Podcast: Novel Advances in Stem Cell Therapies for Type 1 Diabetes

Type 1 diabetes (T1D) has long posed significant challenges for patients and researchers alike. But now, microscopic clusters of organisms are providing a glimmer of hope. Emerging as a new frontier in T1D treatment, stem cell-derived islet cell therapy is a novel approach that may revolutionize the lives of patients with this chronic disease.

Matthias von Herrath, M.D.

Stem cells, with their remarkable ability to transform into specialized cells, offer the potential to restore the function of insulin-producing islet cells in the pancreas.

“The hope is that this can make a real difference by replacing damaged cells with lab-generated human islet-like cell clusters that produce normal amounts of insulin on demand,” said Matthias von Herrath, M.D., scientific director of the Diabetes Research Institute at the University of Miami Miller School of Medicine.

In Part Two of Dr. von Herrath's "Inside U Miami Medicine" episodes, he delves into the mechanisms of protecting these islet cells from destruction by the immune system and the challenges associated with this treatment, including the high costs of conducting clinical trials.
During the episode, which can be found on all podcast platforms, Dr. von Herrath also discusses remarkable advancements in disease research using organoids. These three-dimensional biological models are created from human tissue and allow the generation of human cell assemblies that closely resemble actual organs. These breakthroughs offer exciting opportunities for studying T1D in a more accurate and comprehensive manner.

“We don’t own the crystal ball to say immune-evasive islets alone will solve the problem. I tend to think that you need all of these together and that’s where the interdisciplinarity is so important.”

Click here to listen to Part Two of Dr. von Herrath’s discussion on “Inside U Miami Medicine” on Apple podcasts.

Click here to listen to Part One.

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