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**The -318C/T, -1722T/C and +49A/G polymorphisms at the CTLA-4 gene in kidney allograft tolerance**

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Kidney rejection remains as a major cause of morbidity associated with successful engraftment. The CTLA-4 molecule is expressed on activated T cells and binds to B7 molecules on antigen-presenting cells, delivering negative signals to T lymphocytes. We investigated whether single nucleotide polymorphism (SNP) -318C/T, -1722T/C and +49C/G of the CTLA-4 gene were associated with susceptibility to acute or chronic kidney allograft rejection. DNAs were extracted from peripheral blood cells of 114 kidney transplant patients (acute rejection n=17, chronic rejection n=51 and no rejection n=46) and 196 healthy controls and the CTLA-4 polymorphisms were successfully genotyped using allelic discrimination method on the StepOnePlus instrument (Applied Biosystems). No statistically significant association was found between the groups at the -318C/T CTLA-4 polymorphism. When compared to healthy controls, the frequency of the CTLA-4 -1722TT genotype, responsible for increased transcription of the CTLA-4, was marginally decreased in the rejection group (acute + chronic) (p=0.0609) and the CTLA-4 -1722CT genotype was increased in the chronic rejection group (p=0.0158) and in the whole rejection group (acute + chronic) (p=0.0066). The CTLA-4 +49AG genotype was underrepresented in chronic rejection group when compared to no rejection (p=0.0018) and to healthy controls (p=0.0022) and also in rejection group (acute + chronic) when compared to no rejection (p=0.0111) and to healthy controls (p=0.0153). In conclusion, the CTLA-4 -1722TT and CTLA-4 +49AG genotypes were associated with protection against development of kidney allograft rejection, while CTLA-4 -1722TC genotype was associated with susceptibility to kidney allograft rejection.

**P6.12.03**

**KIR & their HLA ligand and aGVHD incidence post HSC TX**

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**Introduction:**Killer Ig-like receptor (KIR) play an important role in the outcome of HSC Tx and GVHD incidence .**Material and methods:**The study population was comprised of 86 donor and recipient siblings transplanted with hematopoietic cells during March 2010 to June 20111. The patient group consisted of: 29 patient with ALL, 27 patients with AML and 30 with Thalassemia. All the patients and donors were examined for KIR and KIR HLA Ligand by multiplex PCR-SSP method using commercial Olerup KIR and HLA ligand genotyping KIT.**Results:**The results of this study showed that the presence of 2DL2 in donors is related to aGVHD incidence with a Hazard ratio is 4.21 (P.value =0.001.) by contrast, presence of 2DS4 (o.125 Hazard ratio and 0.000 P.value) and 3DS1 (Hazard ratio= o.248 and P.value=0.000) is associated with reduction of aGVHD incidence. **Inconclusion:**Accordingly donor NK cells can destroy their alloreactive targets. If malignant cells remained after chemotherapy targeted by NK cells and prevent relapsing the disease. The result of this study is in accordance with Ruggeri`s study which found that alloreactivity prevents aGVHD. Therefore, Nk cells alloreactivity by destroying APC prevent recipient antigen from presenting to T cells which are the most important cells in aGVHD and consequently preventing disease occurance .

**P6.12.04**

**Clinical Relevance of HLA and MICA Antibodies in Live Related Renal Transplantation**

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The presence of HLA and non-HLA antibodies has been associated with rejection and poor allograft outcome following renal transplantation. The present study was undertaken to evaluate the clinical role of HLA and MICA antibodies in live related renal transplantation. Sera from 64 renal transplant patients before and after 7-14 days post transplantation were taken and analysed by Luminex XY platform for the presence of HLA and MICA antibodies. Presence of both of these antibodies correlated with poor graft survival. A comparison of well functioning grafts (WFG) with the rejection cases in the presence/ absence of all the three types of antibodies was done. The 30% of the acute rejection cases had all the three types (HLA Class I, II and MICA) of antibodies present at the pre-transplant stage. However, none of the well functioning graft showed the presence of all the three types (*P<0.001*). 10% of the acute rejection cases showed *de novo* development of HLA antibodies. On the other hand 50% of the ATN cases showed the presence of all the three types of antibodies (*P<0.0001*). Interestingly, 33% of the cases which developed ATN were detected to have no HLA class I or HLA class II antibodies but anti-MICA antibodies in both pre and post transplant serum samples. Although 5% of the patients with WFG showed the presence of HLA class I and class II antibodies none were detected to have the pre-transplant or post-transplant MICA antibodies. The study highlights the relevance of MICA antibodies in poor graft survival.

**P6.12.05**

**Kidney donor MICA antigens and MICA antibody specificities detected in renal transplant recipients**

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Purpose/Objective: Despite recent advances in solid organ transplantations, an antibody mediated rejection caused by donor specific antibodies represents still a major problem in kidney graft survival. Besides HLA-induced humoral response, anti-MICA antibodies have recently attracted attention because of their possible role in a graft rejection.

Patients, material and Methods

The aim of our study was to establish if MICA antibodies are induced following the kidney transplantation and if are specific for MICA antigens of their donors. 20 patients were enrolled to the study and anti-MICA antibodies were detected by a multiplex technology. MICA alleles were typed by a sequence analysis.

Results: Anti-MICA positive sera from renal transplant patients evaluated for antigen specificities showed mostly more complex reactivity patterns as 20% of the tested sera reacted with a single MICA antigen only. The spectrum of anti-MICA antibodies gradually enlarged: six months after the transplantation, antibodies specific for other than original MICA antigens were identified. Evaluation if the recipient′s anti-MICA antibodies are donor′s MICA antigens specific has disclosed that it is not the case. Most of patient′s sera (65%) recognised not only the donor MICA antigens, however also others. The match between antibody specificities and MICA antigens was observed in 35% of patients only.

Summary: We didn't find a correlation between the specificities of the kidney recipient′s MICA antibodies and MICA antigens of the donor.

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