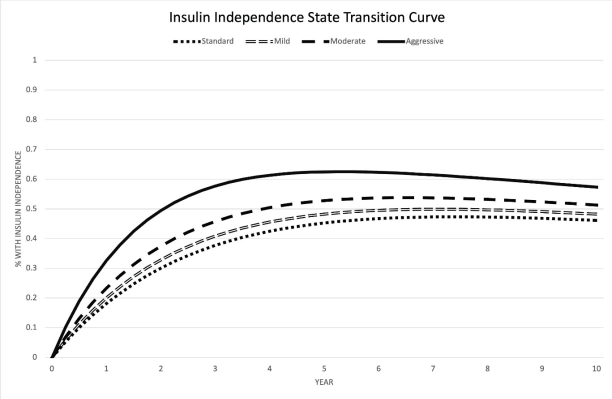
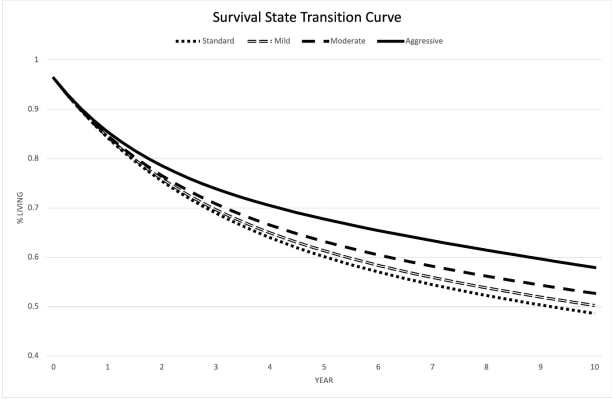
increasing the viable pancreas allograft pool with NRP, with the highest estimate, "aggressive", assuming a 50% increase.
Results: Increased organ availability with NRP resulted in an expected increase in patients who received an SPK transplant. At 5 years, over 63% of patients in the "aggressive" model had been transplanted compared to 46% in the standard model. A higher percentage of patients also achieved insulin independence post-transplant with increasingly aggressive acceptance practices; at 5 years, nearly 65% of patients in the "aggressive" model were transplanted and insulin independent compared to only 45% in the standard model. There was improved patient survival with more aggressive acceptance practices; 70% of patients in the "aggressive" model were living at 5 years compared to 60% in the standard model.
Conclusion: Widespread adoption of NRP has not yet occurred, but as its use continues to increase across the United States, this will have significant implications for the SPK waitlist with the opportunity to increase the number of patients receiving a lifesaving transplant and achieving insulin independence.





DISCLOSURES: M. Baimas-George: None. **M. Di Napoli:** None. **Y. Bababekov:** None. **S. Bahktiyar:** None. **A. Rouhi:** None. **P. Keneally:** None. **T. Nydam:** None. **R. Choudhury:** None.

Abstract #: P240

Modified robotic simultaneous pancreas-kidney transplant to decrease the intraperitoneal complication Katsunori Miyake, Mario Spaggiari, Luke George Atia, Maria Jimena Alaniz, Pierpaolo Di Cocco, Jorge A Almario Alvarez, Stephen Bartlett, Ivo Tzvetanov, Enrico Benedetti.*University of Illinois at Chicago, Chicago, IL.*

Introduction: In 2023, we published the effectiveness of robotic simultaneous pancreas-kidney transplantation (SPKT) for obese patients, where both the pancreas and kidney were implanted intra-peritoneally. However, placing the kidney intra-peritoneally can lead to post-surgical complications. To address these issues, we modified the robotic SPKT procedure in this study. **Methods:** The pancreas was placed intra-abdominally using robotic surgery on the left common iliac artery, while the kidney was placed on the right external iliac artery in the retroperitoneal space using open surgery. A GelPort for hand assistance was inserted through a right hockey-stick incision, and 3 robotic trocars were placed. Initially, we mobilized entirely the descending colon to create a space for the pancreas and continued by dissecting the external artery and vein. The pancreas was introduced into the abdominal cavity, and an end-to-side anastomosis between the portal vein and the external iliac vein was performed using 5-0 Gore-Tex sutures in a running fashion (Fig. 1A). Subsequently, an oval-shaped arteriotomy was created, followed by an end-to-side anastomosis between the Y-graft and the external iliac artery in a running fashion (Fig. 1B). The transplanted duodenum was anastomosed to the recipient ileum with side-to-side fashion using a 45 mm robotic vascular stapler for pancreatic drainage (Fig.1C). After undocking the robotic system, the kidney was placed in the right retroperitoneal space via open surgery. After closing peritoneum, the hockey-stick incision for the hand-assisted robotic maneuver was converted into an incision for the kidney transplant (Fig. 2AB). **Results:** Four cases have been performed with this modified procedure so far. The patients were all male, aged 42, 42, 47, and 49 years, with BMIs of 25.9, 26.8, 27.6, and 35.8, respectively. The lengths of hospital stay were 6, 6, and 9 days. No cases of ileus, bowel obstruction, leakage, or bleeding requiring intervention occurred post-operatively. Kidney and pancreas function after SPKT were well controlled.
Conclusions: Our modified procedure for robotic SPKT appears to have more benefit to remove the part of intraperitoneal kidney associated complications. Further investigations will be conducted to confirm these findings.

