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TRANSPLANTATION - 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 only one patient and prothrombin gene G20210 mutation was not found. Among the 156 patients, 30 underwent renal transplantation and were followed for a median of 199 days (range, 9 – 418). All patients were on triple immunosuppressive regimen compromising mycophenolate, tacrolimus and prednisone. Thrombophilia was identified in 16 (53%). Seventeen (57%) received perioperative anticoagulation with unfractionated heparin (9 patients with thrombophilia and 8 without laboratory confirmed thrombophilia). Five (30%) of these patients developed perinephric 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=0.35. Nine patients developed acute rejection (5 in the group with thrombophilia and 4 in the group without thrombophilia, p=0.87). Mean glomerular filtration rate was similar between thrombophilic and non-thrombophilic patients in the last follow-up (54±27 vs. 47±22 mL/min/1.73m², p=0.35). One graft loss and 1 patient death were observed in each group.
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 PREVALANCE 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 stadium 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-B_2Glicoprotein I antibodies (anti-B_2GPI), 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 later. 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%, 22.23%, 45.16%, respectively. We found no significant diferrences in APLA between T(-) vs T(+) in ktx and HD; in CKD diferrences between T(-) vs T(+) were detected in ACL IgG (p=0.0018) and anti-B_2GPI IgG (p=0.0333). During follow-up, in ktx ocurred 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-B_2GPI IgM (16.22%) and ACL IgG (13.88%), in CKD: LA (22.23%), anti-B_2GPI IgM (12.5%), in HD: LA (45.16%) and ACL IgM (20%). In HD correlations were found between ACL IgM and anti-B_2GPI IgM (p=0,0028), ACL IgG and anti-B_2GPI IgG (p=0,0377), anti-PT IgM and anti-PT IgG (p=0,0007); in ktx correlations were observed between anti-B_2GPI IgM and proteinuria (p=0,0441), serum creatinine concentration (Scr) and anti-B_2GPI IgG (p=0,0191), anti-B_2GPI IgM and ACL IgM (p=0,0328), ACL IgG and ACL IgM (p=0,0252), 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 determined the role of APLA as a marker of thrombosis in tested groups. Screening for APLA in all CKD pts seems to be unnecessary.

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 TPMT activity and AZA metabolites in RTx recipients. We hypothesized 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 (209.9pmol/8x10^{8}RBC and 546.0pmol/8x10^{8}RBC respectively; p<0.0001). The dose of AZA correlated with both TGN (r=0.332, 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/8x10^{8}RBC; 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/8x10^{8}RBC (p=0.046; OR=2.91, 95% CI 0.99-8.56). 14/93 patients were potentially over-dosed, with TGN levels >400pmol/8x10^{8}RBC; this was not correlated with increased myelotoxicity or hepatotoxicity. There were weak but significant correlations seen between MCV and AZA dose/kg (r=0.3377, 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/8x10^{8}RBC). 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.

MP632 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 a de novo malignant bladder tumour during the study period. Mean interval between transplantation and diagnosis of bladder tumour was 8 yrs. Mean age at time of 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. One patient had a history of BK nephropathy and another patient had a history of analgesic nephropathy. Eight patients required radical cystectomy for invasive tumours; five of these had aggressive disease necessitating resection of other pelvic organs. All six female patients had aggressive tumours and required invasive surgery. Tumour related mortality rate within the first year was 40 %.
Conclusions: Bladder cancer is an uncommon but serious and potentially fatal complication of solid organ transplantation. There was a high rate of aggressive tumours and cancer related deaths in kidney transplant recipients, including those diagnosed in all female patients in the study. Underlying urological abnormalities as well as other risk factors including cyclophosphamide exposure likely potentiate the 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.

MP633 RISK FACTORS IN VENOUS THROMBOSIS OF RENAL GRAFTS FROM DECEASED NON HEART-BEATING DONORS

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	Group I (n =88)	Group II (n = 139)	P
RECIPIENT			
Age (years)	45,6±11,24	49,4± 11,6	p<0,05
Men	55,7%	64%	ns
First transplant	94,3 %	94,2%	ns
Hyperimmunized	1,1%	0,7 %	ns
Mismatches	4,20±1,19	4,7±1	p<0,01
Cold ischemia time (minutes)	879,1±308,8	701,1± 265,5	p<0,01
Antitimocitic globuline	83%	96,4%	p<0,01
DONOR			
Age (years)	38,3± 9,7	46,9±10,2	p<0,01
Men	90,9%	84,9%	ns
Weight (kg)	85,1±13,7	78,2±11,2	p<0,01
Creatinine (mg / dl)	1,15± 0,35	1,19±0,46	ns
EVOLUTION			
Primary graft function	14,8%	15 %	ns
Acute tubular necrosis (days)	13,6±5,8	13,5±7,3	ns
Resistance indices in the doppler	0,78±0,11	0,77±0,12	ns
High resistance rates	35,2%	41,7%	ns
Loss of graft	11,4%	5%	ns
Anticoagulation	0%	26,6%	p<0,01
Venous thrombosis	8%	0%	p<0,01
Acute rejection	12,5%	10,8%	ns
Receptor survival	98,9%	100%	ns
Hematuria/Surgery/Transfusion	6,8%/8%/13,6%	10,8%/2,9%/28,8%	ns/ns/p<0,01

Introduction and Aims: The deceased donor kidney transplant to non heart-beating 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 elevated. 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, antitimocitic globuline and high RI were factors that were associated with VT of the graft. In multivariate analysis thymoglobulin treatment was a factor associate 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 7 had vascular thrombosis (0% vs 14,5% p<0,05).
Conclusions: This study suggests that in renal transplant from non heart beeting 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.

MP634 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 transplants 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*C (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.

MP635 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 height$^{2.7}$.
Results: There were 67 patients with and 95 without patent fistula.Both groups were comparable in respect to gender, age, duration of dialysis therapy and time after transplant, current kidney graft function, as well as cardiovascular comorbidities. Patients with patent fistula were characterized by significantly larger LVM and greater

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$^{2.7}$, respectively). The OR for LVH in patients with patent fistula was 2.13 (1.11-4.09), p=0.03, and 2.18 (0.94-5.05), p=0.06, respectively. Regression analyses confirmed an independent contribution of patent fistula to the presence of LVH and higher LVM.
Conclusions: In a largest study to date, we show that long-lasting patent arteriovenous fistula after kidney transplantation plays the important role in the increased prevalence of left ventricular hypertrophy in kidney transplant recipients.

MP636 THE EFFECT OF PHYSICAL ACTIVITY ON INDEPENDENCE IN 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 as 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 = 93) divided into 4 groups according to applied intervention during 2nd-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^{TM}) in 10th months after the transplantation. Statistical methods: descriptive statistics, analysis of variance (ANOVA), non-parametric Wilcox, correlation analysis (Pearson) and Tukeýs 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 patientś independence in the first year after kidney transplantation and helps them to return to normal life sooner.

MP637 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 autopsy results), all cause mortality, ESRD and bioptic 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 rejections. Risk estimation is expressed as incident rate ratio (IRR) and incident rate (IR in %). eGFR was calculated with the MDRD4 formula for creatinine and for cystatin C as: eGFR= 76.7*CysC$^{-1.19}$ (AJKD 2008:51:395), 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 53.2-56.3, p=0.016) in patients without MACE. Mean cystatin C concentration within the MACE group was 2.13mg/dl (SD 0.63) with a mean eGFR of 37.34ml/min (SD 15.37) and 1.54mg/dl (SD 0.9) and 53.75ml/min (SD 19.8) 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 $eGFR_{Cystatin\ C}$ was significantly associated with risk for MACE. The incidence increased per ml eGFR loss by 4.7% (IRR 0.953; 95%CI 0.93-0.98, p<0.001). No significant association with MACE could be demonstrated for serum creatinine levels (n.s.) and creatinine-based eGFR (n.s.).
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.

MP638 COST-EFFECTIVENESS IN ITALY OF KIDNEY TRANSPLANTATION FROM DONORS AFTER CIRCULATORY DEATH

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Introduction and Aims: The global increase of end-stage renal failure (ESRF) is progressively eroding health care budgets at regional level all over the world. Italy expenditure for ESRD patients has been calculated between € 31,472 and € 36,234 per year. It is about 1.8% of total Italian health care budget and such increase of hemodialysis patients (HD) has caused a significant growth of HD waiting lists for renal transplantation. In order to enlarge kidney donations, in 2007 the "Fondazione IRCCS Policlinico San Matteo (Pavia, Italy)" designed and actually is carrying on, the "Programma Alba" i.e. the Italian proposal for organ Donation after Circulatory Death (DCD). The present study was designed to calculate detailed costs for HD, renal transplantation analysed according to all sources of kidney donation with particular regard to DCD.
Methods: The Markor model based on Italian population of the Italian Region *Lombardia* was used. Data sources have been the "Italian National Institute for Statistics" (ISTAT) and the "Lombard Registry of Dialysis and Transplantation".
Results: Italian Hospital costs for one DCD patient is € 169,818 for the first year, in the base case of two-kidney extra transplants, and € 92,286 in a modeled future scenario of ten extra transplants per year. DBD expenditure is € 54,455 for patient the first year decreasing to € 11,551 the second and € 9,781 the subsequent years. Figures for live donation are € 49,306 the first transplantation year, € 10,532 and € 8,744 for second and subsequent years. HD costs are € 37,881 per patient/year.
Conclusions: Our data show that increasing transplantation rate is less expensive and more effective when compared to current ESRF treatment patterns. In particular intensifying DCD transplants, as currently applied in several European countries, should progressively improve current insufficient organ supply reducing local health care expenditure.

MP639 CONVERSION FROM CALCINEURIN INHIBITORS TO EVEROLIMUS RESULTED IN DECREASE OF SERUM TGF-BETA and URINARY NGAL IN RENAL TRANSPLANT RECIPIENTS

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Introduction and Aims: Calcineurin inhibitor (CNI) treatment has been implicated for chronic allograft dysfunction in renal transplant recipients. We aimed to investigate the effects of switch from CNI to Everolimus treatment on serum/urinary markers of fibrosis (TGF-beta), inflammation , glomerular and tubular injury.
Methods: In this prospective-randomized study**,**30 renal transplant recipients on CNI treatment were enrolled. Fifteen patients were converted to everolimus and remaining 15 patients were continued on CNI treatment as control group. Age, gender, dialysis vintage, baseline serum creatinine and eGFR-MDRD levels were similar between the groups Biomarkers of fibrosis (serum and urine TGF-beta), inflammation (hs-CRP, urinary MCP-1) glomerular injury (albuminuria) and tubular injury (urinary NGAL) were measured in baseline and 3rd month after conversion.
Results: Baseline urinary MCP-1 levels was associated with urinary NGAL (r=0.75, p<0.001) and urinary TGF-beta (r=0.52, p=0.003). Serum TGF-beta was correlated with serum hs-CRP (r=0.452, p=0.01). After conversion from CNI to Everolimus, serum creatinine (1.70 ± 0.22 vs 1.60 ± 0.29 mg/dL, p=0.002), uric acid (6.21 ± 1.21 vs

5.55 ± 1.39 mg/dL, p=0.01), serum TGF-beta (8727 ± 11222 vs 1942 ± 1415 pg/mL, p=0.03) and urinary NGAL (0.26 ± 0.40 vs 0.12 ± 0.07 ng/ml, p=0.05) were found to be significantly decreased. In contrast, serum total cholesterol and LDL-cholesterol levels increased (213 ± 46 vs 235±64, p=0.02 and 125±32 vs 143 ±46 mg/dL, p=0.03, respectively). Serum NGAL, hs-CRP, urinary MCP-1, albumin excretion rate did not change after conversion.
Conclusions: Conversion from CNI to everolimus resulted in significant decrease of serum TGF-beta and urinary NGAL levels in renal transplant recipients. These results might explain possible beneficial effects of Everolimus on graft survival.

