Methods: The study population comprised 59 patients (32% females, 78% Caucasian) transplanted at our institution between 1/1/09-5/31/12 who developed biopsy-proven antibody mediated rejection (C4d positive, with or without peritubular capillaritis and/or glomerulitis) in the absence of detectable HLA-donor specific antibodies (DSA) by Luminex single antigen bead testing.

Results:

A total of 12 graft losses and 7 deaths occurred over a median follow-up time of 30.5 months. Both a 0% cPRA and occurrence of delayed graft function (DGF) predicted graft loss after adjustment for age and gender (Table 1). Associations of 0% cPRA, DGF(p=0.06) and >3 HLA mismatches with patient death approached significance in univariate analysis. Of note, only 1 patient went on to develop subsequent detectable de novo DSA in this high risk group within a 1 year follow up period.

Risk Factor	Hazard Ratio (95% confidence interval)	P value
Previous transplantation	6.1 (0.47,80)	0.16
0% cPRA	25.9 (1.4,263)	0.02
HLA mismatch>3	7.6 (0.67,64)	0.10
Delayed graft function	2.2 (0.94,12.3)	0.06

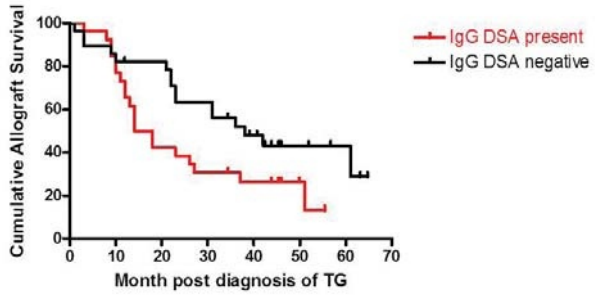
Conclusions: Despite the absence of detectable HLA-DSA by conventional single antigen bead testing, patients with biopsy-proven antibody mediated rejection remain at a substantial risk of graft loss. Further, the risk of graft loss in these patients is highest in those without detectable HLA allosensitization, suggesting a role for other non-HLA auto- or alloreactive antibodies in mediating graft injury, or possible local deposition of HLA-DSA that are not detected in the circulation.

Abstract# A140

IgG Donor Specific Antibodies [DSAs] in Patients With Transplant Glomerulopathy [TG] Are Associated With Inferior Allograft Survival. C. Clarke,[1] C. Lawrence,[1] M. Willicombe,[1] K. Shiu,[2] P. Brookes,[1] C. Roufosse,[1] T. Cook,[1] A. Dorling,[2] D. Taube,[1] J. Galliford.[1] *[1]Imperial College Renal and Transplant Centre, Imperial College NHS Trust, London, United Kingdom; [2]Renal, Urology and Transplantation Directorate, Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom.*

Transplant glomerulopathy (TG) is a manifestation of chronic AMR with a poor prognosis and no specific treatment. Although the association between TG and anti HLA antibodies [Abs] is well known, there are few studies linking the nature of these Abs to outcome. 55 patients with TG (33M, 22F, mean age 47.5±12.1 yrs, mean time to TG diagnosis 9.32±8.37 yrs, mean follow up 26.6±18.0 months) were studied. Stored serum samples from the time of TG diagnosis were analysed for the presence of IgG and IgM HLA, DSA and Complement fixing antibodies. 52/55 (94.5%) patients were HLA Ab+, 3/55 were IgG HLA Ab- and 1 patient was IgM HLA Ab+. 27/55 (49.1%) had IgG HLA DSAs, 2/27 had class I alone, 15/27 had class II alone and 10/27 had both class I+II. Overall 39/55 (69.1%) patients had Abs directed against DQ (21/39 were DSAbs, 18/39 were HLA). 24/55 (43.6%) patients had C1q+ antibodies; 2/24 (8.3%) had a C1q+ class I DSA, 16/24 (66.7%) had a C1q+ class II DSA, 3/24 (12.5%) had a C1q+ class I non DSA HLA and 3/24 (12.5%) had a C1q+ class II non DSA HLA. 16/24 (66.7%) of patients had C1q+ antibodies against DQ. Overall allograft survival was 70.8%, 35.3%, 27.2% and 15.5% at 12, 36, 48 and 60 months respectively, mean 26.4±17.7 months. Allograft survival was significantly worse in IgG DSA+ patients compared with IgG DSA- patients.

Figure 1.



(see Figure 1, log rank test p=0.04). The IgG DSA MFI had no effect on allograft survival. There was no difference in allograft survival in C1q+patients (p=0.88) although the presence of C1q+ Ab was associated with the presence of C4d on allograft biopsy (p=0.01).This study shows that the presence of IgG DSAs is associated with inferior allograft survival in patients with TG. This group of patients may benefit from more aggressive therapy.

DISCLOSURES: *Lawrence, C.*: Other, Honoraria from OneLambda , speakers fee from OneLambda.

