A tacrolimus based immunosuppression after HTX is effective and well tolerated given the number of rejection episodes and side-effects in this cohort of patients early after HTX. Thus, a tacrolimus based regimen may be advantageous in the presence of risk factors for certain post-transplant complications, e.g. lipid abnormalities or malignant rejection profile.

P151 MISOT – MESENCHYMAL STEM CELLS FOR IMMUNOMODULATION AFTER LIVER TRANSPLANTATION

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Liver transplantation is the succesful treatment for many end-stage diseases. However, life-long immunosuppression that is needed to prevent graft rejection causes clinically significant side effects. In fact, the overall and long-term success of liver transplantation as a curative therapy often depends on the occurrence and management of drug-related side effects. Mesenchymal stem cells (MSC) can be used as an adjunct to standard-of-care immunosuppressive pharmacotherapy.

The MISOT study group has brought European investigators together and a variety of protocols to complement immunosuppressive pharmacotherapy with MSC have been suggested. To decide if patients undergoing organ transplantation can be safely treated with MSC and if these therapies yield a benefit for patient and graft survival, careful consideration of all available pre-clinical and clinical data has to be carried out. The Regensburg team of MISOT has succesfully implemented a phase I study to evaluate the safety and immunologcial efficacy of infusing MSC after liver transplantation and the study design and regulatory network of this study will be presented.

P152 CLINICAL OUTCOME OF CALCINEURIN INHIBITOR FREE THERAPY WITH EVEROLIMUS AND MYCOPHENOLIC ACID DERIVATES IN MAINTENANCE HEART TRANSPLANT RECIPIENTS WITH CHRONIC RENAL FAILURE: A SIX MONTH FOLLOW-UP

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Background: The calcineurin inhibitor cyclosporine A and tacrolimus (CSA, TAC) have nephrotoxic side effects. The calcineurin-inhibitor-free therapie with Everolimus and Mycophenolic-acid (MPA) seems to be an efficient option to avoid renal failure in Cardiac Transplant Recipients with Chronic Kidney Disease.

Methods: During 01.01.2010 and 31.10.2010 we switched 13 maintenance cardiac transplant (CTx) recipients with chronic kidney disease (CKD) stages 3–4 from dose-reduced calcineurin-inhibitor-therapy + everolimus to everolimus (EVL) + Mycophenolic-acid (MPA) such as Cellcept, Myfortic. Kidney function, lipid metabolism, and cardiac function were investigated.

Results: A cardiac rejection (proved by echocardiography) did not occur during six month follow up. Three patients developed herpes zoster infection (thoracic) and one patient developed pneumonia. One patient died during 6 month follow-up due to sepsis induced by pneumonic infection. Creatinine decreased from 2.3 (1.7–2.5) mg/dl to 1.7 (1.0–2.2) mg/dl ($P < 0.05$), urea decreased from 108.8 mg/dl to 79.5 mg/dl and GFR increased from 28.9 (19–40) ml/minutes to 43.4 (30–70) ml/minutes ($P < 0.05$). Leucocytes, Hb and thrombocytes were stable during the 6-month follow-up.

Conclusion: EVL combined with MPA has moderate beneficial effects on kidney function in CTx patients with CKD stages 3–4. The combination of everolimus and MPA was safe with respect to rejection and adverse events. One 71-year-old male patient with end stage renal insufficiency died 91 month post-htx during the 6-month follow-up because of sepsis due to pneumonic infection.

P153 SPECIFIC EFFECTS OF VERY LOW DOSE CNI-REDUCED THERAPY WITH EVEROLIMUS COMPARED TO THE STANDARD DOSE

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Introduction: The influence of a very low dosage everolimus (EVL) therapy in combination with calcineurin – inhibitors (reduced) in heart transplant recipients with chronic renal failure on the development of renal function and safety is currently not known.

Methods: A total number of 81 patients after heart transplantation with chronic renal failure were included in our data analysis. Initial immunosuppressive regime was Cyclosporine A and prednisolon. 56 patients undergoing conversion to EVL between 1.1.2004 and 31.12.2004 received regular dose (RD) with EVL (level: 5–8 μg/l). 25 patients undergoing conversion to EVL between 1.1.2005 and 30.06.2006 received a very low dose (VLD) therapy with EVL (level: 3–3.5 μg/l), which were selected as a very low dose subgroup from 51 patients with low dose EVL. Follow up: 1 year.

