

## Utility of the North American Islet Donor Score and Islet Donor Scores for Pancreas Donor Selection and Successful Islet Isolation in a new Polish Islet Transplant Center.

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**Introduction.** As of 2018, pancreatic islet transplantation has become available in Medical University of Gdansk in Poland to patients with life threatening brittle form of type 1 diabetes. This procedure enables restoration of optimal glucose control, prevent from severe hypoglycemic episodes and improve the quality of life.

Success in islet isolation largely depends on proper pancreas donor selection. Three donor scoring systems: Islet Donor Score (IDS), modified IDS and North American Islet Donor Scoring (NAIDS), are in common use for estimating the chance for successful islet isolation. We tested utility of those scoring systems in our donor population.

**Material and Method.** Eighteen islet isolations were performed in our GMP facility between 2018 and 2019. First 9 isolations were performed for optimization of the procedure and remaining 9 were clinical with the intent to transplant. All pancreas procurements were carried out by surgeons from local transplant center. Organs were transported in cold Sore Protect Plus (Carnamedica, Warsaw, Poland) preservation solution and Liberase (Roche, Poland) was utilized for digestion during islet isolation according to CIT (Collaborative Islet Transplantation) protocol.

**Results.** Seven out of nine (78%) clinical isolations were successful (islet yield > 300 000 IEQ). Five of them resulted in a clinical transplantation, one islet product was discarded due to positive gram stain and culture for donor transmitted bacteria, another one due to logistics. Cold ischemia time was relatively short, median 279 min (range 224-415). There were 7 male and 2 female donors, median age was 36 years (20-63), median BMI 26 kg/m<sup>2</sup> (21.1-29.4). Only pancreas from donors with score above 50 in all scoring systems were selected for isolation. The islet isolation success rate for donors with NAIDS and modified IDS in range 50-79 and 80-100 were 67% (4/6) and 100% (3/3), respectively. In contrast, the success rate was not proportional to IDS – for range 50-79 was 100% (4/4) and for range 80-100 was 60% (3/5), respectively. The success rate based on NAIDS and modified IDS was positively associated with higher range of scores, similar to results from the University of Chicago.

**Conclusion.** NAIDS and modified IDS although developed on North American donor population, were found to be equally effective predicting success of islet isolation and are useful tools guiding selection of pancreas donor in new transplant center in Poland.