MP640 COMPARISON OF KIDNEY PAIRED DONATION TRANSPLANTATIONS WITH LIVING RELATED DONOR KIDNEY TRANSPLANTATION

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Introduction and Aims: Kidney Paired Donation (KPD) is a rapidly growing modality for facilitating living related donor renal transplantation (LRDRTx) for patients who are incompatible with their healthy, willing and living donors. Data scarcity on outcome of KPD vs LRDRTx prompted us to review our experience.
Methods: This was a single center study of 224 patients on regular follow-up, who underwent LRDRTx from January 2010 to June 2012 at our institute. The aim of this study was to compare graft survival, patient survival and rejection rates of KPD (group 1, n= 34) with those of LRDRTx (group 2, n=190). All recipients received immunosuppression with a steroid, mycophenolate mofetil/azathioprine, and a calcineurin inhibitor and thymoglobulin induction in high risk patients. Kaplan-Meier curves were used for survival analysis. In group 1, mean recipient age was 35.5 ±13.2years, and 29 were men and mean donor age was 44.4±8.17years, 10 were men. In group 2, mean recipient age was 29.1±10 years, and 155 were men. Mean donor age was 47.5 ±9.69years, 74 were men. Mean HLA matching in group 1 and 2 was 1 vs 3.2 ($p < 0.05$).
Results: One, two- year patient survival showed no significant difference between the 2 groups (97.1%%, 97.1% vs. 96.2% 94.8% , p 0.81). Graft survival also showed no significant difference (97.1%, 97.1%, vs 97.6%, 97.6%, P 0.73). Acute rejection incidence were also similar (8.7%vs 9.9% , p >0.62).
Conclusions: Our study showed similar graft survival, patient survival and rejection rates of KPD versus LRDRTx over 2 years post-transplantation, encouraging use of this approach.

MP641 CLINICAL SIGNIFICANCE OF ASYMPTOMATIC BACTERIURIA DURING FIRST YEAR AFTER RENAL TRANSPLANTATION

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Introduction and Aims: Urinary tract infections (UTIs) are the most common infections in renal transplant recipients and are considered a potential risk factor for poorer graft outcomes. Asymptomatic bacteriuria (AB) is the most prevalent form of UTIs, however its clinical impact has not been thoroughly evaluated and so far there are no established guidelines for screening and treatment of AB in renal transplant population. Therefore the aim of the study was to evaluate incidence, microbiology, risk factors for AB and to identify patients who would benefit most from the treatment of asymptomatic bacteriuria.
Methods: We performed a retrospective cohort study reviewing medical records of patients who received a renal transplant at Gdansk Transplantation Centre between January 2007 and December 2009. We analyzed urine cultures performed within first 12 months after RTx with reference to clinical data.
Results: We studied urine cultures and clinical data from 209 renal transplant recipients, including 59,3% of male gender, with mean age of 46 ± 14 years. We observed 170 AB episodes in 83 patients and this accounted for 53% of all diagnosed UTIs in 111 patients. More than half of AB episodes were diagnosed during the first month post-transplant and the most frequently isolated uropathogen was *Enterococcus faecium (*36,8%, *n*=32*)*.Beginning from the second month the bacterium most frequently found in urine cultures was *Escherichia coli (*54,2%, *n=45)*. Female gender, use of induction, comorbidity measured by Charlson Comorbidity Index, history of acute rejection and CMV infection were risk factors for developing AB in univariate analysis and were similar to risk factors for developing any kind of UTI. 46 out of 83 patients with AB also developed symptomatic UTIs. AB in multivariate analysis was an independent risk factor for symptomatic UTIs (both lower and upper UTIs) and in univariate analysis it was a risk factor for acute graft pyelonephritis and urosepsis. Among 78 patients with recurrent infections only in less than 20% these were consecutive episodes of AB, while over 80% of these patients suffered from at least one symptomatic UTI.In recurrent UTIs reinfections outnumbered relapses. When we compared patients with only AB episodes and patients with at least one symptomatic UTI to patients without any UTIs, history of recurrent UTIs before RTx, use of induction and episodes of acute rejectionwere significantly more common in symptomatic UTI group.
Conclusions: Asymptomatic bacteriuria is the most common form of UTIs. *Escherichia coli* and *Enterococcus faecium* are predominant pathogens. Recurrent AB episodes, may be considered either a risk factor or a marker of increased susceptibility to symptomatic infections. It seems that patients with history of recurrent UTIs before RTx and exposed to greater immunosuppression due to use of induction and episodes of acute rejectionare at risk of developing serious symptomatic infections and therefore could benefit most from systematic screening and proper prophylaxis including treatment of AB.

MP642 SEVERITY OF CORONARY DISEASE, CARDIAC EVENTS AND MORTALITY IN PATIENTS EVALUATED FOR RENAL TRANSPLANTATION

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Introduction and Aims: The best strategy for investigation and treatment of coronary artery disease (CAD) in renal transplant (Tx) candidates is controversial. The aim of this study was to evaluate the relationship between CAD extension and management, transplantation status and both the peri-operative and mid-to-long term outcome of CKD stage 5D patients (pts) undergoing evaluation for kidney transplantation, in a single centre registry.
Methods: Between June 1996 and January 2009, 167 pts (mean age 53.9±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 no significant stenosis, group 2 (n=49) had one vessel disease and group 3 (n=44) had two/three vessel or left main disease.
Results: Fifty-eight pts were transplanted during the observation period (37.7±23 months after CAT for the entire cohort; 89.8% >1year): 35 in group 1, 11 in group 2 and 12 in group 3. Increasing CAD severity was independently associated with a 38% decrease in the likelihood of receiving a graft (HR 0.62; 95% CI 0.43-0.91; p=0.013). Despite overall event-free survival was higher in Tx recipients, CV events and mortality consistently increased with increasing severity of CAD in both transplanted and non-transplanted pts. Performance of percutaneous coronary intervention (PCI) was not associated with lower event rates and all 5 peri-Tx myocardial infarctions (MI) occurred in group 3 pts. After correction for baseline characteristics and for the probability of receiving a graft, both CAD extension (HR 2.6; 95% CI 1.5-4-6) and Tx-status (HR 0.28; 95% CI 0.13-0.61) were the only independent predictors of death/ MI.
Conclusions: 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.

MP643 THE ASSOCIATION OF ACUTE KIDNEY REJECTION AND NITRIC OXIDE LEVEL - COULD IT 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 exists 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 1^{th}(NO5) and 6^{th} (NO6) month after Tx. Protocol allograft biopsies (Bx) were performed at 1^{st} and at 6^{th} months after Tx, and regular biopsies upon clinical indication. Renal function tests were done as per our unit protocol.

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 histological signs of AR. Significantly higher NO levels: (NO5) and (NO6) were found in Bx showing SAR as compared with negative Bx (51±6.3;50±5.5 micromol/L vs. 20±4.3; 22±5.7 micromol/L; p<0.05, respectively). Moreover, there was a significant difference in (NO3) during AR compared to the other causes 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±6.5;35±3.7 micromol/L; p<0.05, respectively), while when 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).
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 causes 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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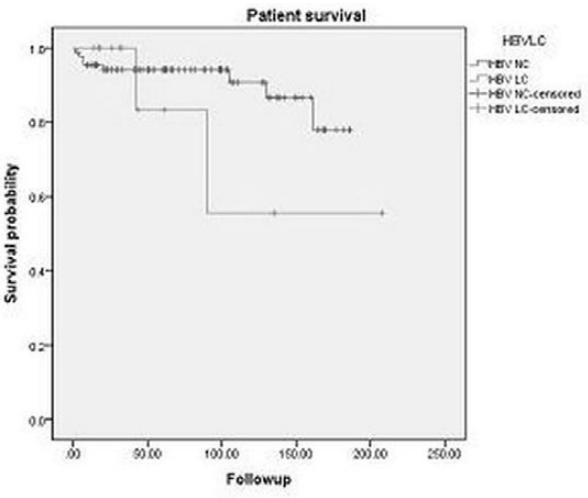
Introduction and Aims: KT alone in ESRD patients with HBV LC is controversial. The aim of this study was to compare outcomes of HBV+ patients with ESRD and LC (C group) versus HBV+ patients with ESRD but with no cirrhosis (NC group).
Methods: One hundred twelve HBV+ patients with ESRD received KT between 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 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.
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(range 35-122 months). Mean MELD score of C group was 20.6±0.9. Eight patients received entecavir therapy and 1 patient lamivudine at last follow up in C group. In NC group, 28 patients received lamivudine, 27 entecavir, 2 telbivudine, 2 tenofovir, 5 adefovir and 6 patients lamivudine/adefovir. During follow up, two patients in C group died of HCC 61 and 90 months after KT. One HCC patient had liver failure at death, but the other was Child class A. Eight patients in NC group died median 13.5 months after KT (range 1-161 months). Infection was the main cause (6 patients) and other two patients died of HCC and colon perforation. Patient survival rate was 83.3% at 5 years for C group and 90.8% for NC group, respectively (p= 0.292). Graft survival was 62.5% for C group versus 78.2% for NC group, respectively (p=0.87). Two patients in C group returned to dialysis because of recurrence of IgA nephropathy and HCC. Ten patients in NC group returned to dialysis, because of rejection in 4, recurrent IgA patient in 1, recurrent MPGN in one, colon perforation in one and sepsis in 3 patients.
Conclusions: Our study suggests that KT alone may be safe in patients with compensated HBV LC.



MP644

MP645 MGUS IN RENAL TRANSPLANT: STILL A MATTER OF CONCERN?

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Introduction and Aims: Monoclonal gammopathy of undetermined significance (MGUS) is defined as the presence of a serum monoclonal protein in a small but abnormal concentration. The incidence of MGUS in the population over 50 yr of age is > 3% and slowly increases with age. At the moment the incidence of MGUS in patients (pts) undergoing evaluation for kidney transplantation (KT) have not been described but as the number of transplant candidates > 50 yr is increasing this condition had become an important aspect of the pre-transplant evaluation. Despite of the frequency of this condition there is a paucity of information on the long-term outcomes of MGUS pts who received a solid organ transplant.
Methods: This is a retrospective study. We evaluated all kidney transplanted pts between November 1998 – February 2012. We included all pts found to have MGUS 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 gammopathy 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 (….%), IgA 4/26 pts (…%), 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 larges 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 an increased risk for this evolution. The organ and pts survival can be overlapped to the overall population. From this study results the presence of MGUS is not a contraindication to KT.

