

## Gastric Carcinoma with Lymphoid Stroma — Clinicopathological Studies of Four Cases

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(Received September 28, 1977)

Clinicopathological studies of four cases of gastric carcinoma with lymphoid stroma indicated that they showed marked lymphoid cell infiltration, absence of lymph node metastasis and favorable prognosis. Our review of a few previously reported similar cases supported the above observations.

(Key words: Gastric carcinoma, Lymphocyte, Lymphoid stroma, Dermatomyositis)

Since MacCarty et al focussed special attention on the significance of lymphoid infiltration in gastric carcinoma and stressed its importance as one of the favorable prognostic factors, there have been several reports of gastric carcinoma with lymphoid stroma (2, 3, 4, 5, 6, 7). From its favorable prognosis and characteristic gross and histological features, this tumor has been frequently compared with medullary carcinoma of the breast. The present report deals with clinicopathological findings of four cases of gastric carcinoma with lymphoid stroma, one of which had associated dermatomyositis, and discusses the significance of lymphoid infiltration together with a literature review.

### CLINICAL HISTORY

CASE 1: A 73 year old male was admitted to Isehara Kyodo hospital on September 10, 1976 with mild epigastralgia. Physical examination revealed an otherwise unremarkable male who showed epigastric resistance. A subsequent upper gastrointestinal series revealed an elevated lesion on the lesser curvature of the gastric angle. The biopsy of this lesion showed tubular adenocarcinoma. Radical distal gastrectomy was performed on September 21, 1976. He was discharged on October 21, 1976.

CASE 2: A 65 year old male was admitted to Tokai University Hospital on December 10, 1976 with general myalgia of a half month duration. Physical examination revealed general eczema, myalgia and

swelling of the eyelids. The biopsy of the skin was interpreted as consistent with dermatomyositis. The subsequent upper gastrointestinal examination revealed an elevated lesion on the anterior wall at the gastric angle. The biopsy of this lesion showed poorly differentiated adenocarcinoma. Radical total gastrectomy and splenectomy as well as skin and muscle biopsy were performed on December 27.

Case 3: A 63 year old male with epigastric discomfort for six months was admitted to Tokai University Hospital on April 13, 1977. An upper gastrointestinal examination, endoscopy and gastric biopsy showed Borrmann II type carcinoma associated with a multiple ulcer. Total gastrectomy and lymph node resection were performed. He was discharged on June 7.

CASE 4: A 31 year old male who suffered from epigastralgia for two weeks was admitted to Tokai University Hospital on May 17, 1977. Physical examination revealed an otherwise unremarkable male showing a 5 kg weight loss. An upper gastrointestinal series, endoscopic examination and biopsy showed Borrmann II type stomach carcinoma at the corpus. Subsequently radical subtotal gastrectomy was performed.

#### PATHOLOGICAL FINDINGS

Except for their sizes and locations, gross and histological features of these four tumors were similar and will be described together.

##### 1) Gross findings of the tumors

All four carcinomas showed Borrmann II type or early carcinoma IIc type; a well-demarcated ulcerative lesion was surrounded by elevation of the mucosa. They showed a homogenous white soft cut surface simulating a malignant lymphoma. An expansive growth pattern with a well-demarcated margin was characteristic.

##### 2) Histological findings of the tumors

Light microscopically, most of the tumor was located in submucosal tissue in cases 1, 2, and 4, and muscular layer and serosa were involved in case 3. Although case 3 showed a few tubular glands, the major part of the tumors was composed of irregular nests of poorly differentiated carcinoma characterized by pleomorphic hyperchromatic nuclei with no apparent glandular formation. Among the nests and, particularly at the periphery of the tumor, abundant infiltration composed of many lymphocytes and occasional plasma cells was present. Several foci of mixed lymphoid and anaplastic cells seen in the lamina propria simulated lymphoma.

##### 3) Other pertinent findings

All four cases had no metastasis in regional lymph nodes (case 1; 0/22, case 2; 0/35, case 3; 0/24, case 4; 0/23) and no or very little invasion in the lymphatics. Case 2 showed extensive granulomatous infiltration in perigastric adipose tissue and pathologic features consistent with dermatomyositis in the skin of the right hand.

