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症　　例

A Case of Early Gastric Carcinoma with Acute Gastric Mucosal Lesions Presenting Difficulty in Differentiating Advanced Gastric Carcinoma

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Abstract

An 87-year-old man diagnosed as having advanced gastric carcinoma was admitted to our hospital. In a barium X-ray examination of the stomach taken at another hospital, filling defects were obseved in the greater and lesser curvatures of the antrum, while the entire pyloric region was rigid and stenotic. The gastroscopic findings showed pronounced curvature and stenosis of the pylorus and the pyloric mucosa was edematous and sclerotic. Histopathological examination of a biopsy specimen from the pylorus indicated a group V The gastroscopic findings subsequent to admission displayed pronounced improvement with only sporadic shallow ulceration and erosion. The histopathological findings of the excised specimen showed that several depressed lesions in the antrum were active ulcers or their scars and the depressed lesions extending from the antrum to the pyloric ring were early gastric carcinoma.

The findings of filling defects of the antrum and stenosis with ridigity of the pyloric region in the radiographic examination, and pronounced curvature and stenosis of the pylorus and sclerosis with edema of the pyloric mucosa in the gastroscopic examination were very similar to typical findings of advanced gastric carcinoma with pyloric stenosis. In addition, histopathological examination of a biopsy specimen from the pylorus indicating a group V made differentiation from advanced gastric carcinoma extremely difficult.

Introduction

In case of acute gastric lesions, such as hemorrhagic gastric erosion or acute gastric ulcers, besides inflammation of the mucosa and/or other superficial findings, one frequently observes hypertropy of the gastric wall suggesting deeper inflammatory phenomena, i.e., inflammation of the tunica muscularis or the entire gastric wall. Consequently, such cases are sometimes erroneously diagnosed as advanced gastric carcinoma on the basis of roentgenographic or gastroscopic examina-

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Key words: acute gastric mucosal lesions, early gastric carcinoma, advanced gastric carcinoma, pyloric stenosis

tion. We have experienced the case of a patient in whom acute gastric mucosal lesions were concomitant with early gastric carcinoma and therefore it was difficult to diferentiate from advanced gastric carcinoma. Here we describe this case and present some analytical comments in relation with the relevant literature.

Case Report

The patient was an 87 year-old man with a history of appendectomy for acute appendicitis. The patient's family history revealed nothing particularly worthy of note. His current clinical history was as follows.

In the course of a routine geriatric examination, the patient underwent gastric roentgenography and gastroscopy and after being diagnosed as having gastric carcinoma, was admitted to our hospital for surgery. No abdominal symptoms had been noted at the first examination.

As regards the patient's present status, overall physical appearance and nutritional condition were fair; neither anemia nor icterus was evident. The cervical and Virchow's lymph nodes were not palpable and no abnormal physical findings were apparent in the thorax. The abdomen was flat and soft and no tenderness or muscular defense was observed. No abdominal tumors were palpable.

The laboratory findings on admission were as follows: WBC3900/mm^3, RBC4.0 million/mm^3,

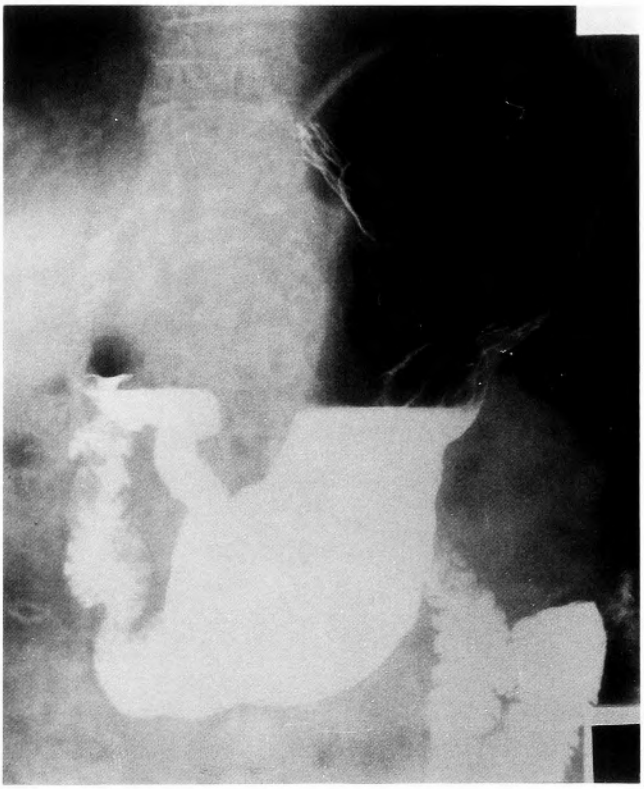

Fig. 1 Radiography taken at the other hospital. Note stenotic condition of the pylorus, filling defects at the greater and lesser curvatures of the antrum and extreme rigidity of the entire pyloric zone.

