The aim of this study was to determine factors that may better predict the risk of DGF of ECD positive donors.

Methods: In this retrospective single centre cohort study, histological assessment of donor renal biopsy as well as clinical variables, including the assignment to extended criteria donors, were used to calculate the risk of DGF after kidney transplantation. Biopsies were evaluated according to Banfi criteria 2007. The total Banff score was defined as the sum of interstitial fibrosis (CI), tubular atrophy (CT), arteriolar hyaline thickening (AH), fibrous intimal thickening (CV) and fraction of sclerotized glomeruli (GS).

Results: 126 (36.6%) out of 344 patients developed DGF after kidney transplantation. In the univariate analysis, histological score for CI, CT and CV as well as total Banff score was increased in patients with DGF. In the GLM with logit link, only CI and CV remained independent predictors of DGF (p<0.01). Therefore, for the purpose of the study, new composite variable named CIV score was introduced by summig CI and CV. ROC analysis revealed no difference in prediction power between conventional total Banff score and the new composite CIV score (p=0.053). However, after applying the GLIM, CIV score [OR 2.68, 95% CI (1.55-4.66), p<0.001] together with clinical variables has been shown to be superior to combination of total Banff score [OR 1.48, 95% CI (0.85-2.55), p= NS] and clinical variables. Classification tree analysis correctly classified the risk of DGF in 88.2%, CIV score ≥1, donor age over 51 years and hypopoa death were associated with the highest risk of DGF. Moreover, recipients of grafts with CIV <1 experienced DGF only in 21.2% compared to 48% in grafts with CIV ≥1. Even further, CIV ≤1 enabled to identify a subgroup of ECD+ individuals with lower risk of DGF. Risk of ECD+ individuals with CIV<1 was comparable to ECD- individuals (29.3% vs. 28.4%, p=NS). This suggests superiority of CIV score over the ECD score. Conclusions: Our study brings out a novel histological score which along with clinical variables may better predict the risk of DGF than conventional total Banff score. Moreover, composite CIV score might help to identify ECD+ subject at lower risk of DGF.
Methods: KIM-1 and NGAL levels were measured by ELISA in 24-hour urine samples collected within the first year after transplantation but not within a 2-week proximity of the surgery or transplant biopsy. We determined the predictive value for time to 50% and 100% decline in renal function or death-censored graft failure by Cox regression and incident/dynamic (I/D) ROC analyses. We evaluated whether they have a predictive value when eGFR is still within the good range and therefore performed all analyses separately in patients with baseline eGFR >50 mL/min.

Results: Baseline samples of 412 transplant recipients were included with a median of 54 days (IQR 44 – 77 days) and a follow-up of 1054 (554 – 1811 days). The concentration of KIM-1 and NGAL associated with the extent of albuminuria (respectively r = 0.40 and 0.43, P<0.0001), proteinuria (r = 0.44 and 0.39, P<0.0001) and the eGFR (r = 0.27 and 0.39, P<0.0001). KIM-1 also associated with the urine volume (r = 0.22, P=0.007). KIM-1 did not associated with 50% (HR per 0.99, 95% CI 0.87-1.12) or 100% (HR 1.01, 95% CI 0.88-1.17) decline in eGFR or graft failure on follow-up. Urinary NGAL neither associated with 50% (HR per 100 ug/24 h 1.00, 95% CI 0.95-1.05) and 100% (HR 1.00, 95% CI 0.95-1.06) decline in eGFR or graft failure. The corresponding 1, 3 and 5 year I/D ROC AUCs for 50% and 100% decline in eGFR were comparably low for KIM-1 and NGAL excretion. When only investigating the patients with a baseline eGFR of >50 mL/min, NGAL (not KIM-1) excretion associated with 50% (HR per 100 ug/24 h 1.51, 95% CI 0.99 – 2.32, P=0.06) and 100% decline in renal function (HR 1.75, 95% CI 1.22-2.72, P=0.01). However, the corresponding 1, 3 and 5 year I/D ROC AUC for 50% and 100% decline were low for both KIM-1 and NGAL.

Conclusions: Urinary excretion of KIM-1 and NGAL measured within the first year after surgery have no prognostic value with all calculated incident dynamic C-indices below 0.60 indicating limited discriminative value.

Introduction and Aims: Post-transplantation is associated with various comorbidities. High urological malignancy incidence was reported in end-stage renal disease (ESRD) patients on dialysis. This study was undertaken to evaluate whether kidney transplantation (KT) aggravates urological malignancy risk in ESRD patients.

Methods: We used claims data of the Bureau of National Health Insurance of Taiwan for analysis. All KT recipients who developed urological malignancy from 1st January, 2008 to 31st December, 2012 were included. The follow-up period for each KT recipient was from the date of transplantation to the date of malignancy diagnosis or the date of death (if occurred before the diagnosis of malignancy). We used cumulative survival rate (p=0.215).

