

Table 2. Results of Clinical Data of Patients in the Elderly Group and the Non-elderly Group

	Elderly group	Non-elderly group	P value
Mean age (years)	78.2±3.8	64.7±7.4	
One-piece resection rate (%)	96	92	NS
Complete resection rate (%)	81	82	NS
Size of the lesion (mm)	12.2	13.0	NS
Operation time (min)	67±49	77±58	NS
Frequency of the oxygen therapy (%)	13	14	NS
Frequency of the use of depressor (%)	17	23	NS
Frequency of the use of pressor (%)	1.9	1.1	NS
Amount of the use of pethidine hydrochloride (mg)	20.4±10.7	23.8±9.5	NS
Amount of the use of midazolam (mg)	2.0±1.3	3.1±1.4	NS
Complications			
Rate of bleeding (%)	43	43	NS
Rate of perforation (%)	1.9	1.1	NS
depth of invasion (mucosa/submucosa)	47/6	83/8	

NS: not significant.

were 12.2±4.8 mm in the elderly group and 13.0±4.8 mm in the non-elderly group, respectively. There was a significant difference in the rate of having underlying disease between the 2 groups, for which 30 patients (57%) in the elderly group and 30 patients (33%) in the non-elderly group had some form of underlying disease ($p<0.05$). Heart disease (old myocardial infarction, arrhythmia, etc.), hypertension, respiratory disease, liver disease, diabetes mellitus or others (cerebral infarction etc.) was observed in 1, 15, 4, 4, 5 and 5 patients, respectively in the elderly group, and in 5, 7, 2, 5, 13 and 5 patients, respectively in the non-elderly group. Many patients had accompanying hypertension in the elderly group. There were no significant differences in the number of patients who had anticoagulant therapy among the groups [6 patients (11%) in the elderly group versus 8 patients (8.8%) in the non-elderly group].

The data compared between each group is shown in Table 2. There was no significant difference in the one-piece resection rate among the groups (96% in the elderly group versus 92% in the non-elderly group). The one-piece resection rate was over 90% even if the tumor size was over 20 mm (Table 3). There was no significant difference in the CR rate among the groups (83% in the elderly group versus 82% in the non-elderly group). The CR rates were 88% for lesions 10 mm or less in diameter, 83% for those between 11 and 20 mm, and 64% on those over 21 mm (Table 4). The mean operation time was 67.4±49.4 minutes for the elderly group and 77.0±58.1 minutes for the non-elderly group, respectively. There were 62 (43%) cases of bleeding during or after IT-ESD: 23 (43%) in the elderly group and 39 (43%) in the non-elderly group, and one patient required surgery for bleeding in the elderly group (Table 5). Ten of 22 patients with hypertension and 5 of 14 patients with having anticoagulation therapy in the both groups exhibited bleeding during or after ESD. Perforation occurred in one patient in each group,

Table 3. One-piece Resection Rate, According to Size

	Elderly group	Non-elderly group	Total
Size (mm)			
1-10	96% (23/24)	93% (40/43)	94% (63/67)
11-20	94% (17/18)	94% (32/34)	94% (49/52)
21-30	100% (11/11)	86% (12/14)	92% (23/25)

Table 4. Complete Resection Rate, According to Size

	Elderly group	Non-elderly group	Total
Size (mm)			
1-10	83% (20/24)	91% (39/43)	88% (59/67)
11-20	78% (14/18)	85% (29/34)	83% (43/52)
21-30	82% (9/11)	50% (7/14)	64% (16/25)

respectively, and a patient in the non-elderly group required surgery for perforation (Table 5). There was no significant difference in the frequency of use of a depressor among the groups being 9 patients (17%) in the elderly group and 21 patients (23%) in the non-elderly group. Pressor was used in one patient in each group for bleeding during IT-ESD. Also there was no significant difference in the frequency of the drop in SpO₂ below 90% during ESD; it occurred in 7 patients (13%) in the elderly group and 13 (14%) in the non-elderly group. Only one patient in the elderly group showed an SpO₂ below 95% before ESD. Five patients in the elderly group and 8 patients in the non-elderly group showed an SpO₂ below 90% after more than 60 minutes from ESD start. There were no significant differences in the use of midazolam among the groups (2.0±1.3 mg in the elderly

ESD for Elderly Patients with Gastric Cancer

Table 5. Complications of ESD, According to Size

Size (mm)	Bleeding		Perforation	
	Elderly group	Non-elderly group	Elderly group	Non-elderly group
1-10	29% (7/24)	30% (13/43)	0% (0/24)	0% (0/43)
11-20	44% (8/18)	47% (16/34)	5.6% (1/18)	0% (0/34)
21-30	73% (8/11)	71% (10/14)	0% (0/11)	7.1% (1/14)
Total	43% (23/53)	43% (39/91)	1.9% (1/53)	1.1% (1/91)

group versus 3.1 ± 1.4 mg in the non-elderly group). There were no significant differences in the use of pethidine hydrochloride among the groups (20.4 ± 10.7 mg in the elderly group versus 23.8 ± 9.5 mg in the non-elderly group). Twenty-six patients were judged as incomplete resection. The margin of the fragment was positive for tumor or lateral margin of the lesion could not be evaluated because of the effects of the electrosurgical current in 12 patients (4 in the elderly group and 8 in the non-elderly group). Among these 12 patients, there were no patients who underwent additional laser therapy. They have been under close periodic observation. Fourteen patients (6 in the elderly group and 8 in the non-elderly group) were judged as having submucosal invasion and 12 of them underwent additional surgery. The remaining 2 cases refused surgery and they have been under close periodic observation.

Discussion

EMR has become a standard treatment for intramucosal gastric cancer because it is less invasive for patients compared with surgical resection. To achieve cure by EMR, one-piece resection is optimal for all lesions because it may reduce the local recurrence rate. It is easier to remove a tumor larger than 10 mm in diameter with ESD techniques using an IT-knife than with the usual strip biopsy method. At our institute, IT-ESD was introduced for the treatment of mucosal gastric carcinoma in 1996.

In the present study, the one-piece resection rate and CR rate were high for large lesions including those over 20 mm. The CR rate of 83% (119/144) in the present series of patients is higher than that previously reported by Miyamoto et al (6). The reason why the one-piece resection rate and CR rate were higher in our study than that of Miyamoto et al might be as follows: 1) we adequately abraded the submucosal tissue under the lesion before snaring, and 2) in more than half of the patients in this study, we cut down the lesions with an IT-knife and without using snaring. However, 3 of 25 patients (12%) with lesions over 20 mm had submucosal invasion and thus we should deliberately perform ESD if the tumor size is over 20 mm. In the elderly group, 11 of 53 patients (21%) had lesions over 20 mm and elderly people might have a tendency to avoid surgery.