Hb12.3 g/dl, Ht38.1%, platelet178000/mm^3 Biochemical analysis revealed moderate increases in LDH (549 IU/l), LAP (223 G-RU) and serum amylase (407 IU/l). Tumor markers CA19-9 (55 U/ml) and CEA (4.2 ng/ml) also were slightly increased.

As for roentgenographic findings, one month prior to admission to our hospital, a barium X-ray examination of the stomach was taken at another hospital. In the barium filling view of the stomach, filling defects were obseved in the greater and lesser curvatures of the antrum, while the entire pyloric region was rigid and stenotic (Fig. 1).

The gastroscopic findings obtained at the other hospital were as follows. The pylorus displayed pronounced curvature and stenosis, the pyloric mucosa was edematous and sclerotic, shallow ulcers were extensively distributed over the anterior wall, and sporadic hemorrhagic maculae were observed (Fig. 2).

Histopathological examination of a biopsy specimen from the pylorus indicated a group V

On the basis of the overall findings described above, the case was diagnosed as Borrmann 3 type advanced gastric carcinoma with pyloric stenosis and the patient was referred to our hospital for further evaluation and treatment.

The findings subsequent to admission were as follows; approximately three weeks after the previous endoscopic examination, we noted that the slightly sclerotic state persisted in the pyloric mucosa which showed somewhat poor distensibility. However, the previously observed edematous changes had markedly improved showing only sporadic shallow ulceration and erosion (Fig. 3). A biopsy of the erosive area and the anterior wall of the pyloric region was performed and histopatholog-

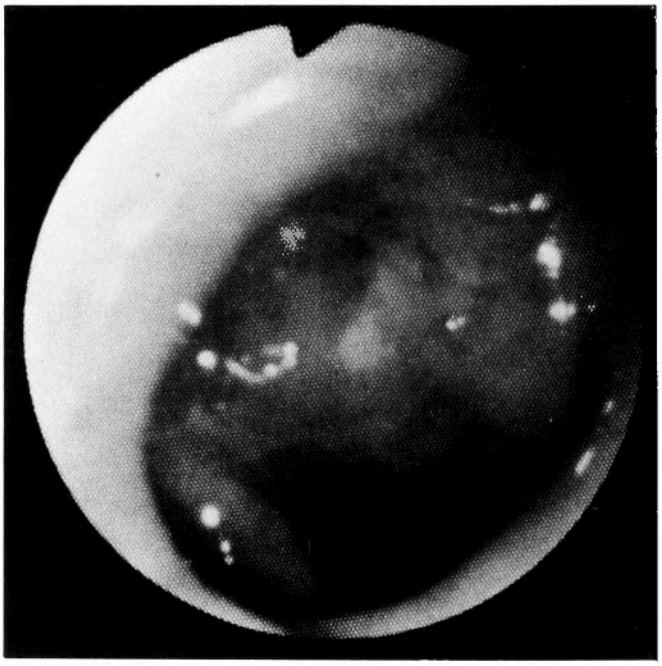

Fig. 2 Endoscopic photographs taken at the other hospital. Note extreme flexion and constriction of the antrum, the edematous condition of the pyloric mucosa, extensive distribution of shallow ulcers on the anterior wall and sporadic hemorrhagic maculae.

Fig. 3 Endoscopic findigs after admission to our hospital. A slightly sclerotic condition persisted in the pyloric mucosa, and somewhat poor distensibility was noted, but the edematous condition had markedly improved showing only sporadic shallow ulcers and erosion.