Fig. 1A

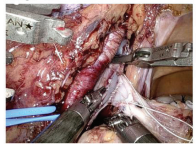


Fig. 1B

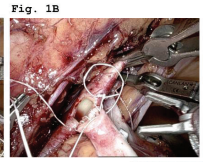


Fig. 1C

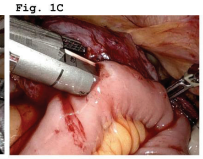


Fig. 2A

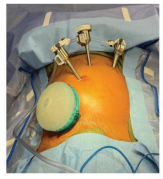
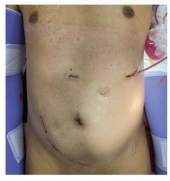


Fig. 2B



DISCLOSURES: K. Miyake: None. **M. Spaggiari:** None. **L. Atia:** None. **M. Jimena Alaniz:** None. **P. Di Cocco:** None. **J. Almario Alvarez:** None. **S. Bartlett:** None. **I. Tzvetanov:** None. **E. Benedetti:** None.

Abstract #: P242

Can Calcineurin Inhibitor-Free Immunosuppression Become a Reality? Preliminary Results from a Pilot Clinical Study of CD40L Co-Stimulation Blockade for Beta Cell Replacement Therapy Nicole Wojcik, Nathan Appelbaum, Braden Juengel, Lindsay Basto, Minelly Escobedo, Alexandra Juszczyk, Irena Kovacevic, Ling-jia Wang, Martin Tibudan, Ivan Nava, Rolf Barth, John Fung, Piotr Witkowski.*UChicago Medicine, Chicago, IL.*

Introduction: Toxicity of tacrolimus, a backbone of current immunosuppressive regimens, limits broader clinical application of islet transplantation. Tegoprubart, a novel monoclonal antibody targeting CD40 ligand (CD40L), represents a promising alternative. This study aims to assess the safety and efficacy of tegoprubart in islets transplants recipients. **Methods**: Three patients with type 1 diabetes mellitus have been enrolled thus far in this single-center, phase 1/2 clinical trial. Tegoprubart is administered intravenously at 20 mg/kg every three weeks following an initial loading dose, with mycophenolate used for maintenance immunosuppression. **Results**: The first patient, a 42-year-old female with a BMI of 29 reduced her insulin requirement from 80 to 30 units a day following a single-donor intraportal islet transplantation (363,000 IEQ, 4,092 IEQ/kg). A subsequent islets transplant led to insulin independence within one week. The second patient, a 32-year-old female with a BMI of 20, achieved insulin independence one month after her single-donor islet transplantation (326,000 IEQ, 6,700 IEQ/kg), with her HbA1c decreasing from 8.5% to 5.8% seven weeks post-procedure. Both patients experienced an uncomplicated post-transplant course, with no adverse events. Laboratory tests remain within normal ranges, and panel-reactive antibodies (PRA) remain stable without donor-specific antibodies. The third patient has completed a course of thymoglobulin and is scheduled for their first islet transplant in 3-4 weeks. Islet engraftment, as measured by the ratio of area under the curve (AUC) for C-peptide and blood glucose during the mixed meal tolerance test , standardized for transplanted islet mass (IEQ), was 2.5 fold higher in the first two patients compared to the historical controls treated with tacrolimus, instead of tegoprubart. **Conclusions**: Preliminary data from the first two patients suggest that tegoprubart, in combination with mycophenolate, is well-tolerated and effective in preventing islet graft loss following intraportal transplantation. Further investigation in warranted. **Acknowledgment:** The study was supported by T1D Breakthrough, The Cure Alliance, Eledon Pharmaceutical. Human panceata were generously provided by Lifebanc Ohio, Indiana Organ Donor Network, Gift of Life Michigan, Donate Life Wisconsin
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