#### DISCUSSION

Our four gastric carcinomas were essentially characterized by well-



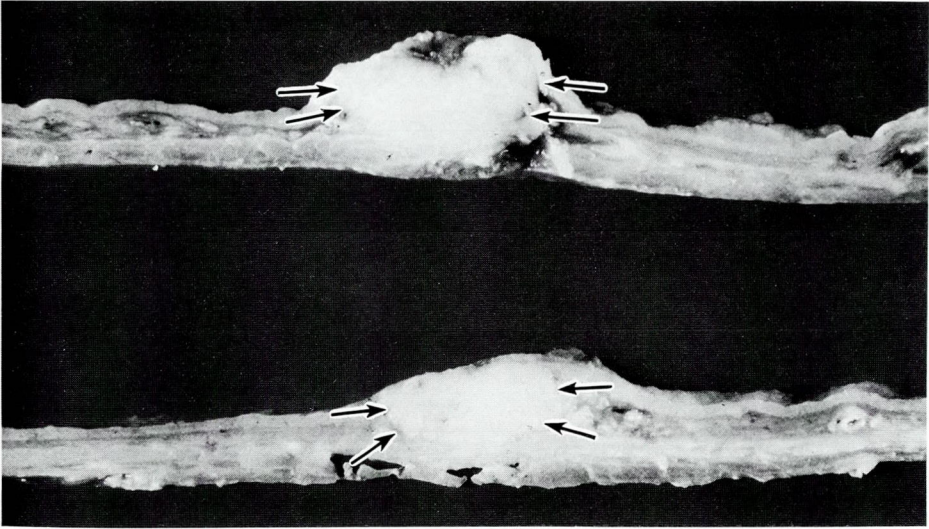


Fig. 1. Case 2. The carcinoma shows relatively good circumscription (arrows) and white soft cut surface.

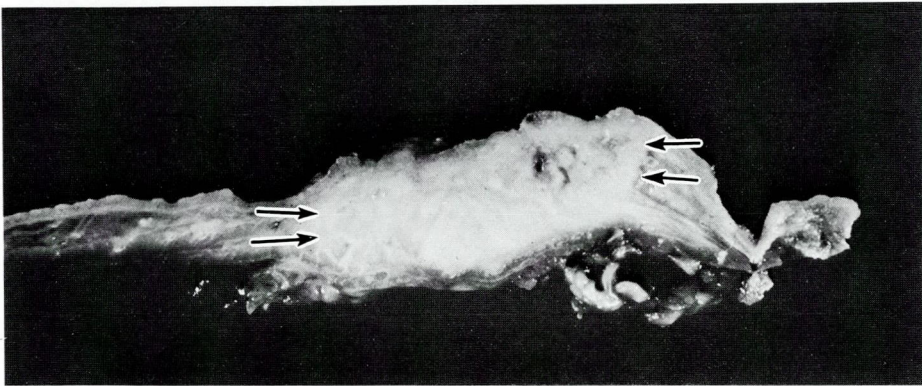


Fig. 2. Case 3. Although the tumor has invaded the serosa, it still remains relatively well demarcated (arrows).

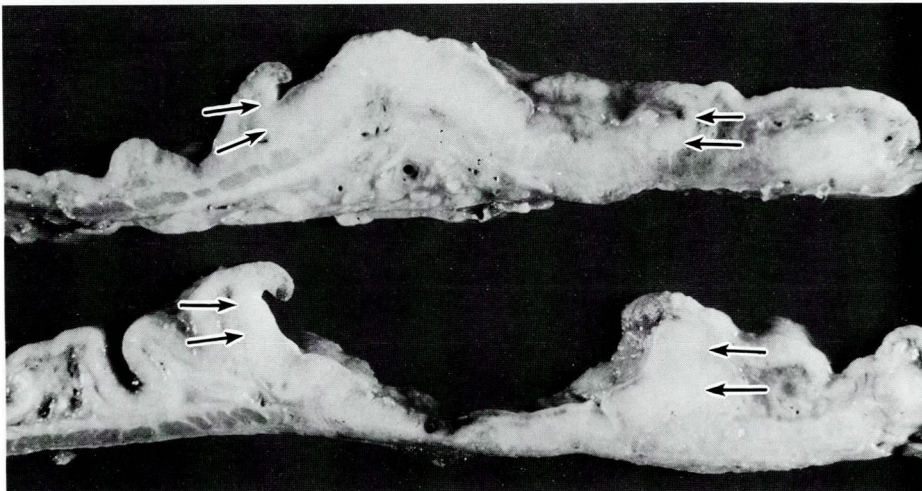


Fig. 3. Case 4. This huge ulcerated tumor mass also shows rather distinct demarcation (arrows).



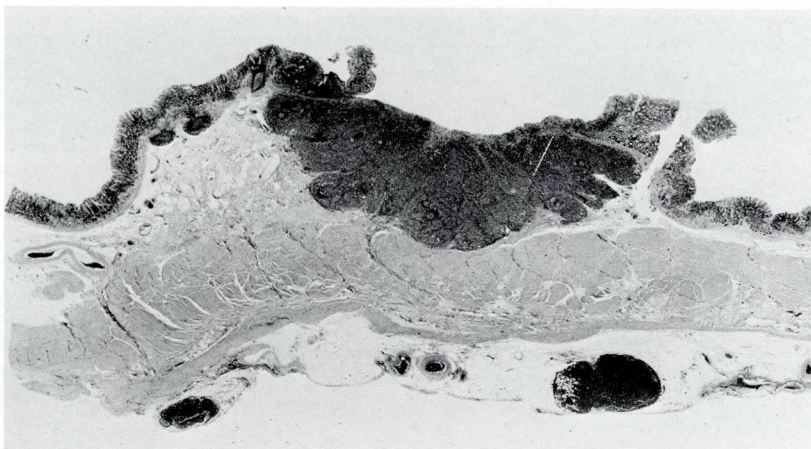


Fig. 4 Case 1. This low power view clearly indicates the well circumscribed growth of the tumor.