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

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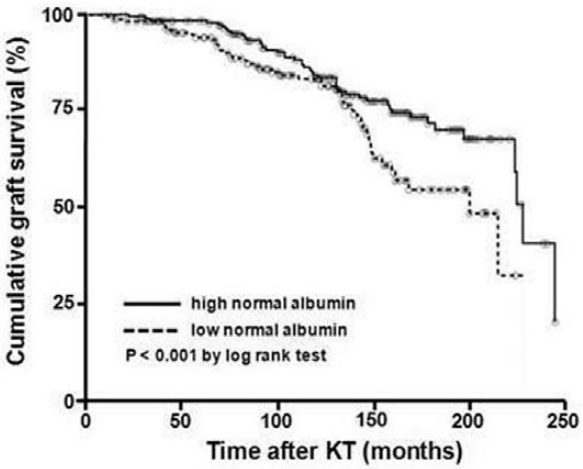
Introduction and Aims: Hypoalbuminemia is associated with an increased risk of mortality in patients with end-stage renal disease. In renal transplants, however, there have been limited data on the relationship between initial serum albumin levels and final recipient prognoses. We hypothesized that even 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 whose serum albumin level at one year after KTwas not in the normal range (3.2 – 5.5 g/dL). Based on the 1-year serum albuminafter KT, a total of 407 patients were divided into two groups: high normal ≥ 4.6 g/dL (n = 209) and low normal < 4.6 g/dL (n = 198). 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:

HR 0.403, 95% CI 0.199-0.819; multivariate: HR 0.367, 95% CI 0.108-0.747), patient survival (univariate: HR 0.125, 95% CI 0.027-0.567; multivariate: HR 0.109, 95% CI 0.023-0.514), and CV event-free survival (univariate: HR 0.153, 95% CI 0.056-0.416; multivariate: HR 0.233, 95% CI 0.076-0.708).
Conclusions: Even within the normal range, a relatively low level of serum albumin may predict poor graft and patient survival. We cannot stress too much the importance of the initial recipient care after KT, probably focusing on improving nutrition and relieving inflammation.



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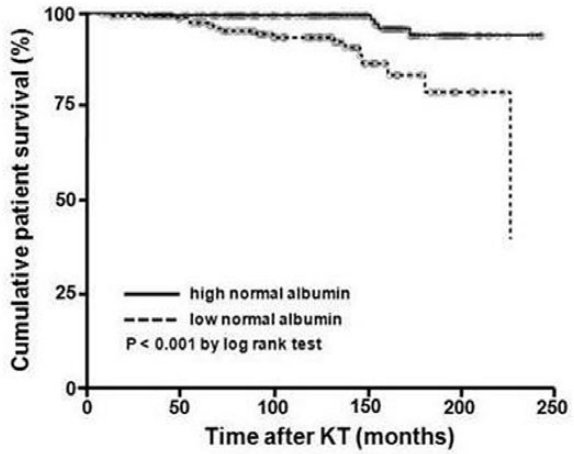

MP646

MP647 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. In vivo experimental studies demonstrated that the observed Kl reduction caused by renal damage can be mitigated by erythropoietin (EPO) treatment. The aim of this study was to determine Kl serum levels in a population of TX recipients and to evaluate whether EPO treatment can modulate these levels.
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, 0.27-0.52). In TX patients serum Kl was significantly inversely 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 reveled 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 our knowledge this is the first report on serum Klotho levels 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.

MP648 PREGNANCY AFTER KIDNEY TRANSPLANT REPORT OF THE STUDY GROUPS KIDNEY TRANSPLANT AND KIDNEY/ PREGNANCY OF THE ITALIAN SOCIETY OF NEPHROLOGY

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Introduction and Aims: We evaluate the gestations 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 baby birth. Immunosuppressive therapy type of delivery baby weight, Apgar score and mother and baby follow up.
Results: In 9 pts diagnosed: chronic pyelonephritis, 1 post partum cortical necrosis ,11 IgA GN, 5diabetic nephropathy ,35 unknown nephropathy ,1 ADPKD 1, 5 Nephroangiosclerosis, 26 Glomerulonephritis, 2 cistic Kidney disease, 1 Nephronoptsis, 1 Tubulo interstizial Nephropathy, 2 Obstructive Nephropathy, 1 Alport syndrome, 1 Renal displasia. The patients' age at start of hemodialysis 28,05±2,35 years, the patients' age at transplantation 30,25±2,52 years, the patients' age at pregnancy 33,9±3,1 years, the interval between the start of hemodialisys and transplantation16±22,3 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, Prenisone e CyA in 16, Aza e Prednisone in 3, Prednisone, Aza, CyA, Fkin 1, Aza, Prednisone, Fk in 5, Cya 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 14, 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±3,15 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 ipreeclampsia reduced gastational age and low birth weights and patients therefore to be referred to highly specialized centres where nephrologists obstetricians providing surveillance and treat.

MP649 URINARY PROCOLLAGEN PREDICTS DEGREE OF RENAL FIBROSIS IN RENAL TRANSPLANT RECIPIENTS

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Introduction and Aims: Chronic allograft injury is one of the most important causes of late allograft failure in renal transplant recipients and pathologically characterized by

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 that underwent 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 were 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.

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Degree of Fibrosis	Urine Procollagen/Creatinine Ratio
Grade 0 (n=19)	0.99±0.65
Grade 1 (n=17)	1.21±0.79
Grade 2 (n=21)	1.34±1.09
Grade 3 (n=7)	1.73±0.90

MP650 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 (RH) in these pts and the prevalence of RH in this population has never been assessed according to rigorous criteria nor face to face compared with that in well matched CKD populations.
Methods: We investigated an unselected series of 219 renal transplant pts (67% M; age 47±12 yrs; 11% diabetics; eGFR 55, IQR 40-66 mil/min) with a follow up intensity adhering to recommendations by the Am Soc of Transplantation (JASN 11:S1–S86, 2000) and in a series of 46 pts with CKD stage 2-5 (CKD-A) matched to transplant pts for age, and diabetes status. Both transplant pts and CKD-A pts systematically underwent ABPM studies. In these groups we applied the stringent criterion for RH by NICE (Mean daytime BP>135/85 mmHg despite treatment with 3 drugs). Furthermore, as a second comparator group (CKD-B) we used an unselected series of 717 CKD stage 2-5 pts where the diagnosis of RH was established according to the JNC VII criterion (office BP>140/90 while on 3 drugs).
Results: The vast majority (94%) of renal transplant pts were on calcineurin inhibitors. The prevalence of RH in renal transplant pts by NICE criteria was substantially less in renal transplant pts (just 5 patient/219, i.e. 2.3%) than in the CKD-A group (9%, p=0.03). Coherently with this finding, comparison of the transplant pts group with the CKD-B group by the conventional JNC VII criterion (Transplant Pts 1% vs CKD-B 12%, p<0.001) confirmed a substantially lower prevalence of RH in transplant pts. Further analyses in a sub-group (n=165) of CKD-B pts matched to renal transplant pts also for the GFR again showed a substantially lower prevalence of RH in renal transplant pts (1% vs 8% in CKD-B pts p=0.002). Remarkably, the prevalence of RH across these groups was strictly parallel to the number of visits (9 visits/year in transplant pts vs 1-2 visits/year in the two CKD groups). The low prevalence of RH in transplant patients went along with a lower frequency of uncontrolled hypertension (NICE criterion:29% in transplant pts vs 41% in CKD-A pts; JNCVII criterion:16% vs 26%).
Conclusions: Notwithstanding the use of pro-hypertensive drugs like calcineurin inhibitors, the prevalence of RH - as defined on the basis of stringent ABPM based criteria (NICE) as well as on standard (JNC VII) criteria - is remarkably lower in renal transplant pts than in well matched CKD pts. Such a low prevalence goes along with the intense follow-up (number of visits) after renal transplantation adhering to Am Soc Transplantation recommendations. These findings show that effective hypertension control can be achieved in a substantial number of renal transplant pts and underscore the relevance of intensified follow up on BP control in this population.

MP651 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 representa 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. This 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 > o r< 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 >90 mg/dL and **group B:** TG > 150 mg/dL in patients with FG<90mg/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 (37.9-47.5), +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 >90 mg/dL and TG >150 mg/dL.

Figure 1

		PREDIABETES	Cases
Fasting Glucose	Triglycerides		
< 90 mg/dL	< 150 mg/dL	YES	30
		NO	183
	> 150 mg/dL	YES	8*
		NO	49
>90 mg/dL	-----	YES	106*
		NO	151

* cases detected, 114 of 144 (79.16%), OGTT done to detect these patients in grey

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MP652 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 dislipidemia. CNI's effects on adipocytokines are unknown. In this study, we compared the effects of CNIs

(cyclosporine-CsA and tacrolimus-Tac) on adipocytokine levels in KT recipients.
Methods: 59 recipients that use CNI after KT were included in the study. Patients were divided into two groups as Tac (n=43) and CsA users (n=16). Demographic properties, blood pressures, antropometric measurements and glucose-lipid profiles and adipocytokine levels were measured.
Results: Age, gender distribution, donor type, transplantation period, history and family history of smoking, HT, DM, CAD, obesity were similar. While number of diabetic patients were higher in CsA group (25% vs. 4.6%, p<0.05), dialysis duration prior to KT were longer in Tac group (51.1±6.9 vs. 27.0±5.9 month, p<0.05). No significant differences were found in BMI, blood pressures, waist-hip, wrist, mid arm and triceps circles, suprailiac and suprascapular fold thickness and body fat ratios. Neck circle was higher in CsA group (38.3±0.5 vs. 40.5±0.9 cm, p<0.05). Kidney functions, glucose, fibrinogen, homosistein, lipid and apolipoprotein profiles of the groups were comparable. No differences were observed in serum adipocytokine levels.
Conclusions: As a result, we did not observe any differences among the effect of CNIs on adipocytokine levels. Neck circle is another indicator of visceral obesity that has been more strongly associated with insulin resistance than waist circle. Further adequately designed prospective studies are needed to determine the relationship between CNIs and neck circle.

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	Tac group (n:43)	CsA group (n:16)
Visfatin (ng/mL)	43.8 ± 3.1	38.2 ± 5.1
Leptin (ng/mL)	15.9 ± 2.9	9.5 ± 1.8
Resistin (ng/mL)	16.2 ± 1.0	28.0 ± 5.4
Adiponektin (mcg/mL)	8.5 ± 0.6	9.1 ± 1.0
Fibronectin (mcg/mL)	116.1 ± 3.9	105.9 ± 7.1
TNF-alpha (ng/mL)	0.1 ± 0.01	0.1 ± 0.04
IL–6 (ng/mL)	4.2 ± 1.4	3.0 ±1.4
PAI–1 (ng/mL)	228.3 ± 22.3	156.7 ± 25.9
TGF-beta (pg/mL)	8906.1 ± 1418.0	6739.7 ± 1162.0
IGF-1 (ng/mL)	239.2 ± 17.7	288.1 ±25.8

MP653 ACCESS TO RENAL TRANSPLANTATION AT FOUR CENTRES IN WALES

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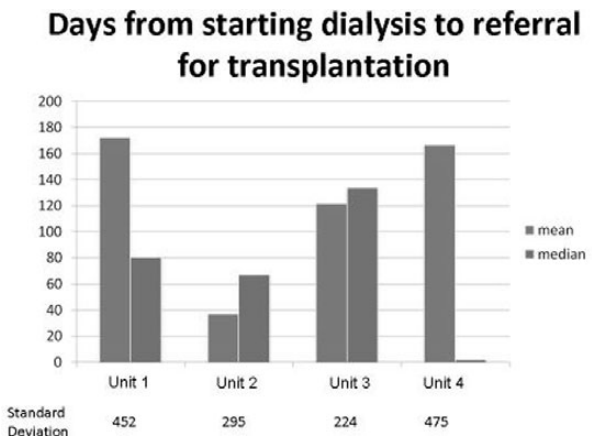
Introduction and Aims: Duration of dialysis is a significant risk factor for transplant recipient death and graft failure over time, and especially after dialysing for greater than six months. Pre-emptive renal transplant has been demonstrated to reduce graft failure and patient death. All suitable patients 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.