Results: A total of 249 patients over a pool of 277 transplant patients on follow-up in a large renal unit serving a 700,000 residents area. The baseline eGFR (MDRD) was 54±24 mL/min/1.73m² and the median follow-up was 10.7 years (range 1-29 years). We used repeated measures of a quantitative trait (eGFR) as an outcome measure to maximize the study number. The KT recipients had lower prevalence of diabetes mellitus (p<0.001), C-hepatitis (p=0.0016) and liver cirrhosis (p<0.001). The cumulative incidence rate was significantly higher in the KT patients than those without transplantation (p<0.001). Even though the overall rate of renal function loss was modest also in patients receiving KT (the allele associated with low plasma ADMA), the rate of graft function loss (median: 0.10 mL/ min/year) in this group was several fold (≥3) higher than in those without such a genotype (p=0.03). Further analyses adjusting for age, BMI, HLA score, baseline eGFR, proteinuria, waiting time to renal transplant, type of transplantation (living vs cadaveric donor) did not modify the strength of this association (p=0.43, 0.03, 0.03, 0.0016).

Conclusions: This study implies a role of the A allele in the rs17384213 polymorphism of the DDAH1 gene in mediating renal function loss in chronic allograft dysfunction independent of established risk factors and proteinuria. Furthermore, these findings indicate that it is much unlikely that the link between ADMA and allograft dysfunction in previous studies be causal in nature. Full clarification of the role of DDAH1 in allograft dysfunction may help the development of treatments aimed at countering chronic allograft dysfunction in transplant patients and at retarding the evolution of renal disease in CKD patients.

Introduction and Aims: There is a wide variation in the practice of maintaining anonymity before and after living donor transplantation in both unsponsored donation (altruistic donors) and specified indirect donation (paired exchange programmes). Further debate and clarification of the ethical and normative issues is clearly required.

Methods: A multidisciplinary team, including transplant surgeons, physicians, ethicists, philosophers, coordinators, lawyers and psychologists was convened by the working group living donation of ELPAT section of ESOT consider this issue. A ethicists, philosophers, coordinators, lawyers and psychologists was convened by the working group living donation of ELPAT section of ESOT consider this issue. A multidisciplinary team, including transplant surgeons, physicians, ethicists, philosophers, coordinators, lawyers and psychologists was convened by the working group living donation of ELPAT section of ESOT consider this issue.

Results: Some countries practice complete anonymity in perpetuity, whilst others make no attempt to ensure anonymity at all. Others adopt a permissive approach, with anonymity preserved prior to transplantation, but allow removal of anonymity by mutual consent of donor and recipient several months after transplantation. Examples of significant harm to both donor and recipient from loss of anonymity were identified, including withdrawal from transplantation, implicit or explicit demand for reward and loss of idealisation. The main ethical argument against preserving anonymity was that this was paternalistic, whilst practical difficulties in enforcement were identified.
Conclusions: There was a clear recommendation that anonymity should be maintained prior to either unspecified or specified indirect transplantation. Preservation of anonymity subsequently was considered ideal, and should only be lost under carefully controlled conditions to minimise potential harm to both donor and recipient. Further studies with unspecified donors and their recipients are needed to consider when to offer the opportunity to both donor and recipient to meet each other. Reference: Anonymity and live donor transplantation: An ELTAT view. Mamode N. et al Transplantation in press.

SP674 KIDNEY TRANSPLANTATION AMELIORATES CARDIAC FUNCTION IN DIABETIC PATIENTS WITH END-STAGE RENAL DISEASE

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Introduction and Aims: Cardiac disorders are very common in individuals with chronic kidney disease and are associated with high morbidity and mortality. The purpose of this study was to evaluate the impact of successful kidney transplantation on chronic and diabetic ventricular dysfunction in patients with end-stage renal disease (ESRD).

Methods: We prospectively evaluated 200 patients with ESRD, immediately before and one year after kidney transplantation, using tissue Doppler echocardiographic study. The left ventricular ejection fraction, systolic and diastolic function parameters were analysed.

Results: The mean age was 41.6 years and 40% of patients were diabetic. We observed a reduction in left ventricular diastolic diameter (52.3 ± 4.95 mm, p = 0.021) after kidney transplantation. The ejection fraction increased compared to basal assessment (69.7% vs. 45.8%, p < 0.01). The prevalence of diastolic dysfunction decreased 47% during the evaluated period. Amelioration of all of the parameters mentioned above was even better in diabetic patients.

Conclusions: Kidney transplantation is known to lead a considerable improvement in left ventricular systolic and diastolic function of patients with ESRD, and the results seem even more optimistic for the diabetic patients who have higher mortality on dialysis.

SP675 INSULIN HYPOSECRETION PREDICTS NON-RESPONSE TO MAGNESIUM SUPPLEMENTATION IN RENAL TRANSPLANT RECIPIENTS

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Introduction and Aims: Insulin resistance and hyposecretion are common after transplantation. Hypomagnesemia is associated with glucose metabolism disorders in both transplanted and non-transplanted patients. Magnesium (Mg) supplements previously improved insulin sensitivity in non-diabetic overweight persons in the general population. We aimed to prospectively evaluate the effect of magnesium supplementation on insulin resistance and secretion.

