POSTER PRESENTATIONS

PITUITARY / NEUROENDOCRINE

PP-PN-01

SURVIVAL OF TRANSGENIC MICE WITH PANCREATIC NEUROENDOCRINE TUMORS IS DETERMINED MORE BY HYPOGLYCEMIA SEVERITY THAN METASTATIC BURDEN

https://doi.org/10.15605/jafes.037.AFES.114

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OBJECTIVES
The purpose of this study was to compare the blood glucose and survival profiles of two strains of transgenic mice that develop pancreatic neuroendocrine tumors (PanNETs) with contrasting functionality and metastatic potential.

METHODOLOGY
Two strains of RIP1-Tag2 (RT2) transgenic mice that develop spontaneous PanNETs were compared: (1) RT2 mice in the C57BL/6J background (RT2;B6), and (2) hybrid RT2 mice (RT2;ABF1) generated by crossing RT2;B6 males to wild-type A/J females. Blood glucose, survival, and incidence of liver metastasis were compared in the two strains from age 8 to 17 weeks.

RESULTS
Blood glucose profiles and survival were similar in C57BL/6J mice and B6;A/J mice that lacked the RT2 transgene and did not develop PanNETs. By comparison, mean blood glucose values in RT2;B6 mice that had largely benign but functional PanNETs were 50% lower (44 mg/dL) over the survey period than in RT2;AB6F1 mice (87.4 mg/dL) that had aggressive but non-functional PanNETs. Importantly, survival of RT2;B6 mice, which had only a 4% incidence of liver metastasis, was significantly less (35%) over 17 weeks than in RT2;AB6F1 mice (84%) that had a 47% incidence of liver metastasis.

CONCLUSION
Survival of transgenic mice with PanNETs is determined more by hypoglycemia severity than metastatic burden. PanNET insulin secretion is greater and survival shorter in RT2;B6 mice with rare metastases than in RT2;AB6F1 mice with frequent metastases. Tumor insulin secretion and hypoglycemia limit survival in RT2;B6 mice at an earlier age- more than the impact of liver metastases on increased mortality in RT2;AB6F1 mice.

PP-PN-02

CITRAL AMELIORATES ISCHEMIC BRAIN DAMAGE IN STREPTOZOTOCIN INDUCED DIABETES IN RATS THROUGH AUTOPHAGY ACTIVATION

https://doi.org/10.15605/jafes.037.AFES.115

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INTRODUCTION
Focal cerebral ischemia is one of the leading causes of death and disability worldwide, and more than 30% of stroke patients are known to be diabetic. Accumulating evidence indicates that autophagy can contribute to cell death processes under pathological conditions. Citral, a monoterpene found in the essential oil of several plants, such as *Cymbopogon citratus*, has been reported to have antioxidant and anti-inflammatory activity.

The aim of this study was to examine the neuroprotective effects of citral against ischemic stroke in diabetic rats and co-relate its probable effects on autophagy.

METHODOLOGY
Streptozotocin (STZ) stimulation-induced diabetic rats were subjected to 1 h ischemia followed by reperfusion. The diabetic rats received different dosages of citral vehicle at baseline and 24 h after the middle cerebral artery occlusion (MCAO). Neurological deficit, lipid profile, blood glucose, and molecular biological tests (expression of PI3K/AKT/mTOR pathway-related proteins) were then performed to demonstrate the neuroprotective effects and mechanism in I/R injured diabetic rat.