Symposium: Early Gastric Cancer

(1) Preface

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In 1962, the Japanese Society of Gastroenterological Endoscopy defined the early gastric cancer as carcinoma of the stomach of which invasion was limited to the mucosa and submucosa. At the same time, the Society proposed the macroscopical classification of early gastric cancer as seen in Figure. The classification is in wide adoption and contributes very much to the progress in detection of early carcinoma of the stomach through these 15 years. Surely we can say that we have saved patients' life and contributed to the decrease in the mortality rate from gastric cancer in Japan.

However, still there are some misunderstanding and arguments among Japanese and foreign doctors concerning the terminology of early gastric cancer. Through this symposium we hope that we can bring about a better understanding on the early gastric cancer between us.

We have obtained beforehand participants' approval that in this symposium all participants must accept the Japanese classification of early gastric cancer not to give rise to confusion in discussions.

(2) The Occurrence and Growth of Gastric Cancer

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At present, even a small cancer of the stomach has been able to be diagnosed endoscopically. There is no doubt that this is a factor in decreasing in the death rate from gastric cancer in recent years. But when we want to find out much smaller and earlier one, there are still many important problems though much effort until now. Especially the initial stage of gastric cancer has not been elucidated clearly, that is, it has not been clear how gastric cancer occurs and on what course it grows and becomes so big as to be detected by endoscopy.

1. Experimental cancer in dogs.

Because it is impossible to observe the time course of gastric cancer for a long period on human subjects, animal experiments, especially the administration of nitroso compounds to dogs, are mainly used in order to study it. Authors gave dogs orally MNNG (N-methyl-N′-nitro-N-nitroso-guanidine) or ENNG (N-ethyl-N′-nitro-N-nitroso-guanidine) as carcinogen for about one year and observed the occurrence and growth of carcinoma in the dog stomach using endoscopy1). In Fig. 1, a case of cancer in the canine stomach is illustrated. In this case, a first abnormal endoscopic finding was noticed in the seventh month from the beginning of administration of ENNG. It was a slight redness on the anterior wall of the antrum. Just one year from the beginning, it looked like IIa+Iic type of early cancer. After that this lesion grew gradually larger and larger, and the dog died of gastric cancer in the 25th month from the beginning.

This experimental gastric cancer, however, is much incompatible with one which is experienced in daily clinic. Therefore, the knowledge from the animal experiments can not be applied directly to human subjects. On investigating the occurrence and growth of gastric cancer in human, there is no way but they are estimated from experiences of many cases of gastric cancer.

2. Gastritis and cancer.

The incidence of gastric cancer is very high in Japanese, and atrophic gastritis almost always associated with intestinal metaplasia of the gastric mucosa appears in younger age groups in Japanese than in people of other countries. From these facts, some relationship between gastric cancer and intestinal metaplasia (atrophic gastritis) has been supposed2). Intestinal metaplasia shows not only the morphological resemblance to the normal intestinal mucosa but also absorptive function which the normal gastric mucosa hasn't. Therefore, when methylene blue solution is sprayed to the gastric mucosa under direct vision, and is absorbed to stain the mucosa in blue, this stained portion of the mucosa proved to be intestinalized.

Applying this method to the stomach with cancer, we can grasp the geographical relation between a cancerous lesion and its surrounding mucosa endoscopically. Fig. 2 shows the results on 43 cases of early gastric cancer with the histological examination. Gastric cancer might developed in the stomach without intestinal metaplasia. And at that time, all the cases were undifferentiated carcinoma histologically. As intestinal metaplasia appears and