Methods: Two-center, randomized, 6-month, open label trial comparing Mg supplementation (magnesium oxide 450mg up to thrice daily) aiming at normalizing serum Mg concentration (n=24) versus no Mg supplements (n=24) in intention to treat analysis. Included patients are adult tacrolimus-treated non-diabetic renal transplant recipients with serial hypomagnesemia (<1.8mg/dL) > 6 months after transplantation. At month 3 we performed an OGTT with measurement of AUC of glucose by the trapezoidal rule, insulin resistance (HOMA) and derived insulin secretion indices baseline and 6 months after inclusion (primary outcome) next to HbA1c (secondary outcome).

Results: 52 patients were originally randomized, of which 4 had early drop-out due to compliance issues. Mean age was 53.1±13.3 in a 60.4% male population with mean BMI of 23.7±3.9 and a median time of 51(26-86) months after transplantation. Magnesium supplementation (mean dose 688.5±236.9mg) was unable to increase serum Mg (Δ0.08±0.14 vs 0.11±0.18mg/dL) nor intra-erythrocytic magnesium (Δ0.25±0.46 vs 0.18±0.27mg/dL) more than controls. Tacrolimus levels were higher at month 6 in the treatment vs. the control group (7.92±2.48 vs. 6.59±1.75 ng/mL; p=0.042). Alterations in HOMA-IR, first phase insulin secretion (FPIR), second phase insulin secretion (SPIR), deposition index (DI) and HbA1c were non-significant. Magnesium non-responders had lower FPIR (1032.5±588 vs. 1544.9±982; p=0.049), SPIR (283±141 vs. 388±243; p=0.07) and higher baseline AUC glucose (149.7±48.8 vs. 113.9±22.6; p=0.002) than responders and this difference persisted 6 months after randomization with a lower FPIR (971±694 vs. 1036±1112; p=0.03), SPIR (266±162 vs. 425±272; p=0.033) and a higher AUC glucose (146.2±51.1 vs. 122.1±25.1; p=0.044). Non-responders had no differences in HOMA-IR nor DI. No patients discontinued supplementation due to adverse events.

Conclusions: Ineffectiveness of oral Mg supplementation to alter Mg status precludes evaluation of potential effects on glucose metabolism. This ‘Mg resistance’ is predicted by insulin hyposecretion, suggesting that hypomagnesemia is a consequence of a disturbed glucose metabolism rather than a cause. Trial registration Clinical Trials NCT01291030.
SP676 COMPARISON OF SKIN CHANGES BETWEEN PATIENTS ON MAINTENANCE DIALYSIS AND AFTER KIDNEY TRANSPLANTATION

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Introduction and Aims: Due to graft preserving immunosuppressive therapy renal transplant recipients (RTR) are predisposed to the development of variety skin infections and skin cancers. The aim of the study was to evaluate frequency of skin lesion among RTR and dialyzed population.

Methods: The clinical dermatological examination was performed in 484 patients after renal transplantation (early detection of skin changes in RTR program) consisted of 295 man and 189 woman in the mean age 46.1 +/- 13 years with median time after transplantation 74.3 +/-52.1 months. The group of 112 dialyzed patients (57 male and 55 female) aged 57.4 +/- 15.4 years without history of immunosuppressive therapy were collected.

Results: From the studied group of RTR 38.5% have viral warts mostly localized on the hands (91.9%). Fungal infection was observed in 25.9% of patients. Clinical diagnosis of interdigital mycosis was made in 14.8% of patients and pityriasis versicolor in 7.2%. Acne was observed in 16.5 % of patients. Less frequent complications were observed in the group of dialyzed patients. In 30 RTR patients 58 skin tumors were diagnosed; 17 patients were diagnosed with multiple neoplasms. In dialysed group 13 neoplastic lesions were found.

Conclusions: The prevalence of viral warts, pityriasis versicolor and interdigital tinea in our population agree with those of other similar series. Less common incidence of skin cancers was probably related to the relatively short time of immunosuppression and younger age of patients comparing to other studies. The most of carcinoma lesions occurred in patients treated with azathioprine. However this compound was used only in 34.3 % of patients.

SP676

INFLAMMATION AND OXIDATION IN KIDNEY TRANSPLANT PATIENTS. IS THERE A RELATIONSHIP WITH MORTALITY?

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Introduction and Aims: Inflammation and oxidation are both increased in chronic kidney disease. It is known that kidney transplant (KT) improves these situations but it doesn’t normalize them.

Aims: To study inflammation and oxidative states that exist previous KT and at 3 months after KT in patients undergoing KT. To analyze the relationship that may exist between both (inflammation and oxidation) with mortality.

Methods: 196 KT between 2003 and 2008. 68% were male. Mean age: 51.8±12.5 years old. Time on dialysis: 28.6±24.7± months. 19.8% had diabetes mellitus (DM) and 14.8% had cardiovascular disease (CVD) before KT. We analyze the inflammation markers (MIF); C-reactive protein (CRP), interleukin 6 (IL-6), tumoral necrosis factor α (TNFα), soluble receptor interleukin 2 (sR-IL-2) and soluble receptor TNFα (sR-TNFα); and oxidation markers: oxidized low-density lipoprotein (oxLDL); anti-oxidized low-density lipoprotein antibodies (oxLDL Abs); before and at 3 months after KT. We calculated glomerular filtration rate by MDRD formula.