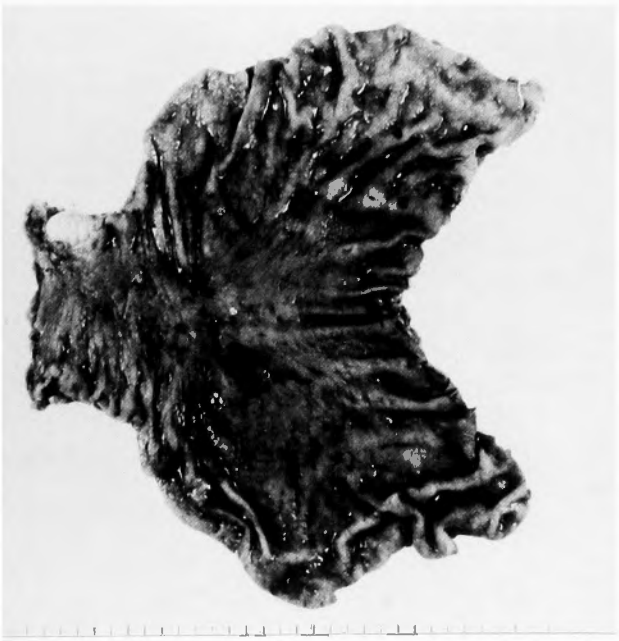

Fig. 4 Macroscopic findings of the excised specimen. Indistinctly demarcated, depressed lesions were observed extending from the antrum to the pyloric ring. Also, several depressed lesions were observed on the lesser curvature 3–4 cm proximal from the pyloric ring, and multiple erosions were present on the mucosal surface.

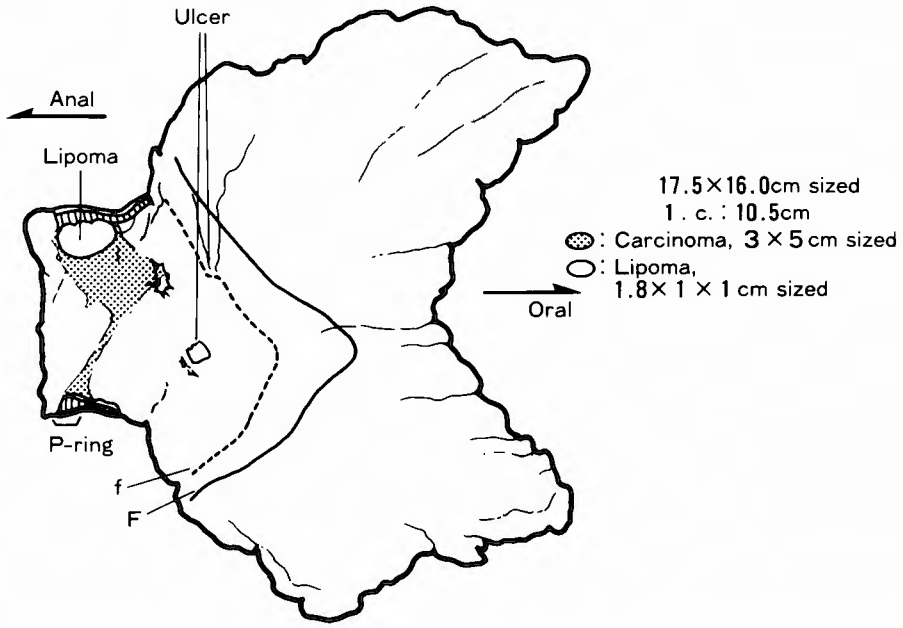

Fig. 5 Schematic illustration of the excised specimen. The macroscopically visible depressed lesions extending from the antrum to the pyloric ring were early gastric carcinoma approximately 3×5 cm in size; they had invaded the mucosal layer and almost the entire periphery of the pyloric ring. Several other depressed lesions observed in the antral region were active ulcers or their scars.

Fig. 6 Histopathological findings (1). The gastric carcinoma was histopathologically identified as microtubular adenocarcinoma, with interspersed signet ring cells (HE, ×100).

ical findings indicated signet ring cell carcinoma.

Considering all the above results, we finally diagnosed the condition as acute multiple gastric ulcers concomitant with early gastric carcinoma of the pyloric region. Accordingly, distal gastrectomy, lymph node dissection (D_1) and Billroth I reconstruction were performed.

As for the resected specimen, indistinctly demarcated depressed lesions were seen extending from the antral region to the pyloric ring. Also, several depressed lesions were observed on the lesser curvature 3–4 cm proximal from the pyloric ring and the mucosal surface was marked by multiple erosions (Fig. 4).