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Results: Data was received from 4 Welsh renal units. There was no difference in gender distribution of listed patients between units (67-69% male). The average age of dialysis patients listed for transplantation varied between units (mean 45-56 years). The median time from starting dialysis to referral for transplantation varied between units. Although one unit referred for transplantation early, this did not translate to quicker activation on the transplant waiting list. The median times 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.

MP654 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 %20. The mean interval from transplantation to the onset of pneumonia was 22.2±32.7 months. Fifty-six percent of the pneumonias were community acquired. Twenty-eight patients (25.2%) died due to pneumonia. Bacterial infections were the most common cause (30.6%), especially Haemophilus influenza, Stenotrophomonas maltophilia and Pseudomonas aeruginosa. 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 epiodes, 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 occuring 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: POSTRANSPLANT 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 greater 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 I/2008-III/2012.Anti-HLA antibodies were tested using Luminex Lifecodes 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. AllpreKT DSA-I and 50% DSA-II disappeared postKT. - First postKT tests showed DSA in 26/247 (6.7%), median 54 months post-KT: 3 HLA-I and 23 HLA-II (immunodominance: 16 DQ,3 DRB1,1DRB3,1DRB4,2 DRB5). Graft survival was lower in DSA-positive patients ($p<0.0001$ uncensored, $p=0.002$ censored, median follow-up 32 months). Graft loss occurred in 58% DSA-positive KT performed> 5 years before, 37.5% transplanted 1-5 years before and 0% DSA+ patients< 1 year after KT. Interestingly, 50% DQ DSA>7000MFI 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±29 months, $p=0.003$), but similar DSA specificity and MFI level (11792±7153 vs 8964± 6921).
Conclusions: PreKT DSA-I not associated to early graft loss disappeared after KTR under conventional immunosuppression, as well as 50% of DSA-II. Postransplant DSA significantly impact graft survival, especially high MFI DQ DSA or DSA in long-term transplant patients. Around half postransplant DSA are de novo but are similar to preformed DSA in MFI or specificity.

MP656 5 YEARS COMPARISON OF CYCLOSPORIN VERY LOW EXPOSURE WITH EVEROLIMUS HIGH EXPOSURE VERSUS STANDARD CYCLOSPORIN AND ENTERIC COATED MYCOPHENOLATE IN RENAL TRANSPLANTATION

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Introduction and Aims: Literature suggests that mTOR inhibitors are associated with good results in renal transplantation especially when used with very low dosage of Cyclosporin (CsA). In this study we evaluated graft outcomes of a group of patient treated with very low dose of CsA and high levels of Everolimus Vs a group treated with normal dosage of CsA and enteric-coated mycophenolate.
Methods: In this retrospective study we compared 56 recipients of kidney transplantation recieving everolimus (8-12 ng/mL) + CsA (C2 CsA levels: 250-300 ng/mL) + steroids, Vs 50 patients treated with EC-MPS (1,440 mg/day) + CsA (C2: 500-700 ng/mL) + steroids in term of graft outcomes, renal function and rate of complications after 5 years of transplantation. Statistical analysis included T test, χ^2test and Fisher exact test, Mann Whitney test, Log rank test for the difference of the Kaplan Meier curves. All the analysis are on a intention to treat basis.
Results: We found a non statistical trend towards a better graft survival (81.2 % Vs 68.6%; log rank: 0,113) and towards a better graft function (e-GFR71.8± 35.7 VS 60.0 ± 26.1 ml/min, p: 0.114) in favor of the Everolimus group. Patients recieving Everolimus had higer level of proteinuria 296 (quartiles 151-473) Vs 177 (136.263) mg/24 hours (p: 0.019), and a comparable levels of cholesterol but a larger need to use statin. (46% Vs 22%,p:0.007). We found no difference in the rate of the other complications that we evaluated.
Conclusions: In our experience a immunosuppressive regimen based on everolimus and very low dose of cyclosporin resulted in a non statistical trend toward a better renal function and graft survival compared to a standard regimen of ciclosporin and ECMPS.

MP657 PNEUMONIA AFTER KIDNEY TRANSPLANTATION: INCIDENCE, MORTALITY AND RISK FACTORS

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Introduction and Aims: Pneumonia remains an important cause of morbidity and mortality among solid organ transplant recipients. We aimed to determine characteristics of pneumonia episodes and the risk factors influencing the occurrence of lower respiratory tract infections and its related mortality among kidney transplant recipients.
Methods: We retrospectively evaluated all kidney transplant recipients at our center from December 1988 to April 2011 and studied their medical records.Community acquired pneumonia defined according to the symptoms, clinical findings and chest X-ray. Centers for Disease Control and Prevention criterias were used for the definition of nosocomial pneumonia.Laboratory and serologic tests, radiologic findings, culture of respiratory specimens and tissue biopsy were used to confirm pulmonary infections.
Results: Among 406 kidney transplant recipients, we diagnosed 111 episodes of pneumonia in 82 patients (20%), of which 49 had a nosocomial origin (44%). Bacterial infections were the most common cause (30.6%). Having a history of acute rejection (OR: 11.29, 95% CI: 3.68 - 34.6, $p<0.001$), cardiac disease (OR: 11.5, 95% CI: 2.36 - 56.08, $p=0.002$), hypertension (OR: 3.02, 95% CI: 1.47 – 6.22, $p=0.003$) and old age (OR: 1.02, 95% CI: 1 - 1.05, $p=0.021$) significantly increased pneumonia risk, while using everolimus/ mycophenolate mofetil/prednisolone regimen (OR: 10.69, 95% CI: 2.92 – 39.1, $p<0.001$) decreased that risk in mulvariate analyses. Twenty eight episodes resulted in mortality and nosocomial pneumonias accounted for %71.4 of mortal episodes. Superinfections developed in 13 pneumonia episodes (10 bacterial plus fungal, 1 viral plus bacterial or fungal, 1 bacterial plus fungal plus viral), but did not have more mortality risk (21.4% vs. 8.4%, $p=0.064$). Antibiotic usage in the last three months (OR: 19.3, 95% CI: 2.52 - 147.5, $p=0.004$), high C-reactive protein value (OR: 1.08, 95% CI: 1.01- 1.17, $p=0.021$) and low albumin value (OR: 4.14, 95% CI: 1.66 – 1.03, $p=0.002$) were significant risk factors for pneumonia related mortality. There was no difference in pathogen type between mortal and non mortal episodes in our recipients with pneumonia. Cut-off values for C-reactive protein and procalcitonin of an increased risk of pneumonia mortality were over 10 mg/dL and 8.8 ng/mL, respectively.
Conclusions: Our data showed that comorbid disease, history of acute rejection and old age were associated with an increased pneumonia risk and mortality was affected from antibiotic usage in the last three months, high CRP value and low albumin value. Nosocomial pulmonary infections were associated with considerable morbidity and mortality in renal transplant recipients. The development of nosocomial pneumonia can be prevented with the effective strategies of immunosuppression in the hospitalized kidney transplant recipients by taking the advantages and disadvantages into consideration.

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Parameter	Group Rad n 56	Group ECMPS n 50	p Value
5 years Graft survival	81.2%	68.6%	0.115
Death	4(8.9%)	7 (15.9%)	0.308
Therapy switch	6 (10.7%)	6 (12.0%)	0.77
5 years serum creatinine (mg/dl) (median and quartiles)	1.34 (0.92-1.84)	1.41 (1.19-1.73)	0.215
5 years e-GFR (ml/min)	71.82 ± 35.77	60.0 ± 26.19	0.114
5 years Proteinuria (mg/24h))median and quartiles)	296(151-473)	174.5 (12-1012)	0.002
Peak Cyclosporin levels (ng/dl)	321.49 ± 144.32	670.81 ± 165.80	<0.001
Everolimus levels (ng/dl)	6.1 ± 2.18	-	-
Acute rejections	8 (14.2%)	9 (18.0%)	0.358
Serum Cholesterol (mg/dl)	214 (202-232)	205 (187-223)	0.134
Use of statin	22 (39.2%)	7 (14.0%)	0.001
Systolic blood pressure (mm/Hg)	131.71 ± 18.09	128.71 ± 14.94	0.462
Diastolic Blood pressure (mm/Hg) (median and quartiles)	80 (70-80)	80 (70-85)	0.925
Number of anti-hypertensive drugs	2 (0-4)	2 (0-4)	0.86
Haemoglobin (gr/dl)	13.1 ± 1.5	12.78 ± 1.29	0.27
Use of Erythropoiesis stimulating agents	4 (7.1%)	1 (2.0%)	0.358
Malignancies	0	1(2.0%)	0.494
Cardiovascular events	0	2 (4.0%)	0.24
New onset diabetes after transplant	4 (7.1%)	4(8.0%)	1
Infections	9 (16.0%)	9 (18.0%)	0.95

MP658 OUTCOME OF KIDNEY TRANSPLANTATION IN HEPATITIS C INFECTED PATIENTS: A SINGLE CENTRE STUDY

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Introduction and Aims: Hepatis C Virus infection is not uncommon in patients of CKD on Haemodialysis. The incidence of HCV infectoin in our haemodialysis population is 10%. It has been documented that Transplantation (Kidney) gives a survival benefit than dialysis to even to HCV infected patients. It also significantly improves the quality of life. Ours is a large dialysis and transplant unit. We do around 3500 sitting of dialysis 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 receipients (8%) in our center. Two of the acute rejection patients needed ATG treatment. And one needed Plasmapherosis and IVIG therapy besides ATG for severe Antibody mediated rejection. The One year patient survival was 92%, comparable to the other transplant receipients (97%). Both the deaths were due to severe Pneumonia. The One year death censoned 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 functions 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 simillar 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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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, ABOi LKT has been performed in patients with various backgrounds such as unrelated combinations. We compared the results of ABOi unrelated LKT with those of ABOi 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 were 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±24.2 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 splenectomy at the time of transplantation.
Results: The patient/graft (death censored) survivals were 100%/100% at 1 and 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 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, 1.2±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

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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 thymobulin 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 lymphoprolipherative disease in both groups. We did not observed 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

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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 ≥ 6.5% (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,and 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 54mmol/mol) . Blood pressure and Lipid management for some patients

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Patient Category (n= 284)	Number	Percentage
Patients with pre transplant diagnosed DM	30	10.6%
Patients with no pre transplant DM	254	89.4%
Patient with new onset DM post transplant	21	7.39%

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Immunosuppressive Drug	n (%) of NODAT patients
Tacrolimus	14 cases(66.6%)
MMF	9 cases (42.9%)
Cyclosporine A	4 cases (19.04%)
Azathioprine	3 cases (14.3 %)
Sirolimus	3 cases (14.3%)
Myfortic	1 case (4.8%)
Prednisolone	20 cases (95.2%)

did not meet the NICE guidelines.
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.

MP662 POST-TRANSPLANT ANAEMIA AS AN INDEPENDENT PREDICTOR OF MORTALITY. A 10-YEARS FOLLOW-UP STUDY

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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) wascalculated 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.