We thought that the elderly patients were able to undergo IT-ESD just as non-elderly patients due to the use of a small quantity of contrastimulants, because there were few patients who had a SpO_2 below 95% before ESD even in the patients associated with respiratory disease. Also the condition of the patients in the present study was that PS for all patients was less than 2, and there were no patients who had severe underlying diseases which might affect the good result of IT-ESD in the elderly group. In both groups, few patients suffered pain during ESD, although we used only a small quantity of a pethidine hydrochloride and/or midazolam. It is important to not use too large a quantity of contrastimulants for elderly patients during IT-ESD because they frequently tend to exhibit a drop of SpO_2 or a drop of blood pressure by the use of contrastimulants during the endoscopic examination. There were no patients in whom the circulatory and respiratory states were affected by contrastimulants, although there were some who required oxygen for the long duration of operation, or some who revealed a drop in blood pressure due to bleeding in the present study. Generally, the elderly patients frequently have a underlying diseases such as heart disease, hypertension, respiratory disease, cerebral infarction and so on. We should pay particular attention to patients with hypertension or anticoagulation therapy before or during ESD because they are related to bleeding during IT-ESD or operation time. The good result of IT-ESD in the elderly group in this study might be due to small number of patients having anticoagulation therapy.

The operation time for IT-ESD is longer than that of EMR using conventional methods (3). The reason why the IT-ESD takes a longer time than conventional methods might be as follows: 1) complicated operation of a IT-knife on the abrasion of the submucosal tissue and 2) a high frequency of bleeding. However, it might be worth trying as the first therapy for treating elderly patients with mucosal gastric carcinoma because of its high one-piece resection rate (1, 6). In our study, the bleeding frequency was higher than Ohkuwa et al (1) who reported it as high as 22%. We could shorten the operation time if bleeding during IT-ESD was well controlled. Thirteen (9%) of all patients showed an SpO_2 below 90% after more than 60 minutes from ESD start. Thus, cases that require oxygen during ESD may decrease in the future if bleeding during IT-ESD is well controlled. Whether the

patient is elderly or not, the sooner ESD is performed the better. Improved devices for the management of bleeding are necessary to safely and smoothly perform the IT-ESD. We used a depressor before or during ESD when a patient's blood pressure rose over 160 mmHg. At our institute, blood pressure during ESD is not controlled restrictively because those who undergo ESD include many elderly people. If we could control the blood pressure during ESD restrictively, for example, by continuously maintaining the systolic blood pressure below 150 mmHg, the frequency of bleeding may decrease. The perforation rate was 1.4% (2/144) in this study and one patient in the non-elderly group needed surgery for treatment of it. It is necessary to pay particular attention to perforations because Ohkuwa et al (1) and Ono et al (7) reported that the incidence of perforation with IT-ESD is 5%, although the perforation frequency in the present study was lower than that of the aforementioned 2 reports.

In conclusion, there was no significant difference in the result of ESD between the elderly group and the non-elderly group. Elderly patients frequently have underlying diseases and we should pay attention to patients with hypertension. Our study proved that ESD is a feasible treatment for elderly patients with EGC for which their PS is less than 2.

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Characteristics of Metachronous Multiple Early Gastric Cancers after Endoscopic Mucosal Resection

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Background and Study Aims: Endoscopic mucosal resection (EMR) of early gastric cancer is a minimally invasive procedure. The incidence and characteristics of metachronous multiple gastric cancers were investigated in a retrospective study in patients with early gastric cancer after EMR treatment.

Patients and Methods: A total of 143 patients with early gastric cancer who had undergone EMR treatment were periodically followed up with endoscopic examinations for 24 months or longer.

Results: The median period of endoscopic follow-up was 57 months (range 24–157 months). None of the patients died of gastric cancer, and there were no treatment-related deaths. Five patients died of other diseases. Of 20 patients (14%) with meta-

chronous multiple gastric cancers, 15 were treated by EMR. One patient with differentiated submucosal cancer and four with undifferentiated cancers underwent surgery. Sixteen patients (11%) had synchronous multiple early gastric cancer lesions within 1 year of the initial EMR. About half of the multiple lesions were located in the same third of the stomach as the primary lesion, and most lesions were similar in macroscopic type to the primary lesions. Most multiple lesions were of the differentiated type.

Conclusions: Annual endoscopic examinations can preserve the whole stomach in most patients with early gastric cancer after successful EMR.

Introduction

The rate of diagnosis of early gastric cancer has increased due to improved diagnostic procedures such as endoscopic examination, including chromoendoscopy. Early gastric cancer is defined as a lesion that is confined to the gastric mucosa or submucosa, regardless of the presence or absence of regional lymph-node metastases. Recently, the technique of endoscopic mucosal resection (EMR) for early gastric cancer was developed in Japan [1]. In patients with mucosal gastric cancer with no lymphatic invasion, no histological ulceration, and a tumor diameter of no more than 30 mm, the incidence of lymph-node metastases is 0.36% [2].

Although EMR is a minimally invasive procedure, the disease can recur in the stomach in two patterns – local recurrence or meta-

chronous multiple cancers. As EMR spares a larger area of the gastric mucosa, metachronous multiple cancers may occur more frequently after EMR than after surgical partial gastrectomy. However, there have been few reports of the occurrence of metachronous multiple lesions after EMR [3]. One of the advantages of EMR is the high quality of life resulting from preservation of the whole stomach; however, the preserved whole stomach might still need to be surgically resected later if metachronous multiple gastric cancers develop. An analysis of the incidence of metachronous multiple gastric cancers and their characteristics would therefore be useful for deciding how to follow up the preserved whole stomach following EMR. A retrospective investigation was therefore carried out of the incidence and characteristics of metachronous gastric cancers that developed in patients with early gastric cancer after EMR treatment.

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Submitted 25 February 2004 · Accepted after Revision 3 April 2005

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Endoscopy 2005; 37 (10): 990–993 © Georg Thieme Verlag KG Stuttgart · New York · ISSN 0013-726X
DOI 10.1055/s-870198

Patients and Methods

From October 1987 to October 2001, 304 gastric cancer patients were initially treated with EMR at the National Hospital Organization Shikoku Cancer Center. Patients with lesions meeting all of the following criteria were considered suitable candidates for EMR at the institution: clinical findings of intramucosal adenocarcinoma; well differentiated or moderately differentiated adenocarcinoma; protruding type (type 0 I) or superficial elevated type (type 0 IIa), no more than 3 cm in diameter, or superficial depressed type (type 0 IIc), no more than 2 cm in diameter; no ulceration in the tumor; and clinical findings of no lymph-node metastases and no distant metastases. EMR was carried out using the strip biopsy method [1]. The description of the cancers and histological evaluation of the resected specimens were in accordance with the Japanese Classification of Gastric Carcinoma [4]. Of the 304 patients, 14 immediately underwent additional surgery because of the presence of residual tumor, or because they had undifferentiated adenocarcinoma components or blood vessel infiltration. At follow-up examinations, 33 patients were found to have developed local recurrences in the area of the primary lesion. Twenty-two of these patients were treated by EMR or laser ablation, and 11 received surgical resection. As a result, 25 patients treated surgically were excluded from the study. Periodic endoscopic examinations were recommended at least annually to look for recurrences of gastric cancer. As of October 2003, 143 of the 279 patients with whole stomachs had received endoscopic follow-up for 24 months or longer.

The endoscopic examinations were carried out with indigo carmine dye spraying to detect recurrent lesions. Synchronous multiple gastric cancers were diagnosed in accordance with the Moertel criteria [5]. Lesions detected within 1 year of the initial EMR were regarded as synchronous multiple lesions, as microcancers might have been missed at the time of EMR [3,6]. Metachronous multiple lesions were defined as new gastric cancers in different areas from the initial cancer and occurring at least 1 year after the initial EMR.

Statistical analysis of the study data was carried out using the chi-squared, Wilcoxon and Mann-Whitney tests, with the assistance of the Statistical Package for the Social Sciences (SPSS) program (SPSS Inc., Chicago, USA). *P* values less than 0.05 were considered significant.

