

D₅. Measurement F (In Vitro Assay, Gastrin, Secretin and Glucagon)

Responses of Acid Secretion and Serum Gastrin in Peptic Ulcer Patients

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The pathogenesis and pathophysiology of peptic ulcer have not been fully clarified. Gastric acid secretion may be controlled by three functions, namely parietal, vagal and antral. The purpose of this study is to elucidate the relationships of these three functions and the pathophysiologic differences between gastric ulcer and duodenal ulcer. We studied three gastric secretory tests, gastrin test (tetragastrin 4 $\mu\text{g}/\text{kg}$ i.m.), insulin test (regular insulin 0.2 u/kg i.v.) and antral function test (meat extract stimulation) in 10 gastric ulcer and 30 duodenal ulcer patients. Acid output and serum gastrin concentration were determined serially. Stimulated acid secretions were significantly higher in duodenal ulcer than in gastric ulcer in all three

tests. The difference between duodenal ulcer and gastric ulcer, however, was most remarkable in antral function test, followed in insulin test and lastly in gastrin test. Serum gastrin responses in gastric ulcer were negligible both in insulin test and in antral function test. But, those in duodenal ulcer, were slightly elevated in insulin test, and markedly elevated in antral function test. These results indicate that duodenal ulcer is more vagal dependent than gastric ulcer, but in duodenal ulcer, the antral dependency is more dominant than the vagal dependency. The antral hypersensitivity of gastrin production and the parietal hypersensitivity to gastrin are suggested in duodenal ulcer

Metabolism of Endogenous Gastrin in Anesthetized Dog

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The determination of serum gastrin levels has become practicable by the introduction of the radioimmunoassay.

While there have been many reports on endogenous gastrin in respect to its behavior in the circulating blood and its physiological properties, gastrin is believed, in its metabolic degradation,

to stimulate the acid secretion of the stomach for a certain period, and then lose its biological activity in a short period of time.

So we investigated hepatic, intestinal and renal extraction of endogenous gastrin in anesthetized dogs. Serum gastrin levels were determined using C.I.S. R.I.A. kit, before and after the intravenous