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Title	INTRACEREBROVENTRICULAR ADMINISTRATION OF CATECHOLAMINES INHIBITS THE PANCREATIC SECRETORY RESPONSES INDUCED BY INTRACEREBROVENTRICULAR ADMINISTRATION OF THYROTROPIN RELEASING HORMONE IN ANAESTHETIZED RATS
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INTRACEREBROVENTRICULAR ADMINISTRATION OF CATECHOLAMINES  
INHIBITS THE PANCREATIC SECRETORY RESPONSES INDUCED BY  
INTRACEREBROVENTRICULAR ADMINISTRATION OF THYROTROPIN  
RELEASING HORMONE IN ANAESTHETIZED RATS.

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Pancreatic secretory responses such as protein output and juice flow were induced by intracerebroventricular (i. c. v.) injection of TRH (50 pmol / 100g B. W.) in anaesthetized rats. Preceding the TRH-induced responses, catecholamines (adrenaline, noradrenaline and dopamine) were injected into the cerebral ventricle. The TRH-induced pancreatic responses were inhibited in a dose-dependent manner by i. c. v. pre-injections of adrenaline ranging from 0.1 to 2.5 nmol / 100g B. W.

I. c. v. injection of 0.1 nmol / 100g B. W. noradrenaline had little, if any, effect on the TRH-induced pancreatic secretion. I. c. v. injection of 0.5 or 1 nmol / 100g B. W. noradrenaline tended to reduce the TRH-induced pancreatic responses, which, however, were not significantly smaller than the respective responses to TRH alone. I. c. v. injection of 2.5 nmol / 100g B. W. noradrenaline significantly inhibited the TRH-induced pancreatic secretory responses. The heart rate was unchanged when a maximal dose (2.5 nmol / 100g B. W) of adrenaline or noradrenaline and 50 pmol / 100g B. W. of TRH were administered intracerebroventricularly.

The TRH-induced pancreatic responses were inhibited in a dose-dependent manner by i. c. v. pre-injections of dopamine ranging from 5 to 50 nmol / 100g B. W. The intravenous (i. v.) administration of a high dose (500 nmol / 100g B. W.) of dopamine significantly inhibited TRH-induced pancreatic secretion, but the i. v. administration of 50 nmol / 100g B. W. of dopamine did not cause any effect on the secretory responses to the electrical stimulation of the vagus nerve.

These results suggest that i. c. v. pre-injection of catecholamine inhibits the TRH-induced pancreatic secretion in the central nervous system. The inhibitory effects of adrenaline and noradrenaline were about 20 times as potent as those of dopamine.