Results

Of 279 early gastric cancer patients who were initially treated with EMR, 143 were followed up by endoscopy for 24 months or longer and were included in the analysis. The characteristics of these 143 patients are listed in Table 1. Median age at diagnosis was 66 years (range 46–85 years), and the median follow-up period by endoscopy was 57 months (range 24–157 months). The primary lesion had invaded the submucosa to a depth of 500 μ m or less in six patients, and the tumor had infiltrated into the blood vessels in one patient, but the patients with these lesions were carefully followed up without additional surgery because they were elderly and had other diseases. None of the patients died of gastric cancer, and there were no treatment-related

Table 1 Characteristics of patients with early gastric cancer and their initial lesions

Factor	Solitary (n = 109)	Multiple Synchronous* (n = 14)	Multiple Metachronous P (n = 20)	
Age at diagnosis (y)				0.086
Median	66	72.5	66.5	
Range	46–85	60–77	46–79	
Sex				0.24
Male	74 (68%)	11 (79%)	17 (85%)	
Female	35 (32%)	3 (21%)	3 (15%)	
Location				0.69
Upper third	7 (7%)	1 (7%)	0	
Middle third	45 (41%)	4 (29%)	8 (40%)	
Lower third	57 (52%)	9 (64%)	12 (60%)	
Tumor size				0.66
> 20 mm	12 (11%)	1 (7%)	2 (10%)	
≤ 20 mm	97 (89%)	13 (93%)	18 (90%)	
Macroscopic type				0.86
Protruding/ superficial elevated	45 (41%)	6 (43%)	7 (35%)	
Superficial depressed	64 (59%)	8 (57%)	13 (65%)	
Endoscopic follow-up period (months)				0.69
Median	57	52	59.5	
Range	24–157	24–106	28–142	

*Two patients had both synchronous and metachronous cancers. In this analysis, they are grouped with the metachronous cancer subgroup. For patients with synchronous multiple lesions, data for the initial lesion or the largest lesion were analyzed.

deaths. There were no lymph-node metastases or distant metastases during the follow-up period. Two patients died of malignant diseases in other organs (one ovarian cancer, and one vaginal cancer). Two patients died of liver failure and one died suddenly of an unknown cause.

Twenty patients (14%) developed metachronous multiple gastric cancers (Table 1). One of these patients subsequently had a third, fourth, and fifth cancer. The median interval between the diagnosis of the primary early gastric cancer and the diagnosis of the first metachronous multiple cancer was 36.5 months (range 14–92 months). One patient with a submucosally invasive differentiated cancer and four with undifferentiated cancers underwent surgery. The remaining 15 patients were treated with EMR. All of these patients had mucosal cancers except one, in whom the lesion was found to be submucosal cancer after EMR. This patient was receiving treatment for prostate cancer and declined additional surgery. In the patients with metachronous differentiated mucosal cancers that were capable of being treated by EMR, the median time between the patient's most recent previous endoscopy and the endoscopy at which the metachronous cancer was diagnosed was 9.5 months (range 3–32 months). The intervals in the two patients with submucosally invasive differentiated cancers were 9 and 47 months. The annual incidence of metachronous cancer was approximately 4% (Figure 1).

Sixteen (11%) of the 143 patients had synchronous multiple early gastric cancer lesions (14 double and two triple cancers). Two of these patients subsequently developed metachronous cancers. In all, 34 patients (24%) had synchronous and/or metachronous multiple gastric cancers (Table 1).

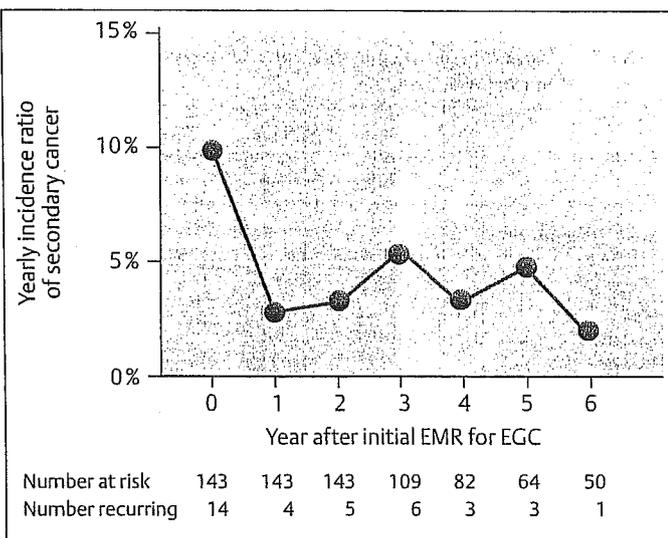


Figure 1 Incidence rates of multiple gastric cancer after endoscopic mucosal resection for early gastric cancer.

The clinicopathological characteristics of the 42 lesions in the 34 patients who had multiple gastric cancers are shown in Table 2. Half of these lesions were located in the same third of the stomach as the primary lesion, and most lesions were macroscopically similar to the primary lesions. Most multiple lesions recurred as histologically differentiated types.

Discussion

Although there have been many studies of residual gastric cancer [7], there have been few reports of metachronous multiple gastric cancers after EMR for early gastric cancer. The rate of recurrence of early gastric cancer in the gastric stump has been estimated at 1.13–1.9% [8–10]. Hosokawa et al. [11] reported that the cumulative 5-year prevalence of residual gastric cancer post-partial gastrectomy for early gastric cancer was 2.4%. An increased recurrence rate would be expected in patients treated by EMR, in proportion to the larger area of gastric mucosa remaining in these patients. In the present study, 14% of patients had metachronous multiple lesions after EMR. The annual incidence was about 4%. Most of these metachronous multiple cancers are thought to derive from de novo cancers, but some may represent lesions that were missed at the time of diagnosis of the primary early gastric cancer. Synchronous multiple lesions were detected in 14 of 143 cases (9.8%). Synchronous multiple early gastric cancers have been reported at rates of 5–10% in the resected stomach [12–15]. Many metachronous lesions are thought to be de novo cancers.

As synchronous and metachronous multiple early gastric cancers tend to have the same characteristics and arise in the same third of the stomach as the primary lesion, they may arise from the same high-risk background mucosa. Differentiated cancer is reported to be associated with synchronous multiple cancers more frequently than with undifferentiated cancers [13,14,16]. Arima et al. [3] reported that *Helicobacter pylori* infection did not show a significant relationship with metachronous recur-

Table 2 Clinicopathological similarities of multiple gastric cancers. Thirty-four patients had multiple gastric cancers (42 lesions). The table lists the numbers and percentages of subsequent lesions with characteristics were similar to the primary lesion

Primary lesion → secondary lesion	Synchronous (18 lesions)	Metachronous (24 lesions)	Total (42 lesions)
Location			
Upper → upper/middle/lower	0/1/0	0/0/0	0/1/0
Middle → upper/middle/lower	0/4/3	3/5/3	3/9/6
Lower → upper/middle/lower	0/7/3	1/3/9	1/10/12
Same location	7 (39%)	14 (58%)	21 (50%)
Macroscopic type			
Protruding or superficial elevated → protruded or superficial elevated/superficial depressed/advanced	7/2/0	6/3/2	13/5/2
Superficial depressed → protruding or superficial elevated/superficial depressed/advanced	5/4/0	2/11/0	7/15/0
Same macroscopic type	11 (61%)	17 (71%)	28 (67%)
Histological type			
Differentiated → differentiated/undifferentiated	18/0	20/4	38/4
Same histological type	18 (100%)	20 (83%)	38 (90%)

rence. Multiple gastric cancers occurred predominantly in males. Residual gastric cancers had a similar tendency to predominate in males [7]. A defect in the mismatch repair system may play a role in a minority of cases [17].

