Oral Presentations: Immunology/Transplantation

220-OR: Is There Any Prognostic Value of Diabetes-Associated Autoantibody Levels for Predicting Islet Graft Function in Patients with Long-Standing Type 1 Diabetes Mellitus?

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Abstract

Introduction: Correlation between increasing titers for GADA, IA-2A, and ZnT8A and graft loss due to recurrent autoimmunity has been reported, but not confirmed in other studies. Here, we assessed the prognostic value of DAA levels for predicting graft function in our cohort of islet transplant recipients.

Methods: Twelve patients with T1DM with hypoglycemic unawareness underwent islet allotransplantation (ITx). Eight of those patients were randomly assigned to receive Reparixin (CXCR1/2 inhibitor) and remaining 4 to placebo in addition to thymoglobulin, tacrolimus and mycophenolate mofetil for immunosuppression.

Titers of DAAs were monitored before IT and 0, 7, and 75 days and every 3 months post-operatively.

Results: IA-2A and ZnT8A levels were undetectable prior to and after IT in all 12 T1DM patients at any time points, median follow-up of 56 months (24-66) so had no value in islet monitoring. No difference was observed for trends of GADA titers between 4 patients with long-term insulin independence after IT and the remaining 8 who experienced a decline in islet graft function. Prior to and after IT, GADA levels did not vary between patients receiving Reparixin and placebo with most GADA negative (65% and 50%, respectively). Most patients converted from GADA seronegative to seropositive or increased antibody titers [5/8 (62.5%) and 4/4 (100%), respectively] and converted back to seronegative by 1 year post-transplant and maintained partial or complete islet function over 4 years.

Conclusion: We found no correlation between trends of anti-GAD65 autoantibody levels and IT outcome in our 12-patient cohort. Levels of DAAs targeting IA-2 and ZnT8 were not detectable in all patients prior to and after IT and did not correlate with IT outcome. Differences in immunosuppression and anti-inflammatory regimens and patient characteristics between studies may contribute to inconsistency among reported results.

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