The Cure Alliance Sends Key Funding For 1st Human Islet Transplant Using Novel Drug to Replace Toxic Anti-Rejection Drug

U of Chicago to use novel antibody to replace tacrolimus, the harsh anti-rejection drug associated with increased risk of severe side effects.

MIAMI, FLORIDA, UNITED STATES, October 16, 2023 /EINPresswire.com/ -- The Cure Alliance, a 501(c)(3) organization, is excited to announce initial funding to enable the first pancreatic islet transplant in a patient with Type 1 Diabetes using tegoprubart, an "anti-CD40L" monoclonal antibody from Eledon Pharmaceuticals, Inc., replacing, tacrolimus, the widely used anti-rejection drug.

> "This new anti-CD40L antibody has a great potential to be a game changer providing less toxic and more patient-friendly immunotherapy to treat diabetes and support organ/islet transplantation."
>
> *Dr. Piotr Witkowski*

Novel Treatment: Result of 30 Years of Research and Discovery

The first successful islet transplants were performed in the early 1990s by Dr. Camillo Ricordi and collaborators at the University of Pittsburgh, using the Ricordi Chamber and the system technology developed by Ricordi for isolating and purifying hundreds of thousands insulin-producing islets from the human pancreas. The islets were obtained from pancreas organ donors and infused through the portal vein into the liver where they produced life-sustaining insulin. This initial success was made possible by treatment of the recipients with the powerful anti-rejection drug, tacrolimus. However, harsh side effects were associated with this drug, including islet cell toxicity that often led to failure and recurrence of diabetes after an initially successful treatment.

Since then, scientists have spent nearly 30 years trying to develop non-toxic immunomodulatory strategies to replace tacrolimus and similar anti-rejection drugs that severely limit the application of islet transplantation to the most severe cases of Type 1 Diabetes.

At the University of Miami Diabetes Research Institute (UM-DRI), Dr. Norma Kenyon and Dr. Camillo Ricordi developed a novel strategy to prevent rejection of transplanted islets using "anti-CD40L" antibodies, that could replace tacrolimus and its feared side effects.

This novel antibody demonstrated absence of toxicity, and significantly increased insulin secretion from transplanted islets. Now, after years of collaboration with Drs. Kenyon and Ricordi, Eledon has developed an improved version of the antibody which will be used in the upcoming pilot study.

"It has been a long journey to help people with Type 1 Diabetes become free from dependence on insulin. This strategy holds great promise," said Dr. Ricordi.

With funding support from The Cure Alliance and the Juvenile Diabetes Research Foundation (JDRF), it is now possible to test this novel strategy in clinical islet transplantation for treatment of Type 1 Diabetes. The initial pilot clinical trial will be performed at the University of Chicago Transplantation Institute, by Dr. John Fung and Dr. Piotr Witkowski in collaboration with the UM-DRI.

Additional funding will be necessary to complete this important proof-of-concept clinical trial, and a fundraising campaign is ongoing at www.thecurealliance.org/donate/ where 100% of tax-deductible donations go directly to the study.

"We are extremely thankful to The Cure Alliance and JDRF for funding this important pilot study. This new anti-CD40L antibody has a great potential to be a game changer providing less toxic and more patient-friendly immunotherapy to treat diabetes and support organ/islet transplantation," said Dr. Witkowski.

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