Periodic endoscopic examinations detected all multiple gastric cancers that were still at a curable stage in the patients included in the present study. Most of the lesions were of the differentiated type and were capable of receiving repeat EMR treatment. None of the patients died of gastric cancer. The optimal surveillance program for detecting secondary cancer remains unclear. In the present study group, most periodic endoscopic examinations were performed at least annually. The time interval between the patient's previous most recent endoscopy and the endoscopic diagnosis of metachronous differentiated gastric cancer capable of being treated with EMR was 3–32 months. Unfortunately, one patient who did not attend for endoscopic follow-up for 47 months ultimately had to undergo surgery for submucosal differentiated cancer, and one patient turned out to have submucosal cancer after EMR for metachronous cancer. In the latter patient, the most recent interval between endoscopies was 9 months. Tsukuma et al. [18] reported that half of untreated early gastric cancers had progressed to the advanced stage by 44 months. The prognosis of early gastric cancer is favorable, with a reported 5-year relative postoperative survival of 90% or more [19]. However, untreated early gastric cancer is eventually fatal. In 16 patients with differentiated metachronous gastric cancer, only one patient was not capable of receiving EMR treatment despite having had annual endoscopies.

The annual incidence of metachronous cancer was about 4%. The cumulative prevalence of gastric remnant cancer after surgical partial gastrectomy for early gastric cancer is reported to be

2.4% at 5 years [11]. Patients with early gastric cancer after treatment by EMR have been identified as a high-risk group for gastric cancer. Endoscopists should recognize the characteristics of metachronous multiple gastric cancer, and special attention should be given to the same third of the stomach as the primary lesion in order to detect early gastric cancer. Annual endoscopic examinations would lead to preservation of the whole stomach in most early gastric cancer patients after a successful initial EMR. Prospective studies will be needed in order to estimate the optimal endoscopic surveillance interval after EMR for early gastric cancer.

Acknowledgment

This study was supported in part by a Grant-in-Aid for Cancer Research (15-2) from the Japanese Ministry of Health, Labor, and Welfare.

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Acute Pancreatitis Occurring in Gastric Aberrant Pancreas Treated with Surgery and Proved by Histological Examination

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Abstract

We describe a case of gastric aberrant pancreas with acute pancreatitis. Barium meal examination, endoscopic examination and computed tomography of a 32-year-old man with abdominal pain revealed a submucosal tumor, about 3.5 cm in diameter, at the angulus of his stomach. Endoscopic ultrasonography revealed a hypoechoic mass with anechoic capillary areas. His serum amylase level was high at 262 IU/l. Laparoscopy-assisted local resection was carried out. The resected tumor revealed pancreatic tissue with extensive neutrophil infiltration in the gastric wall and fat necrosis in the subserosa. There are few cases of histologically proven acute pancreatitis in gastric aberrant pancreatic tissue.

(Internal Medicine 44: 1169–1173, 2005)

Key words: acute pancreatitis, ectopic pancreas, endoscopic ultrasonography, gastric submucosal tumor, laparoscopy-assisted local resection

Introduction

Aberrant pancreas is not an extremely rare pathological condition. It is defined as the presence of pancreatic tissue lacking anatomical and vascular continuity with the pancreas (1). It occurs most commonly in the stomach, duodenum, and jejunum and has been reported in other locations, including the ileum, Meckel's diverticulum, colon, gall bladder, umbilicus, fallopian tube, mediastinum, spleen, and liver (2). However, acute pancreatitis rarely occurs in the aberrant pancreas, and there are few cases of histologically proven acute pancreatitis in gastric aberrant pancreatic tissue (3, 4). Herein we report an unusual case of acute pancreatitis occurring in a gastric aberrant pancreas successfully treated with surgery.

Case Report

The patient was a 32-year-old man, 170 cm tall and weighing 66.6 kg. He visited our hospital for epigastralgia and further evaluation of the abnormal radiographic findings of the stomach. He had dull continuous abdominal pain for 1 week with no specific aggravating or relieving factors. Barium meal examination at the previous physician revealed a large elevated tumor in the stomach. He had been in good health and no specific family, past medical, or drug history was identified. He had drunk about 35 g/week of alcohol for 12 years. Physical examinations revealed no abnormalities. Routine hematological examination and biochemical tests were within normal limits. However, serum amylase and C reactive protein (CRP) examined by the previous physician were high at 262 IU/l (normal ≤ 150 IU/l) and 2.0 mg/dl (normal ≤ 0.4 mg/dl), respectively.

On radiographic examination, the double contrast radiograph showed a large elevated lesion with fold conversion on the posterior wall of the angulus (Fig. 1). Endoscopic examination of the upper digestive tract and abdominal computed tomography (CT) revealed a submucosal tumor (SMT) covered with normal mucosa, about 3.5 cm in diameter, in the posterior wall of the angulus (Fig. 2). An abdominal CT showed a normal pancreas, and there were no findings that suggested pancreatitis such as swelling or fluid. The esophagus and duodenum appeared normal. Endoscopic ultrasonography (EUS) (20 MHz frequency) revealed a hypoechoic heterogeneous mass, about 3 cm in diameter, with anechoic capillary areas which mainly occupied the third layer of the gastric wall. The border between the fourth layer and this tumor was unclear (Fig. 3). Under the diagnosis of aberrant pancreas of the stomach, laparoscopy-assisted local resection was carried out.

The resected tumor was covered with normal mucosa and no ulcer or erosion was seen on the mucosal surface. Opening of the rudimentary pancreatic duct was not detected. The cut surface showed a yellowish soft mass resem-

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Received for publication May 19, 2005; Accepted for publication July 25, 2005

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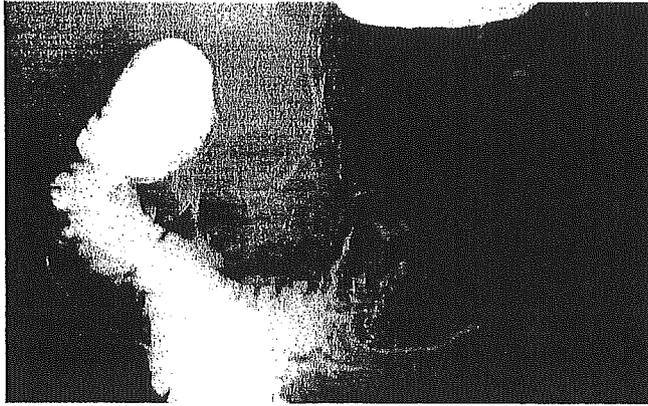


Figure 1. Radiographic features of the stomach. The double contrast radiograph showed an elevated lesion with bridging folds on the posterior wall of the angulus.

bling a normal pancreas (Fig. 4), and located mainly in the smooth muscle layer. Histologically, the mass was composed of normal pancreatic acini, ducts, and islets and was distributed from submucosa to serosa. A part of this tumor revealed pancreatic tissue with extensive neutrophil infiltration (Fig. 5A). This resected tumor was diagnosed as an aberrant pancreas. Histological examination also revealed extensive neutrophil infiltration and small abscesses in the gastric wall. Fat necrosis was present in the subserosa (Fig. 5B). The diagnosis, based on these histological findings, was acute pancreatitis occurring in the gastric aberrant pancreas.