Abstract# A141

Risk Factors and Clinical Outcomes in 3 Types of Acute Antibody-Mediated Rejection After Kidney Transplantation. J. Kim,[1] K. Jun,[1] M. Kim,[1] S. Ahn,[1] B. Chung,[2] J. Hwang,[1] S. Kim,[1] S. Park,[1] B. Choi,[2] S. Kim,[2] C. Yang,[2] Y. Kim,[2] M. Lee,[1] I. Moon.[1] *[1]Surgery, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of; [2]Internal Medicine, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of.*

Purpose

Acute antibody-mediated rejection (AAMR) has been increasingly recognized as a major cause of graft failure in kidney transplantation. The purpose of this study was to analyze prevalence, risk factors and clinical outcomes of acute antibody-mediated rejection.

Methods

We reviewed 835 patients who received kidney transplantation between January 2003 and April 2013. AAMR was diagnosed in 51 (6.1%) patients with median follow-up of 45.1 months (range 24 days-120 months). According to the type of AAMR, Recipients with AAMR were dived into three groups: 'Type I' (acute tubular necrosis like), 'Type II' (glomerular type), 'Type III' (vascular type with arterial inflammation).

Results

Among the patients with AAMR, 6(11.8%) showed type I, 41 patients (80.4%) type II, and 4 patients (7.8%) type III. The mean serum creatinine levels at diagnosis, 7days, 1 month, 6 months and 1 year after treatment of AAMR were higher in patients with type III than in those with type I or type II, but did not differ significantly (P = 0.357, 0.592, 0.716, 0.659 and 0.779, respectively). While all type I AAMR patients responded to treatment, 5 patients (12.2%) with type II and 3 patients (75%) with type III lost their allograft function. Graft survival rates at 1 year post-transplantation were 100%, in the 'type I' group, 97.6%, in the 'type II' group, and 25.0% in the 'Type III' group. There were significant differences among the three groups in grafts survival (P<0.001), and in patients survival (P<0.001). There were no significant differences among the three groups in the donor and recipient characteristics, and immunologic factors (number of HLA mismatch, number of KT, cross-match positivity, PRA>20%, PRA>50%, strong donor-specific anti-HLA antibody with a median flurescence intensity (MFI) at diagnosis).

Conclusion

Compared with Type I & II AAMR, Type III AAMR had inferior graft and patient survival. But among the three groups, there were no significant difference in patient characteristic and immunologic factors. Additional study is needed to find out the strongest predictor for development of type III AAMR.

Abstract# A142

High Incidence of Rejection Caused By Donor Specific Anti-HLA-DQ Antibodies in Kidney Transplant Recipients. A. Torio Ruiz,[1] O. Montes-Ares,[1] J. Rodriguez Perez,[2] C. Garcia Canton.[3] *[1]Immunology, C. H. U. Insular Materno Infantil, Las Palmas de Gran Canaria, Spain; [2]Nephrology, H. U. de Gran Canaria Dr. Negrin, Las Palmas de Gran Canaria, Spain; [3]Nephrology, C. H. U. Insular Materno Infantil, Las Palmas de Gran Canaria, Spain.*

Objective: Anti-HLA antibodies post transplant follow up has been suggested by several studies as a useful tool to identify patients with acute or chronic rejection risk, and therefore useful to implement the necessary therapeutic measures that would help us minimize its clinical impact.

Materials and methods: We had carried out a transversal and prospective study of 342 kidney recipients. Anti-HLA antibodies were tested using Luminex technology, screening and single antigen (Genprobe). The median number of tests performed per patient was 3.3. Single antigen with MFI > 1500 and specificity against any HLA donor antigen, determined by HLA-A/B/DR typing or linkage disequilibrium when HLA-DQB1* was not available, was assigned as donor specific antibody (DSA).

Results: Post transplant anti-HLA antibodies were detected in 126 patients (37%): 31% (39/126) were antibodies anti-HLA class I and II, 9.5% (12/126) were anti-HLA class I and 59.5% (75/126) were anti-HLA class II. Within the 126 positive patients, 40 (31.7%; 40/126) were de novo and most of them anti-HLA class II (39/40; 97.5%). De novo anti-HLA class II antibodies were DSA in 35 patients (75%; 35/40), anti-DQB1* was the most frequent specificity (82.8%; 29/35), anti-DR was found in five patients (17.2%; 6/35) most of them anti-DRB4* (4/6). DSA anti-DR and anti-DQB1* was only present in one patient. Anti-DP antibodies were not considered as we lacked typing data. Fifteen patients from the group with de novo anti-DQB1* DSA (51.7%; 15/29) suffered a rejection episode, causing graft failure in five recipients who failed to respond to therapy.

Conclusions: Anti-HLA antibodies monitoring allowed us to discover a high frequency of de novo anti-HLA class II DSA in kidney recipients, most of them against HLA-DQB1* specifities. These patients were found to have a higher rejection incidence. HLA-DQB1* typing should be recommended in donors and patients in order to take its compatibility into account.