Results: Global mortality until April 2012 was 13.8% (27/196). Patients who died had a worse inflammation state at 3 months after KT: IL-6 (8,23±6,45 vs 6,15±5,53; p=0.012), sR-TNFα (6,12±3.57 vs 4.35±3.48; p=0.005), and an impaired renal function: MDRD 34,5±12.47 vs 47.91±15.74; p<0.0001). There were no statistically significant differences between inflammation markers previous KT. 41.7% of KT patients who died had oxLDL Abs higher than P75:3,770UI/ml (p=0.046). The multivariate analysis, using as a dependent variable the mortality and as covariants: age, gender, DM previous KT, CVD previous KT and all these at 3 values at 3 months after KT. MDRD, IL-6, sR-TNFα, oxLDL (P<0.05), oxLDL Abs (P<0.05); show as independent risk factors of mortality: age [OR:1,068, IC95%: 1,011-1,127; p=0,018], oxLDL P 75 [OR:3,27, IC95%: 2,10-23,28] and MDRD [OR: 0,910, IC95%: 0,863-0,959; p=0,000].

Conclusions: Kidney transplant patients with a worse inflammation state, a worse oxidative state and with an impaired renal function have a higher mortality. Independent predictive variables of mortality were age, oxidation markers and kidney function at 3 months after transplantation.

SP677 MDRD VERSUS CKD-EPI EQUATION TO ESTIMATE GLOMERULAR FILTRATION RATE IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction and Aims: The new Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) creatinine-based equation was developed in order to elucidate the systematic underestimation of the glomerular filtration rate (GFR) by the Modified of Diet in Renal Disease (MDRD) study equation in patients with a relatively well-preserved kidney function. The performance of the new equation for kidney transplant recipients is discussed.

Methods: We analyzed the performances of the CKD-EPI equation in comparison to the MDRD Study equation in 825 stable kidney transplant recipients. Bias, precision and accuracy within 30% of true GFR were determined. GFR was measured by urinary clearance of inulin (n=488) and plasma clearance of 99m-Tc-DTPA (n=337).

Results: Mean measured GFR was 50 (±19) mL/min/1.73 m². On the whole cohort, bias was significantly lower for MDRD Study equation as compared to CKD-EPI creatinine. This superiority translated into a better accuracy (80% and 74% for the MDRD and CKD-EPI creatinine, respectively). The best performance of the MDRD study equation was confirmed both in the subgroups of patients with measured GFR<60 mL/min/1.73 m² and between 60 and 90 mL/min/1.73 m². For GFR-90mL/min/1.73m², there was no significant difference between the two equations in term of performance.

Conclusions: The CKD-EPI creatinine equation does not offer a better GFR prediction in renal transplant patients as compared to the MDRD Study equation, even for the highest CKD stages.

SP678 THE AVAILABILITY OF PRE-OPERATIVE GERIATRIC NUTRITIONAL RISK INDEX(GNRI) INKIDNEYTRANSPLANT RECIPIENTS

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Introduction and Aims: Malnutrition is a prevalent condition in chronic dialysis patients and seems to be a risk factor for mortality. The clinical significance of nutritional assessments in pre-operative kidney transplant recipients has not been elucidated sufficiently. Geriatric nutritional risk index (GNRI: 1.489×albumin (g/dL) +1.17×body weight/ ideal body weight) is a simple nutritional assessment tool for chronic dialysis patients. We hypothesized that pre-operative GNRI might predict renal and systemic conditions after kidney transplantation.

Methods: We examined 45 patients who received kidney transplantation at our center from July 2007 to June 2011 and retrospectively surveyed their clinical courses for 12 months after transplantation. Wilcoxon rank sum test and Mann Whitney test were used to analyze the data.

Results: Patients were divided into two groups: "High-GNRI group">99 and "Low-GNRI group" <=99. A significant improvement for GNRI, serum albumin and serum C-reactive protein levels were noted in low-GNRI group at 1-year after transplantation (P<0.05, respectively). The impaired glucose metabolism emerged at a...
significant higher rate in low-GNRI group (P<0.05) after transplantation. There were no significant relationship between GNRI and the episodes of post-operative complications such as DGF, graft loss, infection, and cardiovascular events.

Conclusions: Kidney transplantation promoted the better post-operative recovery in nutritional status and inflammation condition particular in malnourished patients, while the rapid nutritional recovery might induce the new-onset impaired glucose metabolism. GNRI is available for the pre and post-transplant nutritional evaluation and expected to be a predictive marker for post-operative diabetes mellitus (PODM).

IS BASILIXIMAB INDUCTION, A NOVEL RISK FACTOR FOR NEW ONSET DIABETES AFTER TRANSPLANTATION FOR LIVING DONOR ALLOGRAFT RECIPIENTS?

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Introduction and Aims: Basiliximab by affecting populations of T lymphocytes indirectly affects β-cell function leading to impaired glucose homeostasis. The study was aimed to prove basiliximab induction, as a novel risk factor for new onset diabetes after transplant (NODAT) in renal transplant recipients.

