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Polish American Medical Society
Welcomes You to the

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The Polish Museum of America

Consulate General
of the Republic of Poland
in Chicago

POSTER 5

Title: Long-term effects of pancreatic islets transplantation on polyneuropathy in patients with brittle diabetes: a single center experience.

Presenter: Sarah Gondek BS[1]

Authors: Sarah Gondek BS[1], William Lin MD[1], Joseph Tomecki, BS[1], Kamila Milejczyk BS[1], Surmai Shukla MBBS[1], Peter Ciesielski BS[1], Agnieszka Zawada MD PhD[1], Piotr Witkowski MD PhD[1]

Author affiliations: [1]Department of Surgery, University of Chicago Medicine, Chicago, Illinois, USA

Prior presentations: N/a

INTRODUCTION

Diabetes and poor blood glucose control leads to multiple secondary complications, including neuropathy and nephropathy among others. Restoration of optimal blood glucose control after whole pancreas transplantation was shown to halt or even reverse secondary diabetic complications despite the toxicity of lifelong immunosuppression. Islet transplantation is a minimally invasive alternative to whole pancreas transplantation with a similar endocrine effect. The goal of our study was to assess whether and, if so, how optimized blood glucose control after islet transplantation affects a patient's neuropathic complications. In this prospective single-center study, we investigated the long-term effect of ITx on the occurrence and course of polyneuropathy in a cohort of patients with brittle Type 1 Diabetes (T1D).

METHODS AND PROCEDURES

Thirteen individuals (4 males and 9 females) diagnosed with brittle T1D underwent a preliminary neurological examination using the Utah Neuropathy Scale (UNS) and a limited nerve conduction study prior to the ITx procedure. Subsequently, patients who achieved insulin independence were monitored annually for a duration ranging from 1 to 11 years.

RESULTS

At the visit before the transplantation, 39% (N=5) of patients had a UNS of 0. The rest had symptomatology of distal polyneuropathy (UNS of 2-16). There was no difference in the UNS at the baseline vs. at follow-up. The 5 patients without baseline neuropathy symptoms did not develop one at the end of the follow-up period. In the patients who had a UNS >0 (N=8), a slight improvement of UNS was noticed in 25% of patients (N=2), while the neuropathy slightly deteriorated in 3 out of 8 and it remained stable in the remaining 3 patients. There was also no significant difference between nerve conduction study parameters at the baseline and end of the follow-up, except for a significant decrease in peroneal and ulnar F wave latencies and an increase of ulnar sensory nerve conduction velocity as signs of conduction improvement.

CONCLUSIONS

If successful, ITx has a good long-term neurological safety profile and a favorable effect on diabetic neuropathy.