Discussion

Aberrant pancreas occurs in 0.25–13.7% of patients based

on both autopsy and surgical series; approximately 70% of all such tissues are found in the stomach, duodenum, and jejunum (2). When an aberrant pancreas is found coincidentally during surgery for other abdominal conditions, resection should be considered because of the risk of late clinical problems.

A MEDLINE search of the literature, revealed only 3 cases of acute pancreatitis occurring in the gastric aberrant pancreas in the last 30 years including the present case (3, 4) (Table 1). There have been a few reports of histologically proven acute pancreatitis in gastric aberrant pancreatic tissue. A major symptom of all 3 cases was abdominal pain. All 3 cases showed slight elevation of serum amylase and were treated with surgical resection. Fat necrosis was present in the subserosa in all 3 cases in Table 1. Acute pancreatitis was considered as a possible diagnosis before surgery, although the serum amylase was only marginally elevated in the present case. The mildly elevated serum amylase may well be explained by the relatively small amount of pancreatic tissue involved. There were some reports describing acute pancreatitis occurring in the aberrant pancreas excluding the stomach, such as in the duodenum (5), small bowel mesentery (6) or Meckel's diverticulum (7). These patients with acute pancreatitis in the aberrant pancreas had abdominal pains. Thus, it is necessary to be aware that an aberrant pancreas may cause acute pancreatitis and should be suspected in a patient with abdominal pain regardless of a distinct cause, when serum amylase is elevated. All 3 cases of acute pancreatitis occurring in the gastric aberrant pancreas in Table 1 are young men. Gastric aberrant pancreas had been reported to be common in men, and Fam et al described that the male to female ratio of gastric aberrant pancreas was 3 : 1 (6). It is unclear whether young men with gastric aberrant pancreas tend to have acute pancreatitis. However, 2 patients with acute pancreatitis in the aberrant pancreas



Figure 2. Abdominal computed tomography on admission revealed a large submucosal tumor, about 3.5 cm in diameter, in the gastric posterior wall (arrow) and a normal pancreas.

Gastric Ectopic Pancreatitis

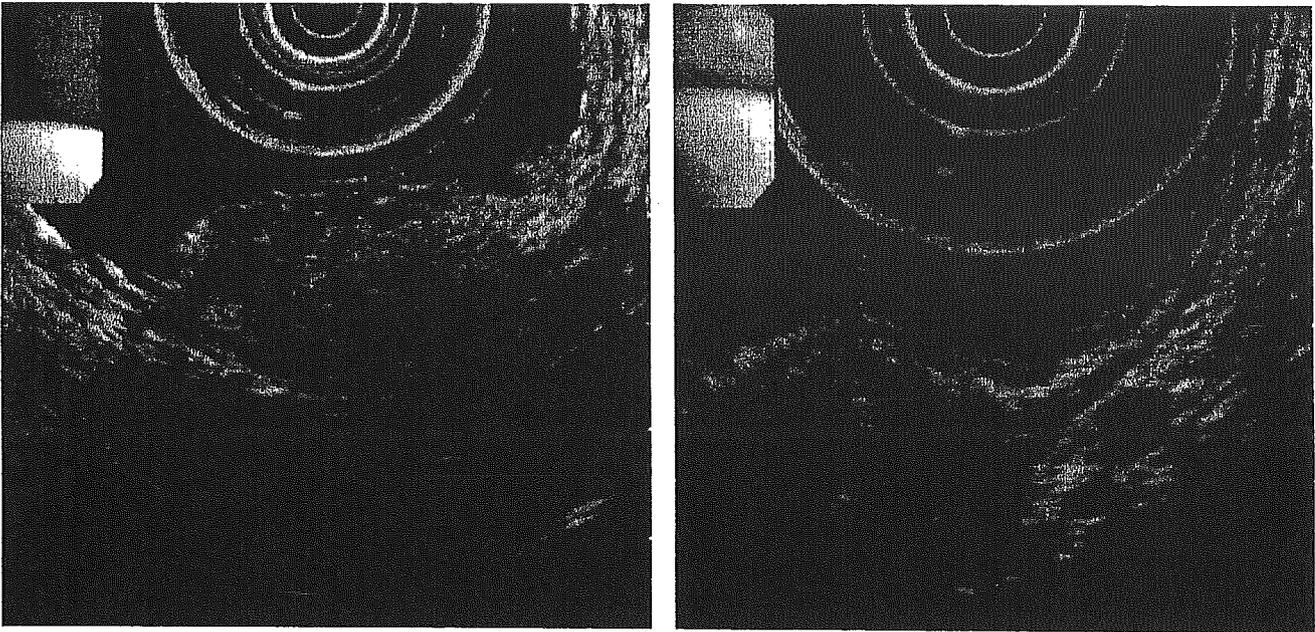


Figure 3. Endoscopic ultrasonography findings of the gastric tumor. The tumor was a hypoechoic heterogeneous mass with anechoic capillary areas which mainly occupied the third layer of the gastric wall. And this tumor was connected with the smooth muscle layer (fourth layer) of the gastric wall.

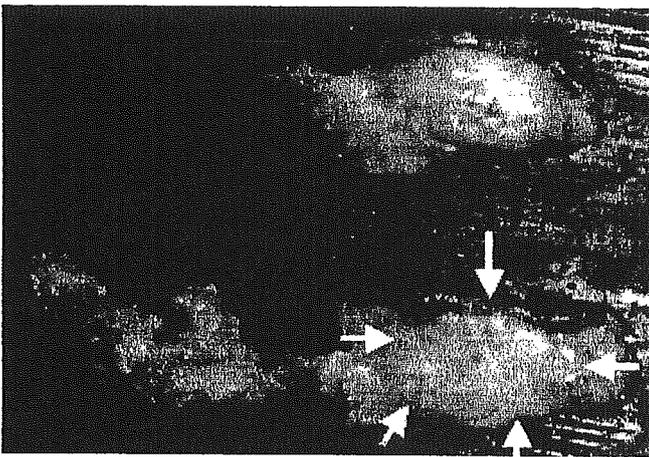


Figure 4. Macroscopic findings of the tumor. The cut surface showed a 3 cm sized yellowish soft mass resembling a normal pancreas (arrows).

pancreas. This disease occasionally develops other symptoms such as bleeding or vomiting (2, 8, 9). Moreover, this disease is rarely associated with adenocarcinoma (10). The incidence of malignant change in the gastric aberrant pancreas has been estimated to be less than that of the normal pancreas itself (2). Ikenaga et al (11) described that the cases of gastric aberrant pancreas larger than 3 cm frequently had symptoms or were associated with adenocarcinoma. Thus a tumor size of larger than 3 cm may be indicative of malignant behavior or the time for surgery.