Fig. 5 Case 2. This low power view also shows a similar tendency to that seen in Fig. 4.

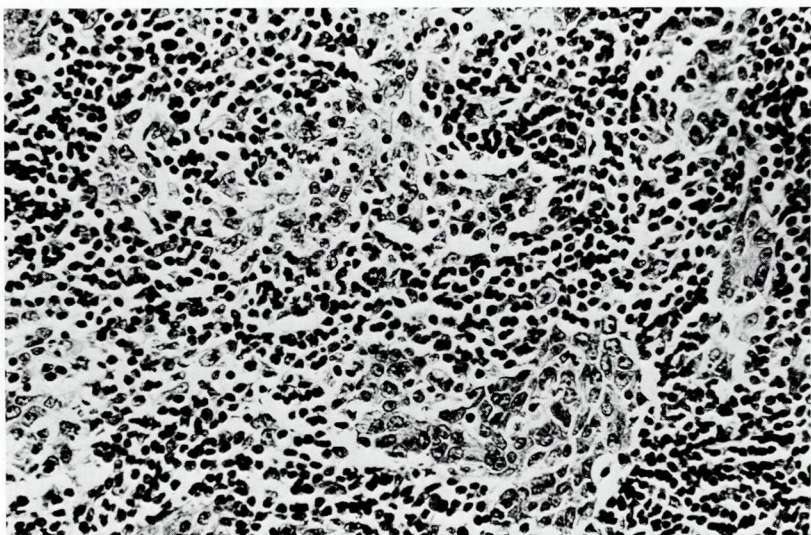


Fig. 6 Case 1. Microscopically this tumor is generally characterized by many irregular islands of poorly differentiated adenocarcinoma which are intermingled with abundant lymphoid cells.

demarcated growth and abundant lymphoid infiltration and absence of lymph node metastasis. There have been several reports on gastric carcinoma with these characteristics (Table 2). Many of these gastric carcinoma with lymphoid stroma had no metastasis in the regional lymph nodes. Our 4 cases also showed no metastasis although one of them (case 3) reached the serosal adipose tissue. The 5-year survival rate was observed in 34 of 40 cases and recurrence was seen in only 4 cases. These findings indicate that they had very good prognoses. Watanabe et al. revealed that they had favorable prognoses even if serosal invasion was present and that they had better prognoses than ordinary well-demarcated carcinoma (7). These observations indicate that the lymphoid cell infiltration appears to play some role in determining the growth pattern and biological behavior of the tumors. Hamazaki et al. pointed out a connection between the

Table 1. Cases of Gastric carcinoma with lymphoid stroma (Well demarcated poorly differentiated adenocarcinoma)

Case	Gross type	Size	Depth of invasion	Invasion of lymphatics	Lymph node metastasis**
Case 1	IIC*	1.2 cm	Submucosa	(—)	0/22
Case 2	Borrmann II	2 cm	Muscle layer	(—)	0/35
Case 3	Borrmann II	2.5 cm	Serosa	(+)	0/24
Case 4	Borrmann II	6×4 cm	Muscle layer	(—)	0/23

\* Gastric carcinoma which is slightly depressed and which is limited to the mucosa and submucosa.

\*\* Number of positive nodes/total number examined.

Table 2. Reported cases of gastric carcinoma with lymphoid stroma

Authors	Name of gastric carcinoma with Lymphoid stroma	Number of cases	Lymph node metastasis	5-year survival	Recurrence
P.E. Steiner et al. 1948	Blue cell cancer	6	1/6	6/6	0/6
Hamazaki et al. 1968	Gastric medullary carcinoma with lymphoid infiltration	5		4/5	1/5
Hirakawa et al. 1975	Gastric medullary carcinoma with lymphoid infiltration	1	0/1		0/1
Watanabe et al.	Gastric carcinoma with lymphoid stroma	42	12/42	24/29	3/42
Our case	Gastric carcinoma with lymphoid stroma	4	0/4		0/4

lymphoid stroma and their delayed hypersensitivity reaction (2, 3). It was interesting that one of our four cases (case 2) was accompanied by dermatomyositis which is considered to be related to cellular immunity (1, 8).

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