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Surgery for Gastric Cancer in Younger Patients

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Twenty-five patients with gastric cancer were clinically evaluated in terms of a clinicopathological pattern in younger patients.

1) Female was more predominant than male.

2) The main tumor location was the cardia and the gross appearance was Borrmann IV of undifferentiated carcinoma in the majority.

3) Less hepatic metastases were seen in younger patients, whereas, the common extension in younger patients was peritoneal dissemination and serosal invasion.

4) The surgical outcome was satisfactory as far as a curative operation be performed. On the contrary, the result of non-curative operation was extremely pessimistic.

Recently great strides in the surgical outcome of gastric cancer have been achieved in combination with adjuvant therapy of immunochemotherapy. Improvement of surgical outcome is attributable to the standarized operative procedure with reasonable node dissection. It is common that carcinomas in various organs affect older patients, not usually younger ones.

The purpose of this study is to clarify the clinicopathologic features of gastric cancer in younger patients on the basis of our result of clinical experience.

Patients

During the past 10 years from January 1975 to December 1984, 1316 patients with gastric cancer underwent surgical resection. Of which, 25 (19%) were early gastric cancer. The ratio of men to women was 1 to 4.

Twenty-five patients under 29 years old were compared with 191 patients aged from 30 to 49 years old (Table 1).

The tumor locations of younger patients were predominant in the cardia and the body of the stomach in contrast to the antrum and the body of the stomach in the youth.

In advanced cancer, Borrmann IV and III types were common in younger patients. In contrast, the incidence of Borrmann III and II types were frequent in the youth. A 69.2 percent resectability in younger patients was lower than a 82.5 percent in the youth in this series. And also it was characteristic of high frequency in younger patients of conducting total gastrectomy and exploratory laparotomy as operative procedures.

On the other hand, curative operation was achieved only in 55.6 percent of younger patients in contrast to 75.2 percent of the youth. The main reason was that advanced cancer was included in younger patients.

With respect to p-factor, younger patients were affected by p_1 to p_3. As to H factor, numbers of H were increased in youth. On the other hand, serosal invasion in younger patients was remarkable rather than in the youth and there was no significant difference in n-factor between the younger and youth. However, significantly increasing n were included in younger patients.

According to histological findings, well differentiated carcinoma (pap, tub, and tub_2) was commonly seen in the youth in contrast to poorly differentiated one (por) in younger patients. As to infiltrative types, γ type was common in the youth in contrast to in younger patient. Half of younger patients revealed ps (+) despite inclusion of m and sm-carcinomas. A similar trend was seen in the youth. In contrast, younger patients were susceptible to ps (+).

Surgical outcomes were poor in younger patients during 1 to 3 years following surgery. As far as surgical results of curative operations were compared, a five-year survival curve was almost the same (Fig. 1), whereas, the 10 and 15 year survival rates of younger patients were superior to that of the youth.

Table 1. Clinicopathological characteristics in gastric cancers between the younger and the youth.

	younger under 29 years of age	youth 30 to 49 years of age
location	Cardia	Antrum
Borrmann	IV III	III II
resectability	69.2%	82.5%
op. procedure	total gastrectomy or exploratory laparotomy	distal gastrectomy
curative op.	55.6%	75.2%