Results: Leukocytes, erythrocytes, thrombocytes, cholesterin (incl. HDL, LDL) and triglycerides did not differ significantly during the follow up ($P > 0.05$). Course of creatinine during follow-up (VLD): Creatinine before conversion (t_0) 2.2 mg/dl; 12 months after conversion (t_{12}):2.1 mg/dl. (RD): Creatinine t_0: 2.1 mg/dl; t_{12}: 2.3 mg/dl. Rejection rate: VLD: 16%; RD: 8.9%. Drop-out-rate: VLD: 20%; RD: 32%. Adverse events VLD 8%; RD: 53.6% ($P < 0.05$). Infections: VLD: 16%; RD 3.6%. The clinical aspect of the infections (fever, lassitude, no microbiological findings) in the VLD was suspect for viral genesis but CMV DNA PCR as well as markers for fungal infection were negative in the 81 patients.

Conclusion: We conclude that the clinical results such as laboratory and safety in the VLD and RD are comparable. Nevertheless in the very low dose group more infections occurred without positive proof of CMV DNA. On the other hand in the regular dose group more adverse events such as dyspnea, edema and cytopenia occurred.

P154 URINARY TRACT INFECTIONS AFTER TWO DOSES OF MYCOPHENOLATE MOFETIL IN RENAL TRANSPLANT PATIENTS RECEIVING STEROIDS AND TACROLIMUS

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Introduction: Urinary tract infections (UTI) are the most common form of bacterial infection after kidney transplantation and can affect long-term graft function. The purpose of this study was to compare the incidence of UTI between high and low dose of mycophenolate mofetil based immunosuppressive regimens with steroids and tacrolimus.

Methods: This is a retrospective cohort study, which assessed the incidence of UTI among kidney transplant recipients receiving the same immunosuppression apart from two dosages of mycophenolate mofetil (1 g/day vs. 2 g/day) with a total of 300 recipients (2004–2009) and a follow-up of 12 months.

Results: A total of 130 patients received initially 2 g/day mycophenolate mofetil (high dose, HD), 170 patients received 1 g/day (low dose, LD). In both groups, immunosuppression was reduced in steps. Groups did not differ in terms of demographics, delayed graft function, rejection rates and graft function (creatinine after 12 months: mean 1.8 mg/dl HD vs. 1.7 mg/dl LD).

Urinary tract infections were observed in 34.6% (HD) and 14.7% (LD) in the first month, 42.3% (HD) and 28.3% (LD) in the first 3 months, 50.8% (HD) and 36.9% (LD) in the first 6 months, and 54.6% (HD) vs. 39.4% (LD) in the first 12 months (each time $P < 0.05$). The most common were Gram-negative bacteria (59.3% HD vs. 65.2% LD) with predominance of *E. coli* (44% HD vs. 47.8% LD). Gram-positive bacteria were detected in 39% (HD) and 30.4% (LD) of positive cultures.

Conclusions: Infections are highly prevalent in the first year following transplantation. Initial dosage of 2 g/day leads to a significantly higher rate of urinary tract infections despite comparable rejection rate and transplant function.

P155 CORRELATION OF RECIPIENT FACTORS WITH THE COURSE OF LYMPHOCYTES AFTER ALEMTUZUMAB INDUCTION IN RENAL TRANSPLANTATION

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Introduction: The recovery of lymphocytes after alemtuzumab induction has been investigated in a number of trials, however, the clinical course after renal transplantation (KTx) has not been correlated with lymphocyte recovery. Herein, we correlate the outcome as well as recipient factors with lymphocyte recovery after alemtuzumab.

Methods: Retrospective analysis of 225 KTx between 01/2004 and 12/2010 which received 30 mg alemtuzumab as induction agent. Patients were devided into four groups according to lymphocyte recovery at four points of time (pre-Tx, 1–3 weeks post-Tx, 3 weeks-3 months post-Tx and 3–6 months after KTx). The relevance of recipient-characteristics was analyzed. Delayed kidney graft function (DGF) was defined as requirement for more than one dialysis within the first week after KTx. Statistical analysis of variance for repeated measurements with measurement time as within-subject factor and with age, CMV status, DGF status as between subject factors were performed

Results: Among all factors analyzed, DGF, CMV status and age showed a significant correlation with lymphocyte counts. The lymphocyte-counts in the DGF-group were higher, 10.7% vs. 13.13% ($P = 0.036$) in the first 3 weeks post-Tx. CMV-status of the recipient influences the quantity of lymphocytes pre-Tx significantly ($P = 0.009$). Age showed an influence on lymphocyte count 3 months post-Tx ($P = 0.032$).

Conclusion: CMV-status and age have a significant impact on lymphocyte recovery after alemtuzumab induction. Lymphocyte counts early after transplantation represent a prognostic factor for kidney function early after transplantation. A detailed analysis of phenotype and function of lymphocytes after alemtuzumab induction together with a correlation with the clinical course is warranted.