EUS has recently been frequently used for determining the depth of tumor invasion in the gastrointestinal wall, and it is also useful for evaluating gastrointestinal SMT. It also assists in determining the indications for endoscopic removal (12). In some cases, we can obtain a histological specimen from gastric SMT by endoscopic ultrasound-guided needle aspiration (13). Yoneshima et al (14) described EUS findings in gastric aberrant pancreas as follows: 1) a mass in the submucosal layer, 2) a solid echo pattern with some small cystic or anechoic capillary areas, 3) a thick 4th layer surrounds the mass. In the present case, EUS revealed an SMT with a hypoechoic pattern, involving the submucosal layers and smooth muscle layers of the gastric wall. EUS also revealed a hypoechoic heterogeneous mass with anechoic capillary areas and these findings were compatible with gastric aberrant pancreas. We had to make a differential diagnosis regarding a gastrointestinal stromal tumor (GIST), however, we could rule out a GIST because of the existence of anechoic capillary areas. The present patient was diagnosed

excluding the stomach, who were reported by Fam et al (12-years old) (6) and Taylor and Owen (29-years old) (7), were young males. Acute pancreatitis in the aberrant pancreas should be suspected in a young man with atypical abdominal pain. Surgical therapy is necessary for the symptomatic patients of gastric aberrant pancreas (2). Acute pancreatitis with abdominal pain rarely occurs in the gastric aberrant

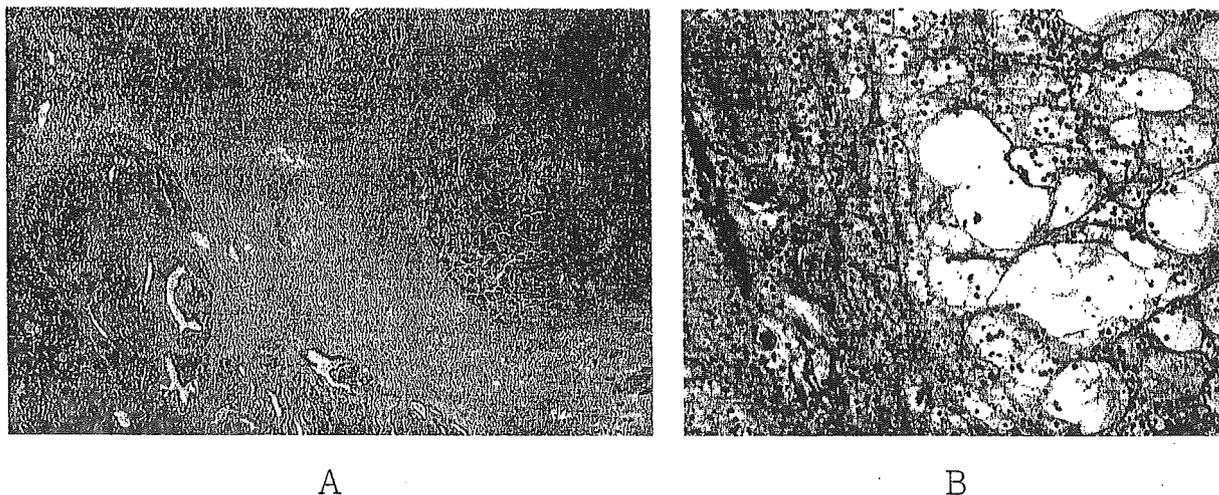


Figure 5. Histological examination of the gastric tumor revealed pancreatic acini, ducts, and islets with neutrophil infiltration (A) (HE stain, $\times 10$). Fat necrosis was seen in the subserosa of the gastric wall (B) (HE stain, $\times 20$).

Table 1. Summary of 3 Cases of Acute Pancreatitis Occurring in the Gastric Aberrant Pancreas in the Past 30 Years

	Author	Age	Sex	Symptoms	Size (cm)	Serum amylase (IU/l)	Fat necrosis in the subserosa	Therapy
1	Green (3)	38	M	abdominal pain	not described	500	+	operation
2	Matsushita (4)	33	M	abdominal pain	2	59	+	operation
3	present case	32	M	abdominal pain	3	262	+	operation

as having a gastric aberrant pancreas by diagnostic imaging and elevation of serum amylase. Endoscopic ultrasound-guided needle aspiration was not necessary for diagnosis of this tumor. We abandoned the removal of this tumor endoscopically because the tumor size was over 3 cm and the tumor was connected with the smooth muscle layer of the gastric wall. EUS could affect the indication for surgery in the present case.

Unfortunately, we could not determine the etiology of acute pancreatitis in the gastric aberrant pancreatic tissue. In the present case, there was no specific drug history and he was not a heavy drinker. However, his alcohol habit might be related to acute pancreatitis. Aberrant pancreas associated with gastrointestinal bleeding, intussusception, and intestinal obstruction has been described in the literature (2). However, acute pancreatitis in gastric aberrant pancreatic tissue is seldom proven histologically. Thus, the causative mechanism of pancreatitis in the gastric aberrant pancreatic tissue has yet to be clarified and further studies are necessary.

In conclusion, we reported a rare case of acute pancreatitis occurring in a gastric aberrant pancreas treated with surgery and proved by histological examination. Based on the findings in the present case, we suggest that an aberrant pancreas should generally be taken into consideration in the differ-

ential diagnosis of SMT of the stomach. It is necessary to be aware that a gastric aberrant pancreas may cause acute pancreatitis and should be suspected in a patient with atypical abdominal pain when there is SMT in the stomach.

Acknowledgements: The authors are deeply grateful to Dr. Yoshiro Kubo, and Akira Kurita, Department of Surgery and Rieko Nishimura, Department of Pathology, Shikoku Cancer Center, for their assistance in the surgery and pathological study.

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一症例報告一

潰瘍性大腸炎術後に門脈血栓症を合併し低用量 ワーファリン内服が奏効した1例

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那須 淳一郎	西村 守	中村 進一郎
小林 功幸	河本 博文	能祖 一裕
岩崎 良章	坂口 孝作	白鳥 康史 ¹⁾
岩垣 博巳	守本 芳典 ³⁾	

要旨：症例は37歳男性。平成元年1月発症の再燃緩解型の全大腸炎型潰瘍性大腸炎。ステロイド減量中に症状の増悪を認め手術を施行。術後肝機能異常を認め、腹部超音波検査で門脈左枝の部分閉塞を認めた。ワーファリン1日2mgの内服を開始し、2週間後の腹部超音波検査では門脈血栓は消失した。炎症性腸疾患における門脈血栓症の合併はまれであり、低用量ワーファリン内服が有効であった貴重な症例と考え報告した。

索引用語：潰瘍性大腸炎、門脈血栓症、低用量ワーファリン内服

はじめに

潰瘍性大腸炎(以下UC)における腸管外合併症はさまざまであり、まれに静脈血栓症を来すことがあるが¹⁾、門脈血栓症を来すことは極めてまれである。今回われわれは潰瘍性大腸炎の術後に門脈血栓症を認め、低用量ワーファリン内服が奏効した1例を経験したので報告する。

1 症 例

患者：37歳，男性。

主訴：鮮血便，下痢。

既往歴：18歳 十二指腸潰瘍。

家族歴：特記すべきことなし。

現病歴：平成元年1月鮮血便，下痢を認め，近医にて全大腸炎型潰瘍性大腸炎と診断され，以降

年に1~2回程度の再燃を来し，ステロイド剤の内服のみで緩解が得られていた。平成10年5月の再燃時，ステロイド剤を内服するも症状が改善せず当科紹介となる。平成10年5月および平成11年10月に遠心分離式白血球除去療法を施行し緩解となり，以後経過良好にて外来でステロイド減量中であったが，平成12年10月上旬より再燃し，粘血下痢便が1日7~8行続くため，平成12年10月13日精査加療目的で当科再入院となる。

