Antidiabetic action of somatostatin--assessed by the artificial pancreas.

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Abstract: By means of a glucose-controlled insulin- and glucose-infusion system (GCIGIS) we examined the effect of somatostatin on insulin and glucose requirements following meals or oral glucose loads in juvenile diabetics. In six of seven patients the insulin requirement with somatostatin was remarkably reduced to between 38 per cent and 79 per cent of that of otherwise identical control experiments. No reduction could be found in the seventh case, fed only 575 kcal. In all cases we observed an increase in dextrose demanded from the GCIGIS ranging between 28 per cent and 192 per cent of the control amounts. In addition, a lowering and smoothing of postprandial blood glucose curves caused by somatostatin application was a general finding. It seems to us most likely that the well-known suppression of the secretion of growth hormone and glucagon, both insulin antagonists, is responsible for the antidiabetic action of somatostatin.

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