Methods: In this prospective observational study, we included renal allograft recipients from 1st July 2007 to 31st July 2011 at our tertiary care institute. The overall incidence of hyperglycemia [transient hyperglycemia, impaired fasting tolerance (IFT), impaired glucose tolerance (IGT) and NODAT] was compared between two groups of patients with and without Basiliximab. The risk factors predicting NODAT were also analyzed on multivariate logistic regression analysis. NODAT was labeled when the diagnosis of diabetes mellitus was confirmed with fasting plasma glucose ≥126mg/dl or 2-hour plasma glucose ≥200mg/dl. IGT was defined as 2-hour plasma glucose ≥140mg/dl and ≤200mg/dl and was defined by fasting plasma glucose ≥110mg/dl and ≤126mg/dl. The patients with IFG, IGT, and those with occasional rise in blood sugar level on monitoring with glucometer and requiring insulin therapy were labeled as transient hyperglycemia.

Sample size and power of the study calculation: With assuming null hypothesis of no difference in percentage of NODAT between patients with and without Basiliximab induction, with maximum allowable difference between these proportions that still results in equivalence of 30% and the actual difference of the proportions of 15%, 400 sample sizes of the study population were required to achieve 98 % power of the study that is the power to reject the null hypothesis. We had 439 eligible patients for data analysis after exclusion in our study.

Results: Of the 439 eligible study patients, 105 patients received Basiliximab and 334 patients did not. Overall hyperglycemia (transient hyperglycemia, IFT, IGT and NODAT) was detected in 102/334 (30.5%) patients without induction and 44/105 (41.9%) patients with induction (p=0.03). Of the 102 patients with hyperglycemia in patients without Basiliximab, 46 (45.1%) patients improved, while only 10 (22.7%) of the 44 patients with Basiliximab improved (p=0.016) at end of 3 months. Finally, NODAT was observed in 33 (9.9%) and 23 (21.8%) in patients without induction and 20/334 (30.5%) patients with induction. The relative risk of NODAT with Basiliximab induction was 2.395% (CI 1.4-3.9) compared to that of patients without this induction. Basiliximab induction and HCV infection were the independent risk factor for development of NODAT.

Conclusions: Basiliximab induction predicts acute rejection; however is an independent risk factor for NODAT in renal transplant recipient.

EFFECTIVENESS AND SAFETY OF ENZYME REPLACEMENT THERAPY (ERT) IN A COHORT OF KIDNEY TRANSPLANT RECIPIENTS WITH FABRY DISEASE

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Introduction and Aims: Enzyme replacement treatment (ERT) was introduced in 2001 as a treatment option for patients with Fabry disease. The Fabry Outcome Survey (FOS, sponsored by Shire HGT) is a worldwide outcome database, established to monitor long-term effectiveness and safety of agalsidase alfa ERT. This analysis presents clinical data of kidney transplant recipients (KTRs) with Fabry disease.

Methods: The effects of long-term agalsidase alfa (0.2mg/kg every other week; Shire HGT) on renal outcomes were analyzed using Fabry patients’ data in FOS. Estimated glomerular filtration rate (eGFR) was calculated using the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation. Hypertension was considered a blood pressure measurement of >120/80 mm Hg.

Results: Renal function was analysed in 93 KTRs (78 ERT treated before or after transplant surgery; 15 untreated). For the 78 treated KTRs, 53 (67.9%) had kidney transplants before start of treatment; the mean (SD) time on ERT until last visit was 3.7 (3.1) years. During the observation time, the average eGFR slope per year declined numerically steeper in untreated versus treated patients in both males and females. Further comparison promoted untreated and treated cohorts should be avoided as the latter were predisposed to more severe disease at baseline, and follow-up measures were not corrected for this difference. Patients with baseline proteinuria had poorer graft function at follow-up compared with patients without baseline proteinuria. Additionally dialysis treatment before transplantation had no negative impact on later graft function. Only minor side effects or infusion-related reactions were reported.

Conclusions: In this study, graft function in KTR Fabry patients remained stable on ERT.

RISK FACTORS ON SURVIVAL OF RENAL TRANSPLANT WAITING LISTED PATIENTS: A SINGLE CENTRE ANALYSIS FROM DATA OF RENAL REGISTRY

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Introduction and Aims: Renal transplantation may offer survival benefit over dialysis for end stage renal failure patients who were registered in transplant waiting list. Hong Kong Renal Registry records data of end stage renal patients who are put on transplant waiting list and who received a renal transplant. We aim at examining the risk factors associated with survival of patients who are put on renal transplant waiting list.

Methods: All the patients who were put on renal transplant waiting list and who received a renal transplant graft between Jan 1994 and Oct 2012 were identified by the Organ Transplant Registry System of a regional hospital in Hong Kong East cluster and were recruited in the analysis. Life table was created for the survival after initiation of renal replacement. Cox regression hazard model was used to identify independent risk factors for survival of patients. Analysis was performed in a intention-to-treat manner.

