Project: Cardiovascular consequences of gestational diabetes; role of amylin

Grant: American Heart Association Transformational Project Award 19TPA34850094

Project Description:
The overall goal of this project was to assess whether the number of pregnancies with gestational diabetes has long term effects (up to 1 year after the first delivery) on heart structure and function. The project used obese Sprague-Dawley females that express human amylin in the pancreatic β-cells on the insulin II promoter (HIP rats; see Butler et al., *Diabetes* 2004;53:1509) as a model of gestational diabetes (GDM). HIP rat females of 5 months of age were randomly assigned to three experimental groups: no-pregnancy (control), one-pregnancy and two-pregnancies. Females in the pregnancy groups were paired for breeding with Sprague-Dawley males at 5 months of age. Females in the two-pregnancies group were bred a second time two months later. Glucose tolerance tests (GTT) were performed at baseline, one month after each delivery (i.e., 7 and 9 months of age), and every two months until 15 months of age. Transthoracic echocardiography was performed at baseline, one month after the second delivery (i.e., 9 months of age), and at 13 and 17 months of age. All females were euthanized at 18 months of age.