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THE LONG-TERM SIGNIFICANCE OF DE NOVO DONOR-SPECIFIC ANTIBODIES IN PATIENTS WITHOUT HUMORAL REJECTION

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BACKGROUND: We previously reported results of a prospective study of 70 patients without pre-formed anti-HLA antibodies who were screened for the development of de novo anti-HLA antibodies at 0, 10, 20, 30, 60, 90, 180 and 365 days post kidney transplantation. Although development of de novo anti-HLA antibody in 11 patients (8 with DSA) was associated with rejection, screening for antibodies did not predict development of acute rejection (AR) before clinical evidence of allograft dysfunction (Transplantation 2010: 89(2):178-84). The current analyses report long-term follow up outcomes on the study participants who were alive with a functioning transplant at one year post transplant.

RESULTS: Table 1 shows the long-term outcomes assessed, including graft survival, late humoral or late cellular rejection after the first post transplant year, MDRD eGFR, the change in eGFR after the first post transplant year, and proteinuria (>1000 mg/day), after a median follow up of 8.6 years. Among the 7 patients with de novo DSA formation in the first year, 2/7 developed late humoral rejection versus 1/58 among those without de novo antibody. Among the n = 5 patients with de novo DSA formation but did not develop late humoral rejection on follow up, the change in eGFR was similar to that in patients who never developed anti-HLA antibodies (-4 ml/min/1.73m2). In contrast, among the n = 2 patients with de novo DSA formation and subsequently developed late humoral rejection, one suffered graft loss, and the other had a 45 ml/min/1.73m2 drop in eGFR.

CONCLUSION: These findings suggest that the long-term significance of de novo DSA in the first year appears to be primarily as a risk factor for late humoral rejection. Independent of humoral rejection there was little clinical impact of de novo DSA in these low risk patients without pre-transplant anti-HLA antibody. Larger studies are needed to define the clinical significance of de novo DSA in patients without humoral rejection.