入院時現症：身長174.5cm，体重61.6kg，体温36.4℃，血圧105/64mmHg，脈拍74/分，整。眼瞼結膜に軽度の貧血あり。また腹部全体に軽度圧痛を認めた。

入院時検査所見：赤血球375万/ μ l，ヘモグロビ

1) 岡山大学大学院医歯学総合研究科消化器・肝臓・感染症内科学 2) 星総合病院消化器科 3) 岡山大学大学院医歯学総合研究科消化器・腫瘍外科学

A case of ulcerative colitis successfully treated with low-dose warfarin for portal vein thrombosis after colectomy
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Table 1. 入院時検査所見

[血液検査]		[生化学検査]		LDH	283 IU/l
WBC	5300 / μ l	TP	6.55 g/dl	AMY	48 IU/l
RBC	375 万 / μ l	Alb	3.76 g/dl	Na	139 mEq/l
Hb	12.4 g/dl	T. Bil	0.38 mg/dl	K	4.2 mEq/l
Ht	36.5 %	D. Bil	0.13 mg/dl	Cl	102 mEq/l
Plt	28 万 / μ l	AST	13 IU/l	BUN	8.3 mg/dl
[凝固系検査]		ALT	7 IU/l	Cr	0.64 mg/dl
PT	103 %	ALP	87 IU/l	T. Cho	149 mg/dl
APTT	37.6 sec	LAP	40 IU/l	[血清学検査]	
Fib	443 mg/dl	γ -GTP	23 IU/l	CRP	1.1 mg/dl
HPT	71 %	CHE	170 IU/l	ESR	11 mm/hr



Figure 1. 下部消化管内視鏡所見：S状結腸に数条の縦走する潰瘍を形成し易出血性であった。

ン 12.4g/dl と軽度の正球性貧血を認めた。生化学検査ではアルブミンの軽度低値を認めた。血清学的検査ではCRP 1.1mg/dl と炎症反応が軽度陽性であった。肝機能異常は認めなかった (Table 1)。

入院時下部消化管内視鏡所見：盲腸から直腸にかけて粘膜の血管透見低下，発赤，およびびらんを認めた。炎症の最強部はS状結腸で，数条の縦走する潰瘍を形成し易出血性であった (Figure 1)。なお病理組織所見では虚血性変化やサイトメガロウイルスを含む感染性腸炎は否定し得た。

臨床経過：入院時よりバタメサゾン 6mg 静注を開始した。次第に排便回数，血便および腹痛は軽快したが，治療開始約1カ月後の下部消化管内

視鏡所見では，臨床症状に比して改善傾向に乏しく，S状結腸には潰瘍が残存していた。今までに十分な量のステロイドが投与されていること（プレドニゾン換算で30g以上），また再燃のため頻回に入退院を繰り返していることから社会的適応も考慮し，さらに本人の希望もあり，平成12年12月21日当院外科にて全結腸切除，回腸瘻造設術，型回腸囊肛門管吻合術を施行した。術後より連続38度以上の発熱を認め，また術後8日目にはAST 60IU/l，ALT 79IU/l，ALP 187IU/l と肝機能異常を認めた。血小板は正常，凝固系検査はfibrinogen，FDP，AT IIIは正常であったがD-dimerの軽度上昇を認めた。またprotein C，protein S活性は正常で，抗カルジオリピン抗体ループス抗凝固因子も陰性であった (Table 2)。この際施行した腹部超音波検査 (Figure 2) では，門脈左枝臍部から左枝横行部にかけて血栓を認めた。カラードプラ法では血流は門脈壁と血栓と間を求肝性にわずかに認められた。その他，上間膜静脈や脾静脈には血栓を認めなかった。また腹部MR angiography (Figure 3) でも，門脈左枝臍部から左枝横行部にかけて血栓を認めた。なおMRCPでは胆道系に異常を認めなかった。また下部消化管内視鏡検査では食道胃静脈瘤を認めなかった。

以上より潰瘍性大腸炎に合併した門脈血栓症を診断し，平成13年1月31日より抗凝固療法として低用量ワーファリン1日2mgを内服開始し，その後肝機能は次第に改善を認めた (Figure 4)

Table 2. 術後検査所見

[血液検査]		[生化学検査]		[凝固系および血清検査]	
WBC	4000 / μ l	TP	6.55 g/dl	PT	101 %
RBC	449 万 / μ l	Alb	4.70 g/dl	APTT	35.0 sec
Hb	14.2 g/dl	T. Bil	1.17 mg/dl	Fib	338 mg/dl
Ht	41.3 %	D. Bil	0.54 mg/dl	HPT	96 %
Plt	26 万 / μ l	AST	60 IU/l	AT III	109 %
		ALT	79 IU/l	FDP	1.9 μ g/ml
		ALP	187 IU/l	Dダイマー	3.7 μ g/ml
		γ -GTP	214 IU/l	抗カルジオリピン抗体	2.1 U/ml
		CHE	124 IU/l	ループス抗凝固因子	1.3
		LDH	628 IU/l	Protein S	81 %
		CRP	11.0 mg/dl	Protein C	162 %



Figure 2. 腹部超音波検査：門脈左枝臍部から左枝横行部にかけて血栓を認め、カラードプラ法では血流は門脈壁と血栓との間を求肝性にわずかに認められた。

治療開始約2週間後の腹部超音波検査 (Figure 5) では、前回認められた門脈の血栓は完全に消失しており、カラードプラ法でも血流は求肝性に良好であった。なお患者は現在も外来通院中であるが、以降肝機能異常や血栓の再発を認めていない。

II 考 察

炎症性腸疾患 (以下 IBD) における血栓症の合併は、Mayo clinic の検討では 1.3%¹⁾と報告されており、そのうち上腸間膜動静脈あるいは門脈に血栓を認めたものは 0.1%¹⁾とまれである。また UC

に合併する血栓症の頻度については Bargen ら²⁾ や Edwards ら³⁾によると、それぞれ 1.2%, 6.4% と報告されている。その予後については致死率 25%~50%¹⁾⁴⁾に及ぶという報告もある。欧米では、UC に門脈血栓症を合併した症例報告は散見されるが^{5)~8)}、本邦における報告は動静脈血栓症がほとんどであり⁹⁾、門脈血栓症を合併した報告は少ない^{10)~12)}。

UC における血栓症の合併は活動期や重症例に多く認められ、またその原因としては血液凝固能

の亢進¹⁾⁶⁾¹³⁾¹⁴⁾や血小板増多症⁶⁾¹⁴⁾、門脈の菌血症⁶⁾¹⁵⁾などが示唆されている。Lamら¹⁶⁾は潰瘍性大腸炎の患者での第V因子や第VIII因子活性の亢進、AT III活性の低下を報告している。またEadeら¹⁵⁾は腐食された大腸粘膜を介して細菌などが門脈へ流入し、門脈の菌血症を引き起こし、その頻度は腸炎の重症度に相関すると述べてい

