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Oral Presentations: Immunology/Transplantation

222-OR: BETA-2 Calculated Based on Single Fasting Blood Sample Allows to Define and Discriminate between Optimal and Suboptimal Islet Allograft Function Prior to the Clinical Need for Insulin Support

PIOTR J. BACHUL, JUSTYNA E. GOLEBIEWSKA, FILIP ANTIC, MONICA PARA, LINDSAY BASTO, KAROLINA GOLAB, LAURENCIA PEREA, LING-JIA WANG, MARTIN L. TIBUDAN, CELESTE C. THOMAS **and** PIOTR WITKOWSKI

[+](#) Author Affiliations

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Abstract

Introduction: The goal of the study was using BETA-2 to define suboptimal islet allograft function, which precedes clinical need of the insulin support and to discriminate it from the optimal function which allows for persistent insulin independence after islet allotransplantation.

Material: Thirty five islet transplants were performed in 16 patients with T1DM. BETA-2 trends over the time were assessed in 3 transplant groups depending on the clinical outcome: Group 1 (N=9) persistent insulin

independence; Group 2 (N=13) insulin independence loss preceded by the gradual islet graft decline; Group 3 (N=13) no insulin independence. Day 75 was a surrogate day of accomplished islet engraftment.

Results: None of the transplants with BETA-2 < 17.4 on Day 75 resulted in persistent insulin independence (ROC AUC=17.4 for BETA-2 Group 1 vs. Group 2+ Group 3 with 100% sensitivity). Moreover, afterwards BETA-2 always oscillated above 17.4 and never dropped below after each transplant from Group 1 with up to 12 years follow-up. In contrast BETA-2 dropped below 17.4 in every case from Group 2, 9 months (3-24) prior to the loss of insulin independence (Kaplan-Meier, p=0.03). Based on above, we defined that optimal islet function at any time point was represented by BETA-2 \geq 17.4, whereas suboptimal when BETA-2 was below that. Once BETA-2 dropped below 17.4 at any time point, islet function never recovered, instead gradually deteriorated with subsequent need for insulin support in every patient from group 2. Optimal vs. suboptimal islet graft function could be also discriminated based on individual fasting glucose, c-peptide or A1c values but with lower sensitivity and specificity. BETA-2 values never reached 17.4 at any time point after each transplant from Group 3.

Conclusion: BETA-2 with cut off 17.4 allowed to define and discriminate optimal vs. suboptimal islet allograft function before need for insulin support.

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Long-Term Function of Islet Allografts Transplanted on the Omentum Using a Biological Scaffold
DAVID BAIDAL et al., *Diabetes*, 2018

Primary graft function, metabolic control, and graft survival after islet transplantation.
Marie-Christine Vantyghem et al., *Diabetes Care*, 2009

Clinical outcomes and insulin secretion after islet transplantation with the Edmonton protocol.

E A Ryan et al., Diabetes, 2001

Beta-score: an assessment of beta-cell function after islet transplantation.

Edmond A Ryan et al., Diabetes Care, 2005

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G Nurullina, Ann Rheum Dis, 2017

Randomised, prospective, medico-economic nationwide French study of islet transplantation in patients with severely unstable type 1 diabetes: the STABILOT study protocol [↗](#)

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