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Oral Presentations: Immunology/Transplantation

## 218-OR: Does the Reparixin (CXCR1/2 Inhibitor) Improve Islet Cell Engraftment and Clinical Outcomes after Pancreatic Islet Allotransplantation in Patients with Type 1 Diabetes Mellitus? A Randomized, Double-Blind, Prospective Study

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Diabetes 2019 Jun; 68(Supplement 1): -.

<https://doi.org/10.2337/db19-218-OR> Check for updates[← Previous](#)**Article**

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### Abstract

We present results of the clinical study testing Reparixin- CXCR1/2 inhibitor for improved engraftment of islet allografts. Twelve patients were randomized blindly (2:1) to receive Reparixin (N=8) or placebo N=4) in addition to the same immunosuppression.

Results: Patient and donor characteristics as well as islet quality and quality did not differ significantly between the groups. Four (50%) patients from Reparixin vs. none (0%) from placebo group achieved persistent insulin independence after only one islet infusion for over 2 years (2.2, >4.5,>5,>5 years) (p=0.2).

Islet engraftment index (IEI) measured on day 75 based on the ratio of area under the curve for serum c-peptide (AUC c-peptide) and glucose (AUC glucose) in 120 min mixed meal test standardized for islet mass in IEQ of the first transplant was higher in each of 5 individuals without early complications in Reparixin group: 5.92, 6.02, 7.04, 9.44, 11.99, than in the placebo group (0, 4.56, 5.02) ( $p=0.035$ ). Islet function after engraftment measured by BETA-2 on day 75 was higher but did not reach statistical difference ( $p=0.07$ ); BETA-2 was 15.5, 21, 22, 23, 23 in Reparixin vs. 0, 10, 19 in placebo group. Diabetic retinopathy improved in 2 and remained stable in all patients who achieved insulin independence and got worse in one patient who has never become insulin free. Diabetic neuropathy based on EMG and neurological exam improved in 2 patients and remained stable in remaining 8.

**Conclusion:** Half of the patients from Reparixin group achieved long-term (>2 years) insulin independence after only one islet infusion, while none from placebo group had such outcome. Islet engraftment index was significantly higher in Reparixin group than in placebo, while assessed in patients without complications. Diabetic retinopathy and neuropathy remained stable or improved after successful IT.

**Disclosure** P.J. Bachul: None. J.E. Golebiewska: None. M. Para: None. F. Antic: None. L. Basto: None. L. Perea: None. K. Golab: None. L. Wang: None. M.L. Tibudan: None. C.C. Thomas: None. P. Witkowsk: None.

**Funding** Dompé Pharmaceuticals

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