A schematic illustration of the excised specimen is shown in Fig. 5. The macroscopically visible depressed lesions extending from the antrum to the pyloric ring were early gastric carcinoma approximately 3 × 5 cm in size. They had invaded the mucosal layer and almost the entire periphery of the pyloric ring. Several other depressed lesions observed in the antral region were active ulcers or their scars (Fig. 5).

The histopathological findings may be summarized as follows: the gastric carcinoma was characterized as microtubular adenocarcinoma with interspersed signet ring cells (Fig. 6). The depressed lesions macroscopically obseved on the lesser curvature, 3–4 cm proximal to the pyloric ring, were active ulcers or their scars. The inner circular layer of the tunica propria muscularis was fibrotic, but the lamina propria mucosae had almost regenerated (Fig. 7). Also, multiple erosions were present on the mucosal surface.

The postoperative course was favorable and the patient was discharged 29 days after the opera-

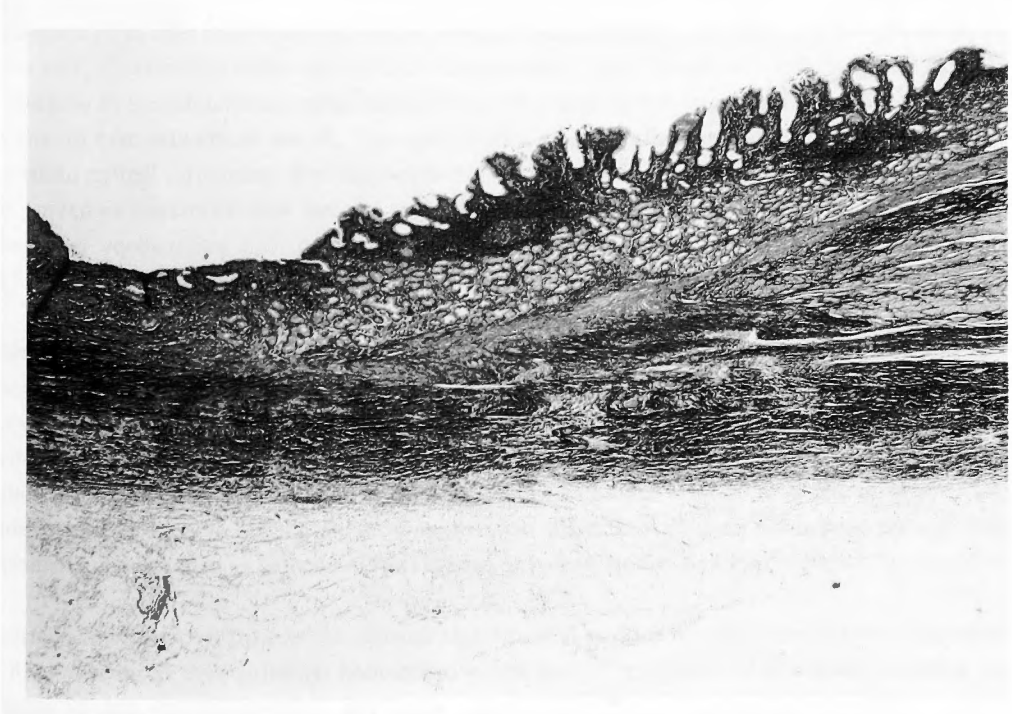

Fig. 7 Histopathological findings (2). The several depressed lesions obseved on the lesser curvature 3–4 cm proximal from the pyloric ring were active ulcers or their scars. The inner circular of the tunica propria muscularis was fibrotic, but the lamina propria mucosa had almost regenerated; multiple erosions were present on the mucosal surface (HE, × 40).

tion.

Discussion

Apparently scirrhous findings are sometimes observed in radiographs of acute gastric lesions[1], and in cases of acute kissing ulcers of the antrum, the antrum may be rigidly constricted. Also, barium x-ray examination of hemorrhagic erosions has, in some cases, revealed, despite intramuscular injection of scopolamine bromobutylate, marked rigidity in the barium filling view of the stomach[2]. And in the double contrast image, insufficient antral dilation, as well as irregular hypertrophy of the gastric contour and folds have been noted[3]. SHIONO et al[4] described markedly stenotic images arising from pronounced pyloric edema in patient with hemorrhagic gastric erosions.