MP663 FIRST 50 BLOOD TYPE ABO INCOMPATIBLE KIDNEY TRANSPLANTATIONS, SINGLE CENTER EXPERIENCE

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Introduction and Aims: Blood type O patients are at a disadvantage for matching with a compatible blood type kidney donor in donor exchange programs compared to blood type A or B patients. In recent years protocols have been developed that allow for transplantation of ABO blood type incompatible (ABOi) kidneys without the need for splenectomy. These less invasive protocols aim to desensitize the patient pre-transplantation and have greatly improved graft survival. This study describes the single center experience in the Netherlands of ABOi kidney transplantation.
Methods: Four weeks pretransplantation patients received a single dose rituximab and started triple immune suppression (tacrolimus, mycophenolate mofetil, prednisolon) two weeks later. Immunoadsorption (IA) through colums with either synthetic A or B epitopes was performed in the week before transplantation. The frequency of IA depended on the height of the anti donor blood type antibody titers at the start of the protocol and the objective was to lower the titer to <1:8 the day before transplantation. Fifty patients received a ABOi kidney transplant in a period from 2006 to 2012. We matched 100 blood type ABO compatible controls for age of donor and recipient during the same period.
Results: In the ABOi group a very high percentage (86%) of the patients had bloodtype O, compared to only 39% in the control group. The donors had bloodtype O in 60% of the controls. This illustrates the donation of O donors (60%) to also non O recipients (60-39=21%) in every ABOc program, this is why O recipients can fall behind on the waiting list. Within the first week, 11 antibody mediated humoral rejection were noted of which 3 were mixed rejections humoral and cellular mediated rejection. Also 9 cellulair mediated rejection occurred, mostly within the first week after transplantation. During the first year two grafts were lost due to rejection. One year graft survival and renal allograft function of the ABOi grafts were similar to 100 matched ABO compatible renal grafts, 96 % vs 99%. During our 5 year follow up period graft survival was 90% in the ABOi vs 97% in the control group. Adverse infectious events specifically related to the ABOi protocol were not observed.
Conclusions: The currently used ABOi protocol shows good short and long-term results despite a relatively high frequency of humoral rejection. It facilitates an optimal use of the available living kidney donors and the bloodtype O patient benefits especially from this program.

MP664 DEVELOPMENT OF A DEDICATED CARE PATHWAY FOR MANAGEMENT OF THE FAILING TRANSPLANT

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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/1.73m^2 (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 in our transplant patients reached end stage. Patients found to have grafts with progressive irreversible worsening renal function were cohorted as low clearance patients in a dedicated clinic for intensified management. Patients were flagged and all team members were made aware. A multidisciplinary approach: targeted medical/nursing/psychological/dietary input were made available early on, in one visit where required a "one-stop-shop". General practitioners were also integrated early on to support transition and to ensure hepatitis B vaccination were administered and appropriate.
Results: The patient age range was 32-71 years, male: female ratio (70.4%: 29.6%), 70.3% Caucasians, 7.4% Black, 7.4% Asians and 11.1% others. The aetiology 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 12.1+/-3.12mls/min/1.73m^2, haemoglobin10.8+/-1.41g/dl. Potential donors had been identified by 40.7%, 55% of these received transplants either pre-emptively or within a year of transplants reaching end stage, 9 started pre-planned peritoneal dialysis, 1 conservative care, 13 started haemodialysis, 6 had preformed functioning fistulae & 3 tunnelled lines because of imminent transplants, 2 were unexpected failures and 1 was excluded from analysis as was lost to follow-up & presented via intensive care in end stage.
Conclusions: These patients have special needs and may require psychological input in addition to the attention given to nutrition, biochemistry, anemia and medical co-morbidities. By establishing a special focus clinic to cohort patient care we have been able to provide management, which meets the standard of care requirements of the RA and other established guidelines for managing ESRF patients due to other causes. We support development of guidelines for managing this unique group of patients, as they represent a growing population.

MP665 DENGUE INFECTION IN PATIENTS WITH RENAL TRANSPLANT: A REAL PROBLEM IN PARAGUAY

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Introduction and Aims: Dengue fever infections can be asymptomatic, or can produce undifferentiated fever, Dengue Hemorrhagic Fever (DHF) and Dengue Shock Syndrome (DSS). The virus transmission by blood products or by organs of a donor in transplantation is a possibility that has been reported in medical literature before. The goal of this work has been to evaluate the behavior of the Dengue Fever in kidney transplanted patients with a compromised immune system, in an endemic zone as Paraguay.
Methods: Retrospective observational study of transplanted patients of the Instituto de Previsión Social of Paraguay, that presented dengue fever diagnosed, from January 2008 to December 2012. Statistical Analysis: Excel 2007 includes average, standard deviation, percentages and Student's Test T.
Results: From a total of 135 patients that had kidney transplantation, 8 (6%), presented dengue fever infection in this period of time. There were 3 female and 5 male patients with and average age of 45.6 ± 15.1 years old and a time of presentation of the disease of 41.8 ± 80 months after the renal transplant. 2 (25%), presented the disease in the immediate post transplantation period. All cases were seen in their first transplant, 3 out of living donors and 5 of cadaveric donors mmune suppression: Micofenolic Acid-Prednisone (100%), Cyclosporine (38%), Tacrolimus (62%). The symptoms were: Fever (100%), malaise (80%), myalgia (80%), headache (66%), shock (38%), bleeding

(13%). All patients had been hospitalized. The diagnosis was made by the presence of NS1 Antigen (62%) and by the IgM antibody (38%5). At the peak of the presentation leukocytes had an average value of 2362.5 ± 1026.2/mm^3, platelets 68000 ± 24712.2/mm^3, Hematocrit 40.2 ± 6.4%, liver function workup was altered in 75% of the patients. Capillary fugue certified by ultrasound was found in 50% of cases. From the renal function point of view, creatinine at the admission was 2, 1 ± 0, 6 mg/dl and at the discharge 1.4 ± 1.1 mg/dl (p=0, 4) in patients with late post transplantation period. Two patients in the immediate post transplantation period required hemodialysis, inotropic drugs and die by multiorgan failure. The time period of hospitalization has been of 8.6 ± 5 days and none of the surviving patients has lost their graft until now.
Conclusions: In the population studied, two thirds of the patients, those who were on their late post transplantation period, had presented a relatively benign evolution of dengue fever. Eventhough these patients presented an initial raise in their creatinine, this had returned to the previous values and none had lost their graft. The mortality rate was 25% and is related to immediate post transplantation period, what take us to increase the control measures of the pre transplant, as for dengue fever screening of the organ donors, although the sensibility, feasibility and cost-benefit should be study.

MP666 COURSE OF PRE-TRANSPANT PROTEINURIA AFTER TRANSPLANTATION AND ASSOCIATED ALLOGRAFT PATHOLOGIES IN NON-DECLINERS

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Introduction and Aims: Proteinuria immediately after renal transplantation may originate either from native kidneys in patients with residual renal function at the time of transplantation or from diseases emerging in the allograft. Knowing the source and course of post-transplant proteinuria is essential for proper management. The aim of this study was to investigate the course of native kidney originated pre-transplant proteinuria after transplantation.
Methods: Forty eight adult patients (33 men, 15 women; transplanted between 1999-2011) with proteinuria ≥ 500 mg/day within preceding 3 months before transplantation were included. Data including demographic characteristics, primary renal disease, immune suppressive regimens, blood pressure meassurements, allograft biopsy findings were collected from hospital records. Proteinuria was meassured in 24-h urine collections before transplantation and monthly in the first year.
Results: The median age was 28.5 (17-58). Five main primary renal disease was 31.3% glomerulonephritis, 14,6% hypertention, 8.3 % Familial Mediterraneian Fever, 8,3 % vesicoureteral reflux, 6,3 % diabetes mellitus.The immunesupressive regimen consisted of tacrolimus+mycophenolate mofetil+ steroids in 54.2%(26) of patients ,cyclosporine +mycophenolate mofetil+steroids in 41.7% (20) of patients and azathioprine +cyclosporine+steroids in 2 patients(4.1%). The median pre-transplant proteinuria was 1953,29 mg/day (500-7068,6). One month after transplantation more than 50% decline in proteinuria (proteinuria reduction ratio;PRR≥50%) was observed in 43 (89,6%) patients. Proteinuria decreased below 500 mg/day in 38(79,2%) patients , below 200 mg/day in 13(27,1%) patients at first month. Three months after transplantation ≥50% decline in proteinuria was observed in 46(95,8%) patients. Patients with PRR≥50% were significantly younger than patients with PRR<50% at first month (29.9±8.8 vs. 39.4±15.8 p=0.04). Renal biopsy was performed in only 3 patients with increased poteinuria and creatinine and in 10 patients with an increase in creatinine only. Acute rejection was reported in all proteinuric patients, there were 3 calcineurine inhibitor toxicity, 2 interstitial fibrosis+tubular atrophy, 5 acute rejection in biopsies of patients with increased creatinine.
Conclusions: Proteinuria from native kidney origin disappears as quick as one month after transplantation in majority of patients indepedent from primary renal disease, type of donor, type of transplantation (preemptive or not), blood pressure and serum creatinine. In patients with high levels of proteinuria removing native kidneys prior to transplantation or precluding preemptive transplantation and starting dialysis were preferred by different centers. The findings of this study may alter this practice as majority of patients had a great decrease.

MP667 PRE EMPTIVE KIDNEY TRANSPLANTATION

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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 catheter 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, Cylosporin+MMF+ 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 1000/720 mg twice daily on day-1 of transplant. All paients received inj methylprednisolone 500 mg perioperatively. In SF group tab prednisolone was initiated on day 1 at a dose of 40 mg, tapered and stopped on day 5. In steroid group prednisolone was gradually tapered to a dose of 5- 7.5 mg at 3 months. Graft biopsy was done whenever rejection was suspected. Target trough level of tacrolimus was kept between 8-12 ng/ml in first three months, 6-8 ng/ml for next 3-6 months and 3-6 ng/ml thereafter. Outcomes were evaluated in terms of acute rejection, infections, new onset diabetes after transplant, and graft or patient loss.
Results: 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 only 1 (1.5%) in PKT group (P=0.019). The incidence of pre transplant CAD was significantly higher in dialysis group, 19 (22.5%) vs only 2 (3.2%) 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.

MP668 RESULTS FROM 150 PANCREAS-KIDNEY TRANSPLANTS - A SINGLE CENTRE ANALYSIS

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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 May/2000.
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±21months (except 5 preemptive). Anti-lymphocyte globulin, tacrolimus, mycophenolate and steroids were used as induction therapy. Deceased 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 infection was the leading cause (5 cases), followed by cardiovascular (CV) or cerebrovascular disease (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 glycaemia is 81±10mg/dl; and HbA1c=5.3±0.4%. Hypertension was treated in 52 SPKT (47.2%), in the majority (31SPKT) with a single drug (mostly a beta-blocking agent). Polyglobulia was found in 9.1%. Hyperlipidemia was observed in 21 patients (19.1%); and excessive weight (>25kg/m2) in 19 patients(17.3%).
Conclusions: From our cohort of SPKT, 93.3% 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%.

