GENERATING INSULIN-PRODUCING CELLS FROM ADULT STEM CELLS TO TREAT DIABETES

PROJECT STUDY: Generation of insulin-producing tissue grafts from adult stem cells to treat feline diabetes.

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Feline diabetes is among the top 5 health problems of pet cats, and the problem is growing with a pet population that is living longer due, in part, to improvements in medical technology. Current therapeutic options are not consistently effective and require frequent and costly changes in treatment strategies.

The only commercially available treatments for feline diabetes are insulin preparations from cows, pigs or genetically engineered human protein. There is currently no commercially available feline insulin. This investigator has developed technology that will address this need.

The investigator’s team has developed methods to generate insulin-producing cells from feline adipose tissue stem cells using tissues removed during elective spay or neuter procedures. Use of natural feline insulin will improve patient response to regular insulin therapy and remove the necessity for frequent changes in treatment and potential side effects of other insulin preparations.

The research team’s other related and compelling technology is de novo generation of implantable pancreatic tissue that will require single or infrequent administration. These groundbreaking findings stand to shift the paradigm of feline diabetes therapy.

Abstract presentations have been given at the North American Veterinary Regenerative Medicine Association Meeting on September 8, 2018 and the American College of Veterinary Surgeons Surgery Summit on October 26, 2018.

A manuscript is in preparation.

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