Results: 813 end stage renal failure patients were identified. After excluding 155 patients who had a pre-emergent renal transplant, 658 patients were recruited for the analysis. Three patients received 2 or more renal grafts. 210 (31.9%) patients received a renal transplant while 448 (68.1%) patients continued to have dialysis. 237 (36%) patients died. Mean age of renal replacement therapy was 49.5 ± 11.9 years. Female-to-male ratio was 1.84. At the time of renal replacement, the prevalence of DM, HT, ischamic heart disease and stroke were 42.7%, 80.4%, 24.6% and 3.8%, respectively. Mean duration of renal replacement was 6.3 ± 50 years. 1, 5, 10 and 15 year survival (graft failure censored) of renal transplant were 98.6%, 92.2%, 81.9% and 74.4%, while those receiving dialysis were 90.6%, 92.8%, 75.5% and 72.5%, 4.3%, respectively. Cox model showed 3.1% increase in risk of death for every year increment in age at the time of renal replacement (p<0.001). DM status and history of ischemic heart disease increased risk of death by 2.2 fold (p=0.000) and 1.3 fold, respectively. Counting dialysis was associated with higher risk of death (HR=5.24; p=0.000) compared with renal transplant recipients.

Conclusions: Renal transplant offers significant survival benefit in end stage renal patients who were put on transplant waiting list. Age at the initiation of renal replacement, history of DM and ischemic heart disease were independent risk factors.

RED CELL DISTRIBUTION WIDTH IS ASSOCIATED WITH MORTALITY IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction and Aims: Red Cell Distribution Width (RDW), a parameter routinely reported as part of the complete blood count (CBC), is associated with increased morbidity and mortality risk in different patient populations. No published data are available about the association between RDW and mortality in kidney transplant recipients.

Methods: We collected socio-demographic, clinical parameters, medical and transplant history and laboratory data at baseline in 723 prevalent kidney transplant recipients between June and October 2008 (mean age 51 ± 13 [SD] years, 56% men, 21% diabetics). Associations between baseline RDW values and all-cause mortality over 3 years were examined in unadjusted and adjusted models (adjusted for: estimated glomerular filtration rate [eGFR], age, gender, iron status markers, hemoglobin, serum albumin, C-reactive protein, abdominal circumference, Charlson Comorbidity index, total time in ESRD, steroid use, mammalian target of rapamycin [mTOR] use, ACEi or ARB use, iron and folic acid supplementation).

Results: Of the 723 participants 81 patients died and none was lost to follow-up during a median follow-up of 35 months. The unadjusted mortality rate was significantly higher among patients in the “high” (median) RDW group (crude mortality rates in the “high” group: 6.4/1000 patient-years [95% CI: 5.4–8.14]; “low” RDW group: 20.5/1000 patient-years [95% CI: 13.5–31.1]; p=0.001). Increasing RDW was associated with increased mortality in both unadjusted (HR1% increase = 1.63; 95% CI: 1.41–1.89) and [HR(smodel) = 2.74; 95% CI: 1.68–4.48] and fully-adjusted models ([HR1% increase = 1.60; 95% CI: 1.27–1.89] and [HR(smodel) = 1.33; 95% CI: 0.76–2.35]). The association of RDW with mortality was uniformly increasing when modeled as a continuous variable and using fractional polynomials and cubic splines in our unadjusted (Figure) model. In reclassification analyses RDW improved the predictive value of all-cause mortality prediction models (the net reclassification improvement (NRI) was [NRI=0.189; p<0.001]).

Conclusions: Our prospective cohort study demonstrated that higher RDW is a significant predictor of mortality in prevalent kidney transplant recipients. RDW provides added prognostic information of mortality in addition to known risk factors and co-morbid conditions. RDW should be included in risk prediction models in order to better estimate mortality risk in kidney transplant recipient.

Abstracts

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practicing in rural areas were less likely (OR: 0.34; 95% CI: 0.19 to 0.73; p=0.004), while those with >10 years of practice were more likely (OR: 1.36; 95% CI: 1.01 to 1.83; p=0.04) to perceive patient age as the most important factor in disparities. Nephrologists from Western Europe were more likely to have received pancreas transplantation (SPK) or pancreas after kidney transplantation (PAK). All of the three studies included SPK and only one also included PTA. All of the studies with >10 years of practice were more likely to consider age as the most important factor in disparities. Patient race was perceived as the most important factor leading to disparities among 12% of the respondents. North American (OR: 3.36; 95% CI: 2.27 to 4.88; p<0.001) and Australian (OR: 3.41; 95% CI: 1.60 to 7.26; p=0.001) nephrologists were more likely and those from Latin America (OR: 0.30; 95% CI: 0.13 to 0.70; p<0.01) and the Middle East (OR: 0.19; 95% CI: 0.05 to 0.80; p=0.02) were less likely to perceive race as the most important factor leading to disparities in IGT. Rural residence, gender and inner city residence were perceived as the most important factors by 6%, 3% and 2% of the nephrologists, respectively.

