

of ulcerogenic properties in cats. These production were made by electrical stimulation of hypothalamus with pre-treatment of reserpine (1 mg/kg.s.c.). Namely, pre-treatment of reserpine and electric stimulation of anterior hypothalamus formed the perforated duodenum ulcer, mainly. On the contrary, same treatment and stimulation of posterior hypothalamus produced the perforated gastric ulcer greatly. From these experiments, peptic ulcer was separated or divided into 5 types of ulcers. That is, fundic ulcer¹⁾, multiple ulcer²⁾, pyloric antrum ulcer³⁾ (kissing and round types), gastro-duodenal ulcer⁴⁾ (ulcer was located in boundary between stomach and duodenum), and duodenal ulcer⁵⁾, so on.

In the gross-observation of these ulcers, authors have found that the vascular system which is supplied to the gastro-duodenum have some trouble on it. This may be thought that the effects of excessive biogenic amines as serotonin, catecholamines, and histamine may elicited the nervous excitation and then the related tissue resistances to nature was probably diminished. In consequence of vascular disturbance by these amines, the ulcers might be formed in short time. The location of above mentioned ulcers are probably due to displacement and release, brought about by reserpine and probably also by electric stimulation with time correlation. From the location of each type of ulcer existence, authors have assumed that the formed-gastric ulcers themselves may have some reasons for peptic ulcer patients. So that, treatment of subjects may need to have the well-advised diagnosis or careful observation for them. The differences between gastric and duodenal ulcers may be thought from the vascular and nervous supplies to those organs.

230. THE EXPERIMENTAL STUDY ON NEUROGENIC GASTRO-DUODENAL ULCER

K. NISHIMURA, K. UCHIDA, B. LEE, S. OKAZAKI, T. MITSUNO

*1st Dept. of Surgery, School of Medicine, Kobe University
(Director: Prof. Takao Mitsuno, M.D.)*

The pathogenesis of neurogenic gastroduodenal ulceration was experimentally studied by the injection of a kind of drug into the brain under administration of Reserpine 0.1 mg/kg., which method was previously reported by the authors and produced the gastroduodenal ulcer in 100%.

(1) No ulcer was observed in the bilaterally vagotomized and treated dogs after 4 weeks. In this group, pH of gastric juice was significant by high. In the bilaterally vagotomized dogs, followed by the injection of Tetr peptide Gastrin for 7 days before and after the treatment, no ulcer was recognized, too.

(2) In 4 out of 6 non-vagotomized and treated dogs, followed by the most part of stomach from the greater curvature on its body-antral junction and gastrojejunostomy, marginal ulcer developed after 4 weeks. In this group, pH of the gastric juice was considerable by low.

(3) The ulcer formation was inhibited in the treated dogs, followed the continuous infusion of low molecular Dextran. In this group, the volume of the local blood circulation of the antrum, measured by Xe showed the significant increase comparing with that of control group.

From these studies, it should be concluded that neurogenic gastroduodenal ulcer was caused by both the disturbance of the regional blood supply and the change of the gastric acidity which was influenced by Serotonine and so on, under the control of vagus nerve.