In addition to intragastric hemorrhage, endoscopic observation of acute gastric lesions also reveals mucosal edema, poor distensibility of the gastric wall accompanied by erythematous granulation, increment of mucus and macular erythema[1], often indicating malignancy. Also, endoscopic findings in the acute phase of hemorrhagic erosion display an overall edematous condition of the mucosa on the affected site, with poor distensibility of the gastric wall, again suggesting malignancy at first sight. Likewise, in the case we have described here, gastric radiography showed pyloric ridigity and stenosis in the barium filling view of the stomach, while gastroscopy disclosed an edematous state of the pyloric mucosa as well as erosion, ulceration and hemorrhagic maculae. Furthermore, since histopathological examination indicated group V, the case was initially diagnosed as advanced gastric carcinoma.

Thus, in view of the circumstances pointed out above, acute gastric lesions seen to be frequently diagnosed as malignancies. However, if the radiographic findings are observed carefully, one notes a certain degree of variation in the distensibility of the affected region and the degree of sclerosis of the periphery, and the finding generally tends to lack constancy[1]. Stress ulcers also may present an appearance of malignancy at first glance, but after two weeks would look completely benign under endoscopic examination, and would heal after six weeks. Our patient was diagnosed as having advanced gastric carcinoma after the initial gastroscopic examination, but gastroscopy performed about three weeks later showed only erosion and shallow ulceration, without findings which would indicate advanced gastric carcinoma.

The possible pathogenic factors involved in acute gastric lesions of this kind include enhanced hydrochloric acid secretion mediated by hypothalamic or vagal stimulation, catecholamines secretion mediated by the hypophysis or adrenal cortex, decreased gastric mucus production mediated by the adrenal cortex or sympathetic nerves[4], resulting in diminished gastric blood flow due to vasoconstriction and thus inducing pronounced edema of the entire pyloric region. Moreover, the possibility that early gastric carcinoma participated in the occurrence of acute gastric ulcers was improbable, because the acute gastric ulcers had almost healed in case of the endoscopic examination at our hospital.

In general, acute gastric lesions such as hemorrhagic erosion occur most frequently in relatively younger patients, under 50 years of age[5,6], and are accompanied by subjective symptoms such as epigastralgia, nausea and vomiting[1,7]. However, our patient was, conversely, very old, 87 years of age. Moreover, subjective symptoms were completely lacking when the disorder was discovered in the course of a routine geriatric screening examination, and in addition, early gastric carcinoma was present. This combination of circumstances made differentiation from advanced gastric carcinoma

extremely difficult.

Conclusion

A case of early gastric carcinoma with acute gastric mucosal lesions difficult to distinguish from advanced gastric carcinoma has been described together with some relevant bibliographical comments.

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和文抄録

急性胃粘膜病変の併存により Borrmann 3型進行胃癌様の画像を呈した早期胃癌の1例

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急性胃粘膜病変（AGML）は粘膜炎といった表層性所見のほかに，筋層炎または胃壁全層の炎症ため，胃X線検査や内視鏡検査により進行胃癌との鑑別に難渋することがある．今回，早期胃癌にAGMLが併存したため，進行胃癌との鑑別が困難であった1例を経験したので報告する．

症例は82歳の男性．老人検診で胃X線検査および内視鏡検査を施行され，胃癌の診断で当科に入院となった．胃X線検査では，立位充満像で幽門部大弯および小弯側に陰影欠損が認められ，幽門部全体は硬直し，幽門狭窄の状態であった．胃内視鏡検査では，幽門前庭部は強く屈曲し狭窄しており，幽門粘膜は浮腫状で硬く，前壁側に広く浅い潰瘍が広がっており，所々に出血斑が認められた．幽門前庭部からの生検でgroup Vが得られた．以上の所見より，幽門狭窄を伴ったBorrmann 3型進行胃癌の診断で当科に入院となった．入院後，初回の内視鏡検査から3週目に施行された胃内視鏡検査では，幽門粘膜に軽度の硬さが残存しており，やや壁の伸展不良が認められたものの，浮腫状変化は著明に改善しており，所々に浅い潰瘍やびらんが散在しているのみであった．幽門前庭部前壁のびらんから，印環細胞癌の診断が得られた．以上の成績より，AGMLに併存した早期胃癌と診断し，広範囲胃切除術，D_1 リンパ節郭清を施行した．

本症例は，早期胃癌にAGMLが併存したため，幽門狭窄を伴ったBorrmann 3型進行癌との鑑別が困難な1例であった．