

## 109. HUMAN ELECTROGASTROMYOGRAPHY

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In 1963 the first clinical application of the intra canal electrogastrography was carried out successfully using a suction electrode. Then the recording equipment has been produced as an electrogastro (myo) graph.

The electrogastro (myo) gram consists of rhythmical slow spike formed discharges of which duration is 2 sec and frequency is 3 per min. The authors call this "slow spike" or "spike" simply. As the amplitude of the spike is highest at antrum, so it is advantageous to record the electrogastrogram at the antrum. We have had a small flash lump at the tip of suction electrode to detect its location through abdominal wall.

According to analysis of the electrogastrogram of examined 61 cases, the spike frequency which is considered to be most reliable showed the variation among various diseases. For example in the cases of gastric cancer the spike frequency was 2.7 per min on an average, while in the duodenal ulcer case it was 3.4. As the spike frequency showed also a tendency being parallel with the acidity of gastric juice, it is suggested that the secretion and the motility should be imagined together as a "gastric function".

Next, the changeability of electrogastrogram was observed clinically and experimentally with administration of various agents. The spike frequency was increased by the cholinergic agents, anoxia and gastric warming etc. And it was decreased by the anti-cholinergic agents, anesthesia and gastric cooling etc. The vagotomy had unsettled effects upon the frequency against the expectation. The control of vagus nerve upon the gastric motility should be not so strong as considered before.

## 110. ON THE EXPERIMENTAL STUDY FOR PROLONGATION OF THE COURSE OF GASTRIC ULCER

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The course of gastric ulcer in clinic is various. Many workers have reported the study for the causality which prolongates the course of gastric ulcer, but the causality is yet uncertain.

Rats were used for the purpose of studying the relation between the nature of gastric ulcer. Three different types of the nature were obviously found in the gastric mucosa by the venous, arterious and both ligations of stomach vessels. The pathological change was eminent in arterious and both ligations, especially in the former.

Just before rats were sacrificed, H<sup>3</sup>-Thymidine was injected into the intraperitoneal cavity. Uptake of H<sup>3</sup>-Thymidine of epithelial cells surrounding gastric ulcer was counted by using radioautography. The course of gastric ulcer was little affected by venous ligation but prolonged by arterious and both ligations, especially by the former, which showed atrophic change of gastric mucosa.

We concluded that the course of the gastric ulcer was affected by the nature of the gastric mucosa with circulatory disturbance.

## 111. EXPERIMENTAL STUDIES OF PEPTIC ULCER (II) —CORRELATION OF ARTERIOSCLEROTIC CHANGES OF THE GASTRIC ARTERIES TO DEVELOPMENT AND HEALING OF PEPTIC ULCER—

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