was found in the cervical region of the glands. Both enzyme activities were found to increase in rats of Group G, while no specified tendency was found in cholinesterase activity.

[Conclusion] AOC–tetrapeptide was found to have a gastric gland-proliferating effect, and a dose response of the effect was demonstrated. The principal role in this effect appears to be played by parietal cells.

(6) STUDIES ON MECHANISM (S) OF GASTRIC SECRETORY INHIBITOR, SPECIAL REFERENCE TO SECRETIN AND GASTRONE

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The difference of inhibition mechanisms between secretin and gastrone on gastrin-stimulation was investigated from the view point of the change of carbonic anhydrase activity (CA), histamine content (Hm), histidine decarboxylase activity (HD) in gastric mucous membrane; gastric mucin secretion, enzyme activity in parietal cell (histochemically on succinic dehydrogenase (SD) and CA and mitochondria activity (Mt) (phase contrast microscopically).

The results obtained are as follows;

1) Both secretin (S) and gastrone (Go) inhibited the increase of CA due to gastrin-stimulation.

2) Although secretin did not show any effects on the decrease of Hm and on the increase of HD due to gastrin stimulation, Go resulted in the increase of Hm and decrease of HD.

3) Both secretin and gastrone showed the same effect son gastric mucin secretion, SD, CA, and Mt on gastrin stimulation.

From the above results, we noted that S and G are the same in the effects, but not in the mechanisms of inhibiton.

(7) CHRONIC GASTRITIS AND GASTRIC SECRETION

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A comparative study between gastric secretion and gastric mucosal histology was performed on 42 patients by means of both gastric analysis using gastrin like tetrapeptide and fiberscopic biopsy specimens, and the following results were obtained; 1) Twelve patients with normal gastric mucosa, whose maximal acid output (MAO) showed the mean value of 16.5 mEq/h. and in 7 of them, the mean value of maximal pepsin output (MPO) was 43.4 mg/h. 2) In seven patients with superficial gastritis, CO was 14.5 mEq/h, in 5 of them, MPO was 49.0 mg/h. in an average. 3) In eight patients with slight atrophic gastritis, MAO was 14.2 mEq/h., in 6 of them, MPO was 33.2 mg/h. in an average. 4) In nine patients with moderate atrophic gastritis, MAO was 10.2 mEq/h., in 6 of them, MPO was 25.9 mg/h. in an average. 5) In seven patients with severe atrophic gastritis, MAO was 2.6 mEq/h., in 5 of them, MPO was 20.2 mg/h. in an average.

These results demonstrated that a good correlation between the acid secretion and grade of gastritis. According to the advance of atrophic change in gastritic mucosa, the ability to secrete

acid decreases. However, pepsin secretion is diminished next to acid secretion and a dissociation between acid and pepsin secretion in moderate and severe atrophic gastritis is proved.

(8) THE RELATIONSHIP BETWEEN GASTRIC SECRETION AND GASTRITIS OF FUNDIC AND PYLORIC GLAND AREA

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Correlative study of gastric acid secretion and the histology of fundic and pyloric gland areas were performed in 50 patients with active gastric ulcer or its scar, duodenal ulcer or X-ray and gastroscopy negative patients. Gastric acid secretion stimulated maximally by Histalog (100 mg) decreased significantly among the gastritis groups compared to the normal group in the midbody greater curvature area. Such correlation was not found among the normal, gastritis without atrophy, slight atrophy and modreate to severe atrophy groups in the antrum. Matched study between gastric acid secretion and each mucosal appearance in the antrum and in the midbody greater curvature did not reveal any significant difference. It was suggested that the histology of pyloric gland area in the antrum does not influence the acid secretion and that the close relationships was found between gastric acid secretion and histology in the midbody greater curvature area.

Pyloric gland mucosa of the two-thirds of patients showed inflammatory or atrophic changes more advanced than the fundic gland area of the midbody lesser and of greater curvature.

(9) ABOUT THE INTERRELATIONSHIP BETWEEN THE GASTRIC ACIDITY BY THE STIMULATION OF GASTRIN AND THE PATHOLOGIC TISSUES (II) —ON THE BASIS OF THE COMPARISON OF THE ANTRUM-GASTRITIS AND THE FUNDUS-GASTRITIS—

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We have considered from the endoscopy that the antrum-gastritis has usually severer inflammation than the fundus-gastritis. There are the cells secreting gastrin in the pyloric area and the parietal cells secreting the gastric juice in the fundic area. It is generally said that the respective degree of the inflammation in these two areas is ultimately correlated to the gastric acidity. From this point of view, we made the examination of the gastric juice and performed the gastric biopsy of both the fundic and the pyloric areas to the sixty-four patients who complained the gastro-intestinal troubles, and then investigated the interrelation between our histological findings and the gastric acidity.

Conclusion:

1) The cases with the normal fundic area have slight inflammation in the pyloric area and indicate normoacidity.