Conclusions: We conclude that socioeconomic factors are considered the most important causes of disparities in transplantation among the majority of nephrologists, worldwide. Other factors perceived as important contributors to disparities include patient age and race. There are significant geographic and demographic differences in perceptions of causes of disparities among nephrologists. Cultural factors, training and demographic backgrounds of nephrologists are likely contributors to these differences in perception.

SP687 PERFORMANCE OF ESTIMATED GLOMERULAR FILTRATION RATES TO MONITOR CHANGE IN RENAL FUNCTION IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction and Aims: Glomerular filtration rate estimates (e-GFR) are often used to evaluate changes in renal function, but have not been validated for this purpose in kidney transplant recipients (KTR). The aim of this study was to evaluate the validity of e-GFR for monitoring serial changes in renal function in KTR using directly measured GFR by inulin clearance (I-GFR) as the reference standard.

Methods: Performances of inverse serum creatinine (1/creat) and Cockcroft and Gault, Modification of Diet in Renal Disease, and Chronic Kidney Disease Epidemiology Collaboration formulas were assessed to estimate changes in I-GFR.

Results: A total of 1938 I-GFR clearance procedures was performed in 631 KTR who underwent serial measurements between 2003 and 2009. Baseline median I-GFR were 51.0 ml/min/1.73 m² [CI 95%: 23-84 ml/min/1.73m²]. Performances of 1/creat and Cockcroft and Gault, MDRD, CKD-EPI and Chronic Kidney Disease Epidemiology Collaboration formulas were evaluated. Two hundred ninety eight patients died during follow-up after GL (23% of cardiovascular disease, 20% of infections, 14% of malignancies and 13% of other causes; in 30% no definite cause of death could be evaluated). Two hundred ninety eight patients died with functioning graft. Annual mortality rate after GL was significantly higher than in patients without GL (3.8 vs. 2.3, respectively). Age > 50 years at transplantation (RR 1.3) and age > 50 years at GL (RR1.8), and diagnosis of hepatitis B (RR 1.4) were associated with a significantly higher risk of death after GL. A shorter transplantation period (<7 years) seems to be protective against death after GL (RR 0.7). Longer time (>2 years) on dialysis and the diagnosis of diabetes mellitus led to a tendency towards increased risk of death (RR 1.3; P=0.054 and RR 1.32; P=0.09, respectively).

Conclusions: Patients who lose their kidney graft have a significantly higher risk of death than patients who do not. Understandably, age at the time of transplantation and age at the time of GL are major risk factors for death after graft loss. Hepatitis B is a negative predictor, too. Interestingly a shorter duration of time being transplanted is associated with better outcome for patients who lose their grafts. It remains unclear whether the combined outcome before and after graft loss is superior for kidney transplantation over maintenance dialysis. Therefore an adequate dialysis control group is lacking.

SP688 OUTCOME AFTER KIDNEY GRAFT LOSS

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Introduction and Aims: Kidney transplantation is currently the best treatment for end stage renal diseases. Traditionally survival analyses after kidney transplantation include endpoints like graft loss and death with functioning graft. Several studies investigated risk factors for early death of patients with a functioning kidney allograft. Little is known about the survival after losing graft function and returning to dialysis. For this purpose we analysed 1901 patients who were primarily transplanted between December 1968 and December 2010.

Methods: The primary end-point was death after graft loss (GL). Therefore, we calculated annual mortality rates during transplant period and afterwards. The Kaplan-Meier analysis was used to display the survival curve after GL. A multivariate Cox model was used to identify risk factors for death after GL. For this analysis follow-up started at the time of GL. The web-based patient file „TBase“ was used to retrieve data. If the outcome of patients was uncertain the families, last known physicians or the patient himself were contacted to obtain follow-up information. Only the first transplantation was included in the analysis.

Results: Of the 1901 patients 662 lost their graft. The median follow-up of patients after GL was 83 months (range 0-431 months). Patients without GL (n=1239) had a median follow-up of 98 months (range 0-463). Two hundred twenty patients died during follow-up after GL (23% of cardiovascular disease, 20% of infections, 14% of malignancies and 13% of other causes; in 30% no definite cause of death could be evaluated). Two hundred ninety eight patients died with functioning graft. Annual mortality rate after GL was significantly higher than in patients without GL (3.8 vs. 2.3, respectively). Age > 50 years at transplantation (RR 1.3) and age > 50 years at GL (RR1.8), and diagnosis of hepatitis B (RR 1.4) were associated with a significantly higher risk of death after GL. A shorter transplantation period (<7 years) seems to be protective against death after GL (RR 0.7). Longer time (>2 years) on dialysis and the diagnosis of diabetes mellitus led to a tendency towards increased risk of death (RR 1.3; P=0.054 and RR 1.32; P=0.09, respectively).

