Effects of Secretin on Serum IRI, Pancreatic Exocrine Function and Pancreatic Blood Flow in Dogs

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The present study was undertaken to determine the effects of exogenous secretin on serum IRI, pancreatic exocrine function and pancreatic blood flow in the normal and 60% pancreatectomized dogs. In the latter, the study was performed three weeks after operation. Serum IRI was measured by the immunoassay method using $^{125}$I insulin. Pancreatic exocrine secretion was collected continuously by the catheter inserted in the main pancreatic duct at three minutes intervals after infusion of secretin. Pancreatic blood flow was measured by $^{133}$Xe clearance method. Secretin (0.5 and 3.0 units per kilogram of body weight) was diluted with 10 ml of saline solution, which was infused into the femoral vein for 60 seconds.

Serum IRI levels reached a peak between 2 and 3 minutes after infusion of secretin. In control animals, insulin peak after stimulation showed more than tenfold of basal secretion, while in pancreatectomized animal only three fold. Thus, insulin response to secretin decreased three weeks after pancreatectomy. The volume of exocrine secretion per gram of the pancreatic tissue reached the maximum during 3–6 minutes after secretin stimulation. Its volume ratio of control to pancreatectomized animals was 1.6, suggestive of elevated exocrine function of the remnant pancreas after partial pancreatectomy. The pancreatic blood flow (per 100 grams tissue per minute) showed significant increase after secretin stimulation, which was more remarkable in the pancreatectomized group rather than in the control. These increased ratio in the blood flow was well according with that in the exocrine function, suggesting close correlation of the pancreatic exocrine secretion with its circulatory dynamics.

Whole Body Autoradiography of $^{125}$I Labelled Gastrin in Rats

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A freezing whole body autoradiography of $^{125}$I labelled gastrin in rats was studied.

Method: $^{125}$I labelled synthetic human gastrin 1 ($^{125}$I-SHG) was prepared by the method of