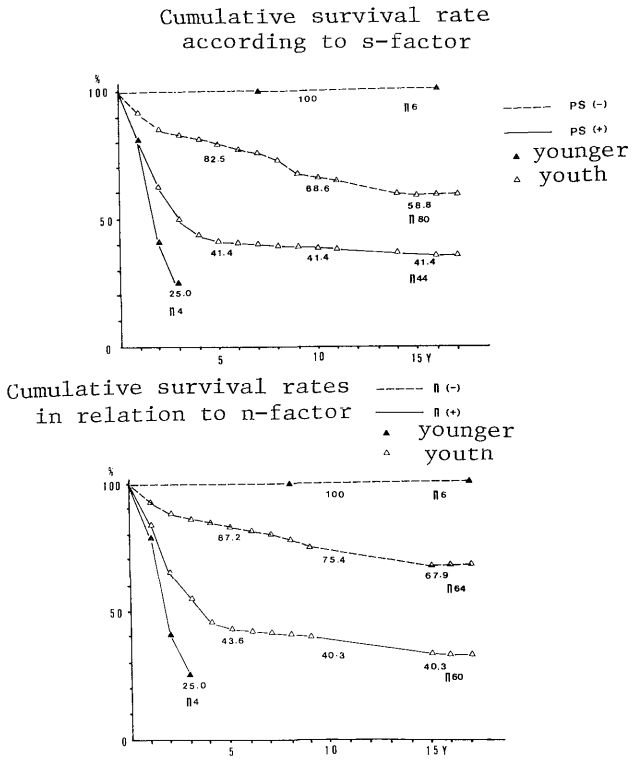

Fig. 1. Cumulative survival rates after curative operation

On the contrary, the survival rates of younger patients with non-curative operation were poorer than those of the youth. The surgical outcomes of younger patients with stage I (Fig. 2) and/or m- and sm carcinomas (Fig. 3) were satisfactory, including a 10 or 15 year survival rate. And also the survival rates of patients with ps (-) carcinoma were excellent, whereas, those with ps (+) as well as n (+) were pessimistic.

The surgical results of younger patients were greatly influenced by the disease stage.

Discussion

To elucidate clinical characteristics of gastric cancer in younger patients, they were clinicopathologically compared with those of the youth.

In gastric cancer of younger patients, female were more predominant than male with a ratio of one to four (men to women). It was different from the ratio of older patients which was definitively predominant in male.[1-3]

In younger patients, undifferentiated carcinoma was more common and originated in the cardia. The hypothesis is advanced that the diffuse type of undifferentiated carcinoma is originated from the fundus glands and the intestinal type of well differentiated carcinoma comes from intestinal metaplastic epithelium.[4] In gross appearance, a localized type was more frequently seen in older patients.[3,5-8] In contrast, gastric cancers in younger patients revealed Borrmann IV in 40% and Borrman III in 30% with infiltrative and diffuse patterns.

It is generally accepted that undifferentiated carcinomas are common in the younger. In contrast, differentiated carcinoma has a high frequency in the youth. In this series, there is the high incidence of undifferentiated carcinomas of por and sig in the younger. Meanwhile, differentiated carcinomas of pap, tub_1 and tub_2 have grown in number with ages.

There are some reports[2,10,11] about no difference in node involvement between the younger and the youth. On the other hand, there are reports of less nodal metastasis in the older.[3,6,8]

In this series, the extent of node involvement in the younger is apparently extended to n_2 to n_4, reflecting the severity of nodal metastasis.

We were deeply impressed by the fact that peritoneal dissemination and serosal involvement are much more severe in the younger than the youth in spite of less hepatic metastasis as previously reported by Arima[9] and Nakatsu.[12]

The surgical outcome of curative operation was satisfactory even in the younger.[2,6,8,13] On the contrary, early

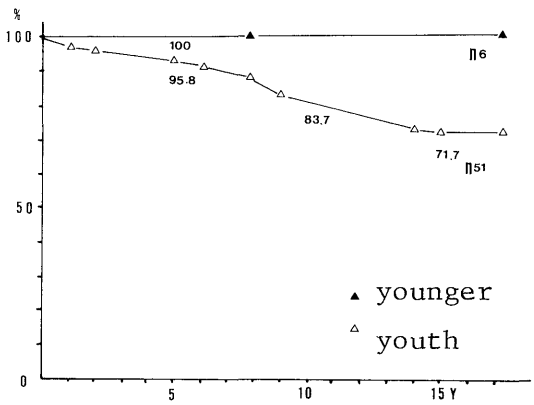

Fig. 2. Cumulative survival rates in stage I patients

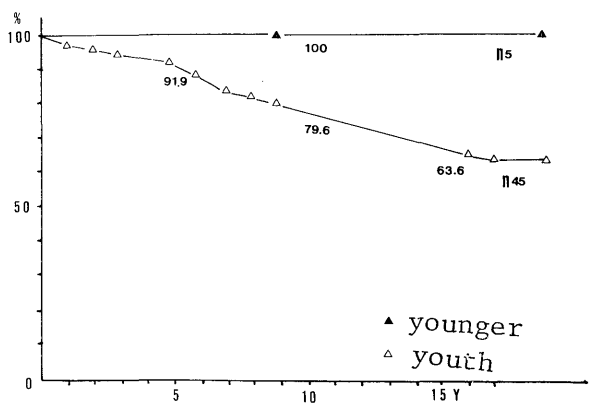

Fig. 3. Cumulative survival rates in m, sm carcinomas

appearance of distant metastasis failed to promise a predicted result in advanced cancer, in particular, in case of non-curative operation.

Therefore, early detection and early treatment are the most important clues to predict a better result even though patients' ages were younger.

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