MP669 EFFICACY AND SAFETY OF OUTPATIENT RABBIT-ANTITHYMOCYTE GLOBULIN INDUCTION IN DE-NOVO KIDNEY TRANSPLANT RECIPIENTS

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

(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 KTX pts (excluded simultaneous organ transplants or prior transplant other than KTX) with graft survival > 3 days, 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% ECD, 17% DCD). Sixteen percent of pts were re-transplants, 33% had PRA > 20% and 27% had DGF (dialysis in 7 days post-KTX). First outpt rATG dose could have been rATG dose 3, 4 or 5 of the rATG induction course. In 226 (69%) pts dose 3 was the first outpt rATG dose, in 89 (72%) pts, dose 4 was the first outpt rATG dose and in 13 (4%) pts, dose 5 was the first outpt rATG dose. Median (range) days from last inpt rATG dose to first outpt dose was 6 (2-19), 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. Less than 2% of pts required dose reduction for leukopenia or thrombocytopenia. Mean (SD) hospital LOS was 4 ± 2 days, 30 day readmission rate was 29%. Outpt usage avoided 416 hospital days that would have been required had rATG been administered in the inpt setting. At 6 month post-KTX 16% pts experienced an opportunistic infection, 7% had a rejection episode, 16 pts had Class I DSA (donor specific antibodies) detected, 9 pts had Class II DSA, and 6 pts had both detected. Two pts experienced graft loss (1 rejection, 1 primary non-function) and 1 died of cardiac causes.
Conclusions: Outpt rATG administration lowered hospital LOS without compromising efficacy or safety, and remains a standard practice at our institution.

MP670 CLASSICAL CARDIOVASCULAR RISK FACTORS AND ANEMIA AFTER RENAL TRANSPLANTATION

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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 anaemia and the Framingham heart risk factors within five 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 erythropoietin therapy. In the second part we tried to establish the predictive value of Framingham score for general cardiovascular disease calculated immediately after transplantation and 1 year later. We also analysed the change of average Framingham score between 1 year and 5 years after transplantation. The acquired data was statistically processed with χ^2 test, paired t test, descriptive analysis and cross tabulation.
Results: In the first part we have shown that cardiovascular episodes occur 2.59 times more often than in the rest of the population, that the distribution of different kinds of these episodes differs only slightly from the rest of the population, that males are at greater risk and that erythropoietin therapy reduces the occurrence of these episodes. In the second part we established a good predictive value of Framingham score for general cardiovascular disease immediately after and 1 year after transplantation. The average Framingham score in our sample for one patient does not increase between years 1 and 5 after transplantation.
Conclusions: It is evident from our results that these patients are at greater risk, which dictates a more through 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 prognostic value.

MP671 LIVING DONOR KIDNEY TRANSPLANTATION FROM HBsAg POSITIVE DONOR TO HBsAg NEGATIVE RECIPIENT

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Introduction and Aims: HBsAg positivity is currently regarded as a contraindication of kidney donation to HBsAg negative patients. We developed a protocol that enables transplantation from a HBsAg (+) donor to a HBsAg (-) recipient.
Methods: Transplant candidates without protective titer (≥10mIU/ml) of anti-HBs antibody were given hepatitis B vaccination to develop protective level of antibody. Viral load of donors was reduced by entecavir to be undetectable by real time PCR before transplantation. Recipients were also given entecavir before and during 3 months after transplantation for prophylaxis. Hepatitis B immune globulin was injected intravenously to recipients in the morning of transplant day.
Results: Six living donor kidney transplantations in 5 patients from HBsAg (+) donor to HBsAg (-) recipient were performed. In 5 transplantations, recipient had protective titer of antibody at initial presentation. One patient had a low titer of anti-HBs (7mIU/ml), which was raised by hepatitis B vaccine to protective level (15mIU/ml) before transplantation. All the recipients had undetectable HBV DNA after transplantation and remained HBsAg (-)/ anti-HBs (+) during the median follow up of 25(8-48) months.
Conclusions: Kidneys from HBsAg (+) living donors can be safely transplanted to HBsAg (-) recipients.

MP672 NUTITIONAL STATUS AND CARNITINE LEVEL IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction and Aims: Overweight and obesity are common in subjects after kidney transplantation. On the other hand, sings of malnutrition and abnormalities in carnitine metabolism are recognized in this group of patients. **The aim** of the study was to evaluate the prevalence of nutritional status abnormalities in a cohort of stable kidney transplant recipients (KTx). We also investigated associations between nutritional status, graft function and carnitine concentrations.
Methods: 80 (45m/35 f) prevalent kidney transplant patients 52.4 ±13.9 years of age (without carnitine 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 m(2), 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 was present in 64% (21/33) of the overweight patients and in 91% (10/11) of the obese patients. KT 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 KT 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 FC/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. 2. In spite of overweight/obesity KTx recipients showed signs of malnutrition.3. KTx patients need thorough nutritional evaluation and appropriate nutritional interventions.

MP673 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 21.4% had previously received another kidney transplant. 21% had had at least one episode of acute rejection and 27% were treated with ESAs. In 47 patients (27.8%), steroids were discontinued completely during the follow-up period. In all patients, we analyzed body composition using bioimpedance spectroscopy (BCM, FMC ®), collecting data on overhydration (OH) with respect to the water content of normohydrated tissues, 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

adjusted for age, sex, body composition. Lean tissue (LTI) and fat tissue indexes (FTI) were calculated (kg/m ^{2}). 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 / ECW % 4.9 ± 8.9%). The OH is inversely related to the fat content (r = -0305, p <0.001) and ClCr (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 = 0.023), but is unrelated to the duration of steroid 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 interpretated as a prescription bias in drug withdrawal. Decreased renal function is significantly associated with increased hydration (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.

MP674 ORAL IRON SUPPLEMENTATION IS EFFECTIVE IN CONTROLING ANAEMIA IN LONG TERM RENAL ALLOGRAFT RECIPIENTS

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Introduction and Aims: Post Transplant Anaemia (PTA) has been associated with both delayed and reduced allograft function. It is multi-factorial and appears to be more prevalent in the kidney transplant recipients (KTR) population than in GFR-matched chronic kidney disease (CKD) patients. There is little published data and considerable uncertainty regarding optimal treatment options and targets for management of PTA.
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 between 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 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*39.7 % [131/330]; p=0.931). Hb values were similar (12.86 +/-1.73 *vs*12.97+/-1.68 g/dl). There were no significant differences between groups in most biochemistry parameters, including creatinine, eGFR, CRP, as well as haematinics; ferritin, B_{12}, folate. Overall iron use was similar in cohort A *vs* B (23.6% *vs* 29.4%). In 2011-12 however, more patients received oral iron (20.9% vs 5.7%, p<0.05), while the number of KTRs on IV iron was significantly reduced 18.8% to 8.5% p<0.05). Folate supplementation was also more rigorous in the cohort B with 10.3% *vs* 8% in A of the KTRs receiving folic acid. Although ESA use did not differ significantly between the two cohorts (10.2 vs 11.2%, p=0.404), a reduction trend in mean dose was observed in 2011-12 with no increase in blood transfusions.
Conclusions: Oral iron supplementation may be a valuable tool for the management of PTA. Our data show that oral iron can be effectual in the treatment of iron deficiency and PTA.Further studies are needed to investigate the efficacy and tolerability of long term oral iron supplementation in PTA management as well as potential cost benefits and impact on allograft outcomes.

MP675 NONRENAL DETERMINANTS OF KIDNEY GRAFT RESISTANCE INDEX IN STABLE KIDNEY TRANSPLANT RECIPIENTS DURING LONG-TERM OBSERVATION

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Introduction and Aims: Increased resistance index (RI), measured in segmental arteries within the kidney graft, has been associated with decreased long-term allograft and patient survival in kidney transplant recipients. Moreover, RI correlates with age and markers of atherosclerosis and arterial stiffness, but not with kidney graft function. Taking into account the potential role of endothelial dysfunction, inflammatory status, arteriosclerotic lesions and target organ damage, we perform the cross-sectional study to evaluate nonrenal determinants of kidney graft resistance index in a large cohort of stable kidney transplant recipients.
Methods: This study enrolled 174 kidney transplant recipients with a mean time after transplant of 8.2±1.8 years.Echocardiography, carotid ultrasound (intima media thickness - IMT) and the assessment of pulse wave velocity (PWV) were performed, as well as the Doppler examination of kidney graft. The inflammatory markers, adhesion molecules and NT-proBNP concentrations were measured. Patients were divided into quartile subgroups based on RI value (Q I: RI ≤0.68, Q II: RI 0.69-0.72, Q III: RI 0.73-0.76, Q IV: RI ≥0.77).
Results: The analyzed quartile subgroups were comparable in respect to demographics (except age), anthropometric parameters, and comorbidities.The values of age, serum phosphate, PWV, end-diastolic diameter (EDD), left ventricular mass (LVM), and LVM index (LVMI) were higher in subsequent RI quartile subgroups. The strongest correlation was found between RI and age, EDD, LVM, LVMI, parathormone, and negative with eGFR. There were also very strong correlation between age and IMT (r=0.484, p<0.001), and additionally with PWV, systolic BP, LVM, and LVMI. PWV correlated with end-systolic diameter (ESD), intraventricular septal thickness (IVS), LVM, and LVMI. In backward stepwise multivariate regression analysis, the RI variability were strongly explained by age, LVMI, and serum phosphate. PWV has shown an independent contribution to RI variability after the exclusion of age from explanatory variables.
Conclusions: Arterial stiffness and left ventricular hypertrophy may significantly influence on intrarenal vascular resistance index measured by Doppler sonography in stable kidney transplant recipients.

MP676 BORTEZOMIB IN THE TREATMENT OF RESISTANT ACUTE ANTIBODY- MEDIATED REJECTION: A SINGLE CENTRE EXPERIENCE

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Introduction and Aims: Acute antibody-mediated rejection (AMR) represents a rare complication after kidney transplantation that often leads to renal allograft loss. Previously reported therapeutic superiority of combination of plasmapheresis (PP) and intravenous immunoglobulin (IVIG) may however fail in some resistant cases. Thus, the aim of this study was to analyze the efficacy and safety of bortezomib based treatment of resistant AMR in kidney transplant recipients.
Methods: Resistant AMR was defined as a persisting deterioration or non-function of renal allograft in patients with histological verification of AMR, positive C4d+ staining and detection of donor specific antibodies (DSA) receiving standard antirejection treatment with PP + IVIG. Novel therapeutic approach to resistant acute AMR protocol was based on administration of bortezomib [1 cycle of 4 doses of bortezomib (1.3 mg/m2)], plasmapheresis and a dose of Rituximab (375mg/m2). Patients were followed for 3-12 months.
Results: 7 patients received bortezomib based protocol to cure resistant AMR. Their peak PRA was 47.57 ± 36.69%, mean HLA mismatch in HLA- A 1.57 ± 0.53, HLA-B 1.57 ± 0.53, HLA- DR 1 ± 0, and median dialysis vintage was 53. 2 months, patients underwent 1st kidney transplantation, while 4 patients retransplantation (2ndTx n=2, 4th Tx n=3). Immunosuppressive protocol consisted of induction with antithymocyte globulin (n=6) or basiliximab (n=1). Diagnosis of resistant acute AMR was made on 15^{-th}POD (9- 450 days). Based on therapeutic effect, three patients received 1 cycle, while four patients received 2 cycles of therapy. The side- effects observed were urinary tract infection (n= 2), colitis (n= 2), polyneuropathia (n= 2), hepatotopathia (n= 3) and fluid retention (n=5). After bortezomib based regimen, the DSA decreased in both HLA class I (MFI before treatment 9614 ± 9531 vs. MFI after treatment 1393 ± 1760, p < 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 (S-Cr 304.86 ± 201.15 µmol/l before treatment vs. S-Cr 195 ± 8.68 µmol/l after treatment, p = 0.21, eGFR-MDRD 0.42± 0.30 ml/s vs. 0.58± 0.25 ml/s, respectively, p = 0.21).
Conclusions: Combination of bortezomib, plasmapheresis and rituximab seems to be the effective approach to cure resistant acute antibody mediated rejection.