Conclusions: Patients who lose their kidney graft have a significantly higher risk of death than patients who do not. Understandably, age at the time of transplantation and age at the time of GL are major risk factors for death after graft loss. Hepatitis B is a negative predictor, too. Interestingly a shorter duration of time being transplanted is associated with better outcome for patients who lose their grafts. It remains unclear whether the combined outcome before and after graft loss is superior for kidney transplantation over maintenance dialysis. Therefore an adequate dialysis control group is lacking.
Conclusions: Evidence for the benefits and harms of SW in pancreas or kidney-pancreas transplantation is sparse with only three RCT of 144 patients identified. Overall, these demonstrated no difference in mortality, graft survival or rejection in steroid sparing strategies but firm conclusions are not yet possible. Moreover, the 13 observational studies findings concur with the evidence found in the RCTs. There is not enough evidence to recommend steroids withdrawal in pancreas-kidney transplantation although studies showed no differences between groups.

Introduction and Aims: Kidney transplantation is the treatment of choice for selected patients with end-stage renal disease (ESRD). A successful kidney transplant improves the quality of life and reduces the mortality risk for most patients, when compared with maintenance dialysis. However, information about the prognosis on the individual level is still very difficult. In this single-centre study we looked at factors at the moment of transplantation and how they influence the graft and patients survival.

Methods: This single-centre retrospective study included all the 172 patients from our hospital undergoing primary renal transplantation in the Leids Universair Medisch Centrum (LUMC) from living or deceased donors between January 1, 1990 and December 31, 2009 were included in the study. All demographic information and pre-transplantation patient characteristics were supplied by the patient files, RENINE and NOTR databases. Baseline comorbidity at the moment of transplantation was analyzed with the Charlson Comorbidity Score (CCS).

Results: From the 172 included patients, 99 kidney transplants were from a deceased donor and 73 from a living donor of whom 37 were genetically related. Patient survival after 1, 5, and 10 years was respectively 97.8+/-1.3%, 87.4+/-3.3% en 72.4%. Graft survival corrected for death was 97.6+/-1.2%, 94.7+/-2.1% en 91.6+/-3.0%. There was a mortality rate of 16.3% during the study follow-up. In a univariate model recipient and donor age, vascular causes of the primary renal disease and co-morbidity as depicted in the CCS were associated with a worse patient survival after kidney transplantation. However, in a multivariate analysis the donor age, cause of ESRD and total CCS were no longer significant. This analysis showed that, besides recipient age, vascular causes of the primary renal disease and co morbidity as corrected for death was 97.6 +/- 1.2%, 94.7 +/- 2.1% and 91.6 +/- 3.0%. There was a mortality rate of 16.3% during the study follow up. In a univariate model recipient and donor age, vascular causes of the primary renal disease and co morbidity as depicted in the CCS were associated with a worse patient survival after kidney transplantation. However, in a multivariate analysis the donor age, cause of ESRD and total CCS were no longer significant. This analysis showed that, besides recipient age, vascular causes of the primary renal disease and co morbidity as corrected for death was 97.6 +/- 1.2%, 94.7 +/- 2.1% and 91.6 +/- 3.0%. There was a mortality rate of 16.3% during the study follow up.
Methods: Retrospective analysis of kidney recipients transplanted Jan 2008 – Dec 2011 and prospectively screened for BKV and DSA. BKV, defined by ≥2.6 log copies/mL, was screened for at 3, 6 and 12 mos then yearly, DSA was measured at 1.36 and 12mos. Induction comprised rabbit anti-thymoglobin globulin (81% pts), or basiliximab (low-immunologic risk pts) and maintenance w/ tacrolimus (TAC), mycophenolate mofetil (MMF) and steroids. Detectable BKV was first treated with MMF discontinuation, followed by TAC reduction if BKV persisted. In contrast, TAC or MMF was increased for positive DSA.

Results: BKV was detectable at least once in 106/691 (16.7%) pts. Class I and class II DSA developed in 8% and 12% of pts. Class II, but not class I DSA occurred more frequently in pts w/ than without, BKV (p=0.02). The median duration of detectable BKV was 172 (54-461) days and the number of days w/ BKV was strongly correlated with class II DSA (r=0.005). Median graft survival was 837 (469-1239) days. Detectable BKV had no demonstrable effect on allograft (p=0.57) or pt survival (p=0.8), but class II DSA was associated with decreased allograft (p=0.008) survival.

Conclusions: Both BKV and DSA were commonly detected in our cohort. BKV may be a risk factor for DSA but BKV did not clearly contribute to graft loss in our cohort. Longer follow up and further investigation are warranted.
964.3±192.7x10³ in group1 with significant positive correlation with TLC, p<0.009. High doses of G-CSF were given to all patients in group1 with a mean dose of 1466ug/m²/patient without significant side effects. There were no significant differences in demographic data especially CKD etiology, dialysis type, donor type, co-morbid conditions, induction and maintenance immunosuppression, cases with delayed graft function, BK viremia (0.6), and incidence of associated infections other than CMV. Four cases of CMV infection were detected in group1 while none were in group2 (p<0.01). There was higher number of NODAT in group1 (p<0.03) most likely due to higher maintenance doses of steroids and tacrolimus to compensate for MMF dose reduction. Mean rejection episode/patient was significantly higher in group1, p<0.03).

**Conclusions:** MMF and VGC dose reduction due to leucopenia resulted in significantly higher rate of rejection episodes, CMV infection and NODAT. High doses of G-CSF were used safely to treat neutropenia without significant side effects.