Diabetes Researcher Explores New Strategies to Treat Autoimmune Diseases

With new research studies, clinical trials and a symposium, Camillo Ricordi, M.D., isn’t resting on his laurels. “Our program continues to advance the understanding of type 1 diabetes, with important implications for potential treatments of other autoimmune diseases as well,” said Dr. Ricordi, who is director of the Diabetes Research Institute and Cell Transplant Center at the University of Miami Miller School of Medicine.

“Our research into potential treatment strategies for type 1 diabetes has broad implications for other types of autoimmune diseases, as well as cellular and organ transplants,” said Dr.
Ricordi, Stacy Joy Goodman Professor of Surgery, Distinguished Professor of Medicine, and professor of biomedical engineering, microbiology and immunology. He has more than 25 patents including a machine that makes it possible to isolate large numbers of insulin-producing Islet of Langerhans cells from the human pancreas, and in 2018 he was inducted into the National Academy of Inventors, for contributing outstanding inventions that have made a tangible impact on quality of life, economic development, and welfare of society.

In 2018, Dr. Ricordi also ranked Number One in the world for transplantation of insulin-producing cells to treat diabetes, according to the publication Expertscape, which evaluated about 4,000 physicians, surgeons and scientists, based on 2,626 articles published since 2008, including 97 by Dr. Ricordi. The organization also ranked the University of Miami as one of the top three in the world. Ricordi was recently appointed to Italy’s Supreme Council of Health by the Italian Minister of Health.

On Friday, April 26, Dr. Ricordi is co-chairing a symposium, “Preventing Disease and its Recurrence in Type 1 Diabetes,” at the Diabetes Research Institute with Sonia Chritton, president of the Children with Diabetes Research Foundation. “We will review findings from screening programs, emerging strategies to halt the progression of autoimmunity, and diabetes prevention protocols,” he said.

Known for developing innovative strategies to avoid the need for anti-rejection drugs in transplantation and autoimmune diseases,
Dr. Ricordi is now working on a promising new approach using anti-CD40L antibodies. A number of early studies showed anti-CD40L antibodies inhibited the immune response to psoriasis, Crohn's disease, systemic lupus erythematosus as well as transplantation. However, concerns about activating platelets in the blood brought that line of research to a temporary halt.

With support from the ALS Association, bioscientists developed an engineered form of anti-CD40L antibodies designed to address autoimmune diseases without activating platelets. “This could be a game changer for type 1 diabetes, as well as ALS and other autoimmune disorders,” said Dr. Ricordi, who is working to organize a multicenter clinical trial later this year.

Type 1 diabetes affects 1.3 million people in the U.S. It is one of the 100-plus autoimmune diseases that affect an estimated 50 million Americans, according to the American Autoimmune Related Diseases Association.

Currently, Dr. Ricordi is principal investigator for the Miller School’s “Poseidon” study to compare the safety and effectiveness of two oral medications (Vitamin D and Omega-3) that may slow down or stop the progression of the autoimmune process and preserve insulin producing cells.

Enrollment in the two-year study is still open to qualified individuals between the ages of 6 and 65 who have been diagnosed with type 1 diabetes within the past 10 years. (Contact the DRI at 305-243-5321 or 305-243-6070 for additional information.)

The Diabetes Research Institute at the University of Miami
Miller School of Medicine leads the world in cure-focused research. As one of the largest and most comprehensive research centers dedicated to curing diabetes, the DRI is aggressively working to develop a biological cure by restoring natural insulin production and normalizing blood sugar levels without imposing other risks.