MP677 LUNG INFECTION IN RENAL TRANSPLANT RECIPIENTS

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Introduction and Aims: We evaluated incidence, aetiology, clinical and radiological features, risk factors and outcome of pulmonary infections (PI).
Methods: 204 patients who received renal transplant (RT) in our centre from January 2005 to June 2010.
Results: Pneumonia developed in 31 RT recipients (14.2%). Among all patients with PI, 19.3% had bacterial infection, 19.3% had viral and bacterial infection, 45.2% had

polyaetiological infection (3-4 microorganisms) and 16.2% had pulmonary tuberculosis. The most common clinical signs of PI were fever (100%), dyspnoea (61.3%), and general fatigue (54.8%). Chest CT scan most often revealed consolidation (74.4%), ground-glass opacity (72.7%), local pneumofibrosis (45.4%) and mediastinal lymphadenopathy (45.5%). Overall mortality rate was 35.5%. The highest mortality was observed in patients with severe polyaetiological pneumonia. 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 leukopenia (OR 5.76, p = 0.0002).
Conclusions: Identifying patients with risk factors and careful clinical monitoring, posttransplant chemoprophylaxis with valganciclovir and trimethoprim-sulphamethoxazole, early diagnosis and early treatment are necessary to decrease the incidence of severe pneumonia 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 suggest any improvements in practice in order to ensure 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 1st January 2005 to 31st December 2008. 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), co-morbidities (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). 30 (42.1%) 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 "crash-landed" 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, 20 (23.4%) had "crash-landed" 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 with a high BMI are less likely to receive a transplant, although interventions such as gastric banding and targeted weight loss programs may improve fitness for transplant. Age was not a factor in our group of patients. All renal physicians considering fitness for transplantation should be aware of the guidelines for assessing patients, but should also consider what interventions may be available to improve fitness.

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

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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 CKP-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 m^2, MDRD4=54.9±19.3 mil/min/1.73 m^2, and CKD-EPI=55.8±19.6 mil/min/1.73 m^2. Good correlations were found between CG–MDRD4 (r=0.84; *P*<.001), CG–CKD-EPI (r=0.87; *P*<.001), and MDRD4–CKD-EPI (r=0.98; *P*<.001). The analysis of concordance detected a bias (normal difference)of -10.6±12.7 vs. -9.8±11.3 mil/min/1.73 m^2 (*P*=.006), a variability (percent difference) of 14.5±15.4% vs. 13.6±14.5% (*P*=.031), and an exactness (P30) of 81.7% vs. 86.9% (*P*<.001) of CG–MDRD4 versus CG–CKD-EPI, respectively. For a GFR>60ml/min/1.73 m^2 the exactness was 75.3% vs. 83.5% (*P*<.001) for CG–MDRD4 versus CG–CKD-EPI, and for a GFR≤60 ml/min/1.73 m^2 it was 89.7% vs. 91.2% (*P*<.001).
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 m^2.

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 cadaveric 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 the frequency of 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 examinees 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 examinees 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 levels by a quantitative measurement, while the creatinine clearance was statistically significantly higher in Group 1 (p=0.02). Some of the most common post-op complications were diarrhea (N=4), pulmonary embolism (N=3), pneumonia and pneumothorax, found at 2 patients, respectively. After the donor nephrectomy, mean levels 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 suggest the necessity of constant and regular post-op monitoring, with the aim of timely discovery and treatment of before mentioned comorbidities.

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

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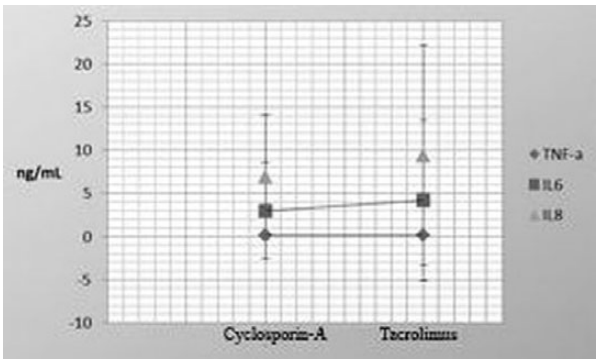
Introduction and Aims: Calcineurin inhibitors (CNI) inhibit the synthesis of interleukin (IL) 2 and other cytokines. CNIs are used to prevent rejection of transplanted organs. However, CNI's can cause inflammatory diseases itself. The effects of CNI on proinflammatory cytokines have not been studied in previous clinical trials. In this study, the effects of CNI's (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 recipients 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.

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/h), 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±0.9 g/day) levels were comparable in CsA 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 (3±5.6 vs. 4.2±3.9 ng/mL), IL-8 (6.9±7.2 vs. 9.4±7.12 ng/mL) and TGF-beta1 (185±103 vs. 88±16 pg/mL) levels did not show a significant difference in CsA 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 homeostasis effects of CNI's 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.



MP681

MP682 RENAL ALLOGRAFT OUTCOMES IN LIVE DONOR RECIPIENTS ON TACROLIMUS BASED TRIPLE IMMUNOSUPPRESSION WITH AND WITHOUT BASILIXIMAB INDUCTION

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Introduction and Aims: Whether basiliximab induction improves outcomes in live donor renal allograft recipients on tacrolimus based triple immunosuppression is uncertain. The present observational study was performed in intermediate immunologic risk live donor renal transplant recipients to assess basiliximab efficacy when used in combination with tacrolimus, mycophenolate and prednisolone.
Methods: All consecutive patients who underwent renal transplantation from genetically unrelated donors (mostly spouses) or poorly matched related donors (less than haplomatch) were studied prospectively from July 2009 to June 2011. There were 46 patients in the basiliximab group and 56 patients in the control group. Patients in both groups received triple immunosuppression including tacrolimus, mycophenolate and steroids. All patients were followed up and analyzed at the end of 6 months and 1 year. They were compared with respect to overall graft function, rejection episodes, infections and hospital admissions of any cause.
Results: The incidence of biopsy proven acute rejection in the control group (12.5%-6 months, 20.5%-1 year) and the basiliximab group (13%-6 months and 18.9%-1 year) was similar. At 6 months, there was a trend towards more steroid sensitive rejections and better GFR preservation in the basiliximab group (83.3%, 71.9ml/min) vs. the control group (28.6%, 62.2ml/min), which was not observed at 1 year (70.1 ml/min vs. 67.6ml/min). The incidence of infections was similar and none of the patients had a malignancy. Death censored graft survival (94.6%-basiliximab, 94.8%-control) and the mean number of hospitalizations for all reasons at the end of 1 year were not different among the two groups (0.30/patient/yr vs 0.36/patient/yr – basiliximab vs control, p= 0.67).
Conclusions: We conclude that basiliximab induction does not significantly improve outcomes in intermediate risk live donor renal transplant recipients on tacrolimus and based triple drug immunosuppression.

MP683 SERUM FIBROBLAST GROWTH FACTOR TYPE 23 (FGF23) IN THE EARLY AND POSTTRANSPLANTATION PERIOD IN KIDNEY ALLOGRAFT RECIPIENTS

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Introduction and Aims: To assess the level of serum FGF23 in kidney allograft recipients and to evaluate relationship between FGF23 level and some clinical and laboratory parameters in early and long-term period after cadaveric kidney transplantation.
Methods: Forty six kidney allograft recipients aged 18-65 years were divided into the 2 groups according to vintage of post-transplant period (5-192 months): group 1 – ≤24 months (21 pts), group 2 - > 24 months (25 pts). Serum FGF23 levels have been measured using commercial enzyme-linked immunosorbent assay kits. Serum phosphate, calcium, potassium, sodium, creatinine, urea, alkaline phosphatase, uric acid, lipids, glucose, as well as proteinuria and glomerular filtration rate (GFR) were measured at the same date.
Results: There were no significant intergroup differences in FGF23 level because of wide variation in individual data. However in Group 1 serum FGF23 level positively correlated with patients' age (r = 0.472; P = 0.031), duration of dialysis treatment (r = 0.474; P = 0.030), and systolic blood pressure (r = 0.482; P = 0.027), as well as with serum creatinine (r = 0.523; P = 0.015), urea (r = 0.483; P = 0.026), sodium (r = 0.634; P = 0.002), uric acid (r = 0.712; P <0.0001), alkaline phosphatase (r = 0.506; P = 0.019), and proteinuria (r = 0.615; P = 0.003), and negatively – withGFR (r = -0.493; P = 0.023). In Group 2 serum FGF23 levels also significantly related to allograft function: positive correlation with serum creatinine (r = 0.430, P = 0.031), and proteinuria (r = 0.637, P = 0.001), and negative – with GFR (r = -0.542, P = 0.005). In the same time correlation vectors between serum FGF23 and phosphate levels were headed in different directions in studied groups: negative correlation in group 1 (r = -0.439; P = 0.046) because of phosphaturic effect of FGF23, and positive one in group 2(r = 0.413, P = 0.04) probably as the consequence of of kidney function deterioration.
Conclusions: In cadaver kidney recipients post-transplant course of the phosphate-FGF23 relationships introduce two-dimensional pattern: in the early period after kidney transplantation high level of FGF23 induce well-known effect of phosphaturia and hypophosphataemia with the negative correlation between serum FGF23 and phosphate levels, whereas later (after the two years post-transplant) the deterioration of kidney function and phosphate retention lead to increasing synthesis of FGF23 (positive correlation).

MP684 VALUE OF MEAN PLATELET VOLUME IN CHRONIC KIDNEY DISEASE PATIENTS, DIALYSIS PATIENTS AND RENAL TRANSPLANTATION

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Introduction and Aims: Increased platelet activation contributes to cardiovascular morbidity and mortality in chronic renal failure (CRF) patients. Mean platelet volume (MPV) is a convenient marker of platelet functions and activation. As many of the studies that investigate MPV and platelet activation, the results were conflicting and controversial. In this study we aimed to evaluate MPV in a broadened group of chronic kidney disease (CKD) patients that include; hemodialysis (HD), peritoneal dialysis PD, stage 3-4 chronic kidney disease patients and the patients had treated with renal transplantation (RTX).
Methods: In this study we retrospectively investigated 200 CKD patients consists of 50 stage 3-4 CRF patients, 50 HD patients, 50 PD patients and 50 Rtx patients. Included

MP684 Table 1 Characteristic of chronic kidney disease patients

	Average age	Sex ratio n (F/M)	Mean CRP	Mean PLT (x10^3/ml)	BMI	Mean MPV	WBC (x10^3/ml)
CRF stage 3-4	52.9 (18-72)	1 (25/25)	7.62±8.63	243.5	27.7	7.98±1.05	7.920
HD	49.8(22-75)	0.92 (24/26)	14.09±17.24	220.5	23.1	7.92±1.19	7.658
PD	48.8(37-76)	1.3 (28/22	4.31±3.22	259.5	22.5	7.76±1.18	7.420
Rtx	36.4(18-61)	1 (25/25)	5.99±6.88	243.9	25	7.98±0.94	8.252

F: Female, M: Male, CRP:C-reactive protein, PLT: Platelet count, MPV: Mean platelet volume, BMI: Body mass index, Hb: Hemoglobulin, CRF: Chronic renal failure, PD: Peritoneal dialysis, Rtx: Renal transplantated patients, WBC: White blood cell count

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), hemoglobulin, 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 stage3-4 were detected as 14.09±17.24, 4.31±3.22, 5.99±6.88 and 7.62±8.63 accordingly. Mean CRP value was detected statistically significantly higher in HD patients compare to PD, Rtx and CRF stage3-4 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.

