Symposium (II): Submucosal Tumors of the Stomach

Co-Moderators: Dr. Kenji Tsuneoka and Dr. Tadashige Murakami

(1) Gastro Submucosal Mass—Its Concept

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Benign nonepithelial tumor which grows covered by gastric mucosa have generally been called the gastric submucosal tumor, but aberrant pancreas and eosinophilic granuloma have been included in this category because the correct diagnosis could not be made preoperatively.

The submucosal tumor are infrequent but recently reported series of this lesions have been increased in Japan. 583 cases were reported until 1966 but the number reached to 2,360 until 1973.

While the submucosal mass was found in 0.04% in the mass survey in Akita Prefecture during the past three years, leiomyoma of the stomach were reported in 0.12% in autopsy series in Japan. Therefore, the gastric submucosal tumor was not so rare.

In our cases, the following ones such as pyloric muscle hypertrophy in adult type, duplication of the stomach, pseudotumor forming gastric varix, and metastatic lesion of cancer of the stomach were diagnosed as gastric submucosal mass preoperatively.

Accordingly, the gastric submucosal mass should include aberrant pancreas, eosinophilic granuloma, pyloric muscle hypertrophy, duplication of the stomach, reactive lymphoreticular hyperplasia in localized type and carcinoid added to nonepithelial tumor, because these histological findings were not established preoperatively and preoperative diagnosis necessarily depends on radiological and gastroscopic impressions.

(2) Investigation of Differential Diagnosis between Benign and Malignant Submucous Tumor of the Stomach

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Submucous tumor of the stomach is defined here to be located in the submucous layer of the stomach. In order to differentiate benignancy and malignancy, characteristics of the tumor, X-ray findings (upper G-I series) and endoscopic findings were discussed here. Out of the gastric specimens resected in the past five year period, 61 cases are classified to have submucous tumor of the stomach, and after histologic examination, 50 cases were benign and 11 malignant. The locations of benign tumors were scattered all over the stomach and predilection of the malignant growth could not be pointed out either. The size of the malignant tumors was more than 5 cm in most of the cases, but 3 cases showed the diameter less than 2 cm.

It is very difficult to differentiate malignancy from benignancy if there is no ulceration. Observed 86% of the malignant and 37% of the benign cases showed ulcer formation in our series.

In the cases with ulceration, especially of malignant lymphoma, characteristics of X-ray and endoscopic findings were shown as follows. The tumor was gently rising, with a huge irregular ulcer. The embankment was covered with smooth and glossy mucosa to be soft. The bottom of ulcer was shallow, relatively smooth, being covered with thick cream-like white coat. Marked narrowing or rigidity was not found at the stomach. The lesion showed various findings and a tendency to be multiple. However, these findings are not always present in all the cases and the similar findings are also found in gastric carcinoma and benign submucous tumor. Therefore, it is important to follow up clinical course with X-ray and endoscopic evaluation in order to determine a nature of the tumor. Presently 77 cases have been followed up in our clinic without surgical intervention.

Confirmation of the diagnosis is very difficult, even with endoscopic biopsy, therefore, periodic
observation should be emphasized. Endoscopic biopsy using electrocoagulation methods has been developed and will be of great help for preoperative histologic diagnosis.

(3) Clinical and Pathohistological Studies on Submucosal Tumors of the Stomach, Particularly Tumors of Leiomyogenic Origin

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The majority of the submucosal tumors of the stomach are of leiomyogenic origin but some non-neoplastic lesions present the morphology of so-called submucosal tumors.

We have observed 107 cases of so-called submucosal tumors of the stomach among a total of 4937 cases of gastrectomy handled during the last eleven years. Included in this number are 40 cases of leiomyoma, 7 cases of bizarre leiomyoblastoma, 10 cases of leiomyosarcoma, 2 cases of neurilemmoma, 1 case of neurofibroma, 1 case of glomus tumor, 2 cases of lipoma, 1 case of liposarcoma, 18 cases of aberrant pancreas, 9 cases of aberrant glandular tissue and cystic lesion, and 16 cases of parasitic granuloma. Clinical and patho-histological studies were made on leiomyoma, so-called bizarre leiomyoblastoma and leiomyosarcoma based on light and electron microscopic observations.

References

(4) Submucosal Tumors of the Stomach: Endoscopic Diagnosis, and the Significance of Endoscopic Biopsy and Cytology, in Cases of Gastric Sarcoma

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Twenty-two patients with gastric sarcoma (10 leiomyosarcomas and 12 lymphomas) underwent endoscopy at the Aichi Cancer Center Hospital during the eight-year period from 1965 to 1972. Accuracy of the initial endoscopic diagnosis was 36.4 per cent. However, the diagnosis, prior to surgery or autopsy, was correct in 68.2 per cent. Cases of gastric sarcoma were classified into two groups: group A had X-ray and endoscopic examination with biopsy and/or cytology, whereas group B had X-ray and endoscopic examination without biopsy and/or cytology. In group A, the diagnostic accuracy was 92.9 per cent, as compared to that in group B, being 25 per cent. Endoscopic biopsy was positive in 8 of 14 patients (57.1\%) in group A. The diagnostic accuracy of cytology was 72.7 per cent in 11 patients. Therefore, the overall diagnostic accuracy of biopsy and/or cytology was 71.4 per cent, being positive in 10 of 14 patients. Endoscopic features of gastric sarcoma were retrospectively analysed in 20 cases. There were 17 cases with ulceration and these were compared with 17 ulcerating gastric carcinomas.

It was concluded that a clean creamy looking opaque base, with glossy non-rigid surrounding mucosa, good distensibility and multiple ulcers were striking endoscopic features and well defined, undermined or heaped-up margins were less reliable features in distinguishing gastric sarcoma from gastric carcinoma. Cytology plays an important role in the diagnosis of gastric sarcoma as a complementary procedure to biopsy.

(5) A New Approach in the Diagnosis of the Gastric Submucosal Tumor

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A method is developed in this medical depart-