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 71years). 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 mildly 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 69.7 ml/min +/- 33.1 (median: 61.7 ml/min; 95% CI: 52.2-69.4 ml/min). During the observation period 58.4% of patients required dialysis therapy. Mortality was significantly higher when patients pre-transplant were on dialysis (hr=4.64, $p<0.001$) or had a severely impaired renal function (hr=3.57, $p<0.001$). Overall mortality 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 a MRA 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 reported on the MRA scan. Using the donor operative notes data was collected for the number of arteries, veins and ureters found during the operation. Following the collection of the data the discrepancies between the MRA and the operative notes for the donors were recoded.
Results: Amongst a total 110 donors, there were 108 who underwent MRA study and 2 were identified to have CT angiograms. The mean age of the donors was 44.5 (min 19 and max 69) years. The total number of discrepancies for renal arteries between the MRA and operative findings were 18 (16%). The number of discrepancies for renal veins and ureters identified 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 dyslipidemic CKD patients with an estimated glomerular filtrationrate 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 serum cholesterol, HDL, LDL, triglyceride, glucose, HbA1c, Na, K, Ca, P, alanine aminotranferease, 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 antilipidemic drugs were not changed. Adverse events were noted.
Results: None of the patients need to increase the dose of insulin or antidiabetic medications during the study. In 1 patient occured sever hypoglycemia, therefore the doses of insulins were reduced. In 5 five patients occured moderate, and in 7 patients occured 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-lipidemic 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 poteinuria 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.

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	Baseline	After Z. jujuba	p
HbA1c (%)	7,57	6,76	p<0,05
Fasting glucose, mg/dl	152,25	134,03	P<0,05
Total Cholesterol, mg/dl	230,29	207,70	p<0,05
HDL, mg/dl	49,1	48,25	NS
LDL, mg/dl	145,14	124,14	p<0,05
Trigyceride, mg/dl	171,85	166,66	NS
GFR, ml/min	45,35	48,56	NS
Creatinine, md/dl	2,65	2,44	NS
Urea, mg/dl	56	52	NS
Ca, mg/dl	8,7	8,9	NS
P, mg/dl	4,6	4,9	NS
Na, mEq	138	141	NS
K, mEq	4,7	4,5	NS
AST, U/L	21	18	NS
ALT, U/L	16	14	NS
Daily urine amount, ml	1800	2300	p<0,05
Proteinuria (mg/day)	250	240	NS

MP688 KIDNEY TRANSPLANTATION IN TYPE 2 DIABETIC PATIENTS: A MATCHED SURVIVAL ANALYSIS

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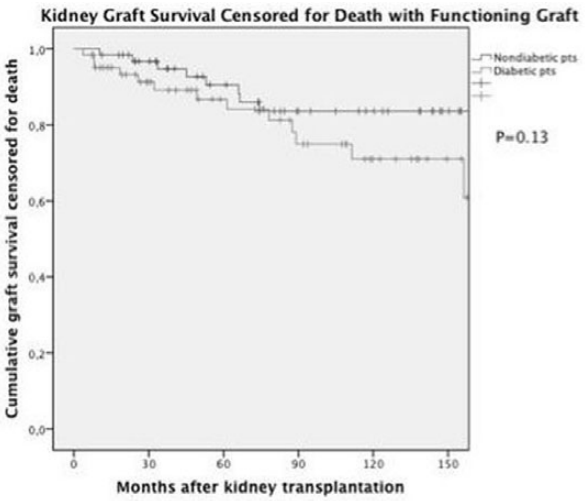
Introduction and Aims: Diabetes mellitus (DM) is the most prevalent cause of kidney failure. Some concerns have been raised about the kidney transplantation (KT) results in diabetic patients. Therefore we compared outcomes between diabetic and non-diabetic patients after KT.

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 (X^2 test p=0.38). Occurrence of DGF did not differ (X^2 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.



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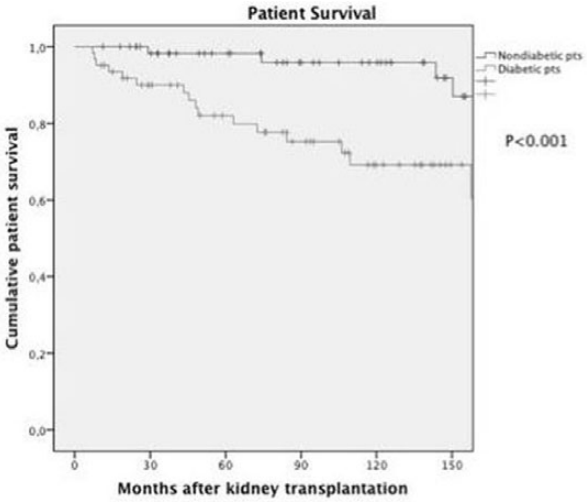

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MP689 **LOWER SERUM MAGNESIUM 1-YEAR POSTTRANPLANTATION IS ASSOCIATED WITH PROLONGED USE OF PROTON PUMP INHIBITORS AND DECREASED GRAFT SURVIVAL IN RENAL TRANSPLANT RECIPIENTS**

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Introduction and Aims: Hypomagnesaemia is a known side effect of immunosuppressive regimen, especially calcineurin inhibitors, and has been associated with new onset diabetes after transplantation (NODAT), decreased graft survival in chronic cyclosporine nephrotoxicity and vascular stiffness. Proton pump inhibitors-induced hypomagnesaemia has been described recently, although its relevance in renal transplant recipients is still unknown.
Methods: We conducted a single center cross-sectional retrospective study of renal transplantations performed between 2006 and 2011 in order to evaluate the impact of low serum magnesium (Mg) levels in patient and graft outcomes. Serum Mg levels 1-year after renal transplantation were available for 316 patients.
Results: The median follow-up was 1062 days (range, 284 – 2287). Patients were divided into four groups, based in quartiles of serum Mg levels, and no significant differences were found regarding sex, age, pretransplantation cholesterol, albumin, triglycerides, body mass index, donor age and type, immunosuppressive regimen, use of Mg supplements, delayed graft function, acute rejection, CMV and HCV infection, or NODAT development. Patients with Mg < 1.6 mg/dL (n=80) had a higher frequency of prolonged (> 1 year) proton pump inhibitors use (90% vs. 81%, p=0.04), when compared to patients with Mg > 2 mg/dL (n=81). Using Cox multivariate regression analyses, adjusted for recipient age, donor age and type, immunosuppressive regimen, diabetes, NODAT and presence of acute rejection, graft survival was significantly reduced in the low Mg group after 4.6 years posttransplantion (p=0.001).
Conclusions: Hypomagnesaemia 1-year posttransplantation, possibly related to prolonged use (> 1 year) of proton pump inhibitors, is associated with decreased graft survival in renal transplant recipients.

MP690 **HIGH SCHOOL STUDENTS' OPINIONS ABOUT ORGAN AND TISSUE DONATION FOR TRANSPLANT**

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Introduction and Aims: People information is the most important thing to obtain their participation in transplant process. We designed an outreach project about transplant-donation aimed to inform about the process at high school students in our province: Girona (Spain).
Methods: We developed our project over 8 years (2002-2010), offering our informative lesson performed by health professionals: nurses and doctors from the coordination department to high-school students. We went to the classrooms of students seeking a direct approach sometimes accompanied by transplant recipients talking about their own experience. We used blackboard and chalk as a communication way with students and we seek their participation conducting a seminar on the topic.
Results: Throughout this period we visited 46 different public and private institutes in 175 occasions. 418 lessons (83.6 every course) were given. We analyse the opinions of our high school students through 16.842 inquiries collected: 9140 before the briefing and 7702 after it. We compared results between gender, place of residence (urban or rural), isolated mountain areas or coastal areas with greater population mix.
Conclusions: Females, students from public institutes and urban population near mountain areas are more favourable to donation. Our method has been well received by students and teachers. 86.9% of the institutions asked for the lessons to be repeated 3 or 5 times more. The method is close, direct, easy and participative, with a greater impact on their mind. Additionally, in these times of crisis, the method is less expensive compared to others using modern technology.

MP691 **ACCESS TO TRANSPLANT AND TRANSPLANT OUTCOME MEASURES (ATTOM): EXPLORING HEALTHCARE PROFESSIONALS' PERSPECTIVES ON ACCESS TO RENAL TRANSPLANTATION IN THE UK**

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Introduction and Aims: Achieving equitable access to kidney transplantation is a challenge facing many countries, with a variety of studies demonstrating variation to access. As part of the qualitative work-stream of ATTOM this study aims to highlight

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.

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

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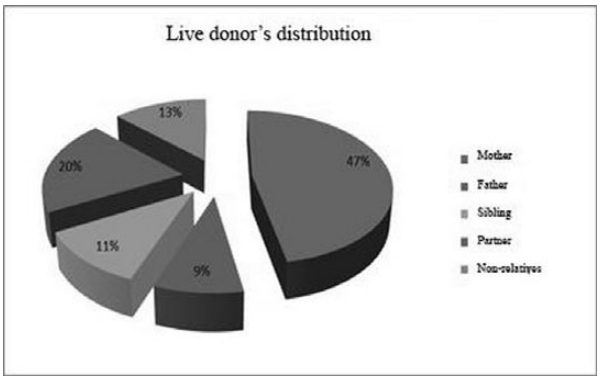
Introduction and Aims: The most outstanding of renal replacement therapy is kidney transplantation (KT). However, there is no adequate information about dialysis patients' thoughts on KT. This study investigated the opinions of chronic dialysis patients about KT.
Methods: The study was performed in all 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 thouhgt that they could save the lives of other people by their bodies. Others states that they were on



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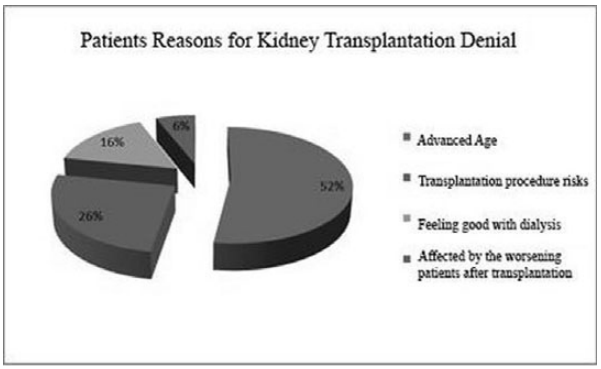

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dialysis and their organs were not robust anymore. Dialysis because of kidney disease and solid organ others had already noted that entered. 38 (6.4%) patients' relatives prepared organ donor card (10 mothers, 7 fathers, 10 siblings, seven wives and 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.