る。手術の影響については、Hagimotoら¹¹⁾は活動期のUCに対して大腸切除術を行い、門脈血栓症が消失した1例を報告しているが、一方でTalbotら¹⁾は上腸間膜静脈あるいは門脈血栓症を併発したIBD 8例中6例は手術後に発症していたと報告しており、血栓症の発症における手術の影響も示唆している。本症例は全大腸炎型のUCで、内視鏡所見では潰瘍病変の残存した活動期の症例であり、門脈菌血症を併発しやすい状態であったと考えられる。また血小板数や血液凝固能に異常はなかったが、術後約1週間の高熱を認めたことから手術を契機に門脈菌血症を来し、門脈血栓を生じた可能性も考えられた。

本症例のように血栓形成が急速であっても門脈血流が保たれる場合には、全く無症状であったり軽度の肝機能異常を認めるのみである。一方、血栓形成が急速で門脈が完全閉塞した場合には肝不全を来したり、また血栓が上腸間膜静脈に及べば腸管の壊死などを来す^{17)~19)}。腹部超音波検査は簡便で迅速に診断可能であるため、UCの患者において肝機能異常を認める場合には門脈血栓の併発も念頭において検査をすすめていく必要が

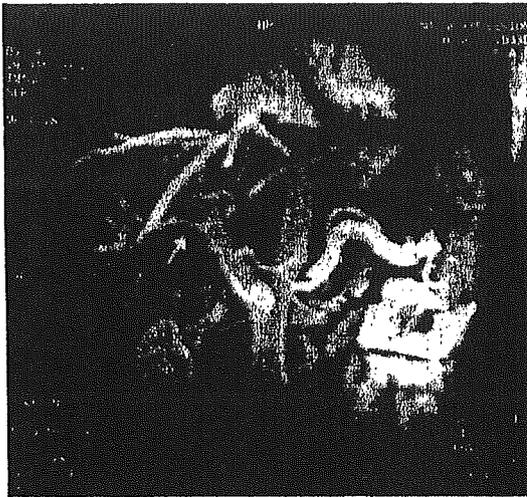


Figure 3. 腹部MRA：門脈左枝臍部から左枝横行部にかけて血栓を認めた。

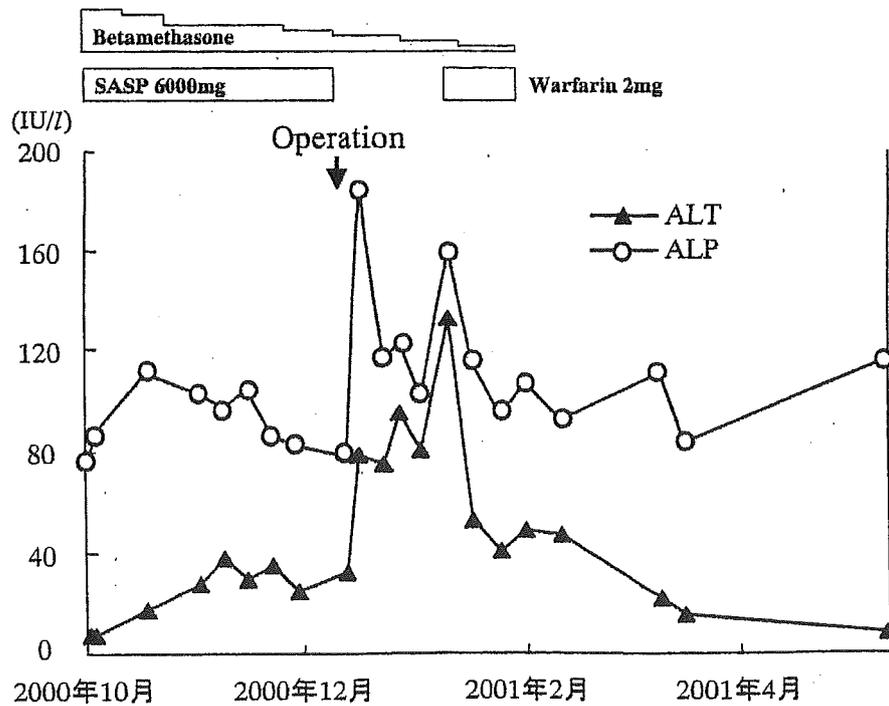


Figure 4. 臨床経過

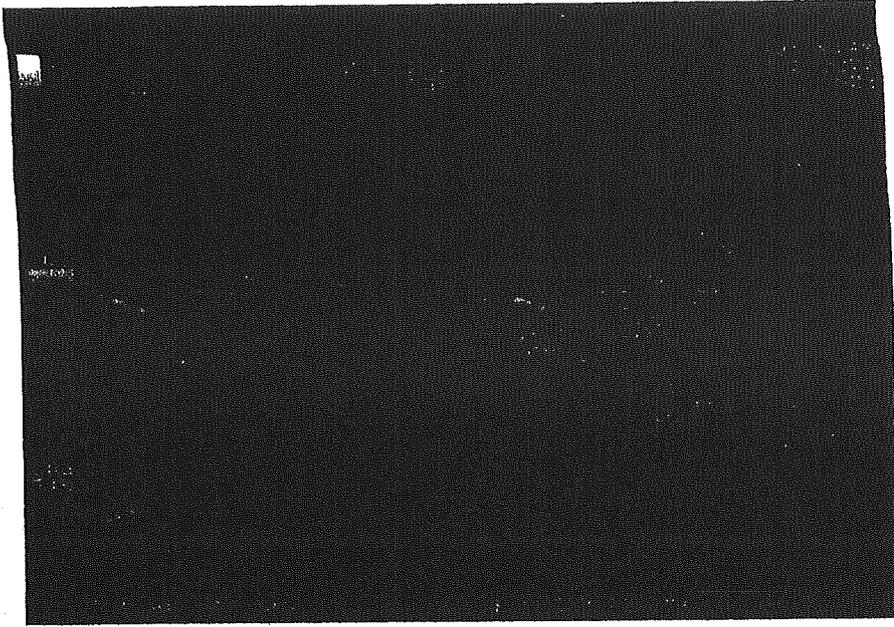


Figure 5. 腹部超音波検査 (治療後) : 以前認められた門脈の血栓は完全に消失し, カラー Doppler 法では血流は求肝性に良好であった。

ある。

門脈血栓症の治療成績や予後についてはまとまった報告がほとんどなく, また原因となる疾患や血栓形成までの時期によっても大きく異なると思われる。潰瘍性大腸炎に合併した門脈血栓症の治療については, 経皮経肝的に血栓溶解療法を行った症例¹⁰⁾や, 大腸切除術により血栓が消失した症例¹¹⁾などが散見されるが, いずれも急性期の血栓溶解剤による静脈投与では奏効しなかったと述べている。また抗凝固療法を6カ月間経口投与を行い奏効した症例⁴⁾も認められるが, 現在のところ確立された治療方法や治療期間はない。潰瘍性大腸炎に合併した門脈血栓症の治療については今後の症例の集積を待ってさらに検討を重ねる必要がある。本症例は術後早期で創部出血も持続していたため侵襲的な治療は行わず, ワーファリン®を低用量2mg内服として様子を見たところ, 2週間で奏効し血栓は完全に消失した。

結 語

潰瘍性大腸炎の術後に門脈血栓症を合併し, 低用量ワーファリン内服が奏功した1例を経験した。炎症性腸疾患の経過中に肝障害を認める場合には門脈血栓症も念頭に置く必要がある。

なお本稿の要旨は第75回日本消化器病学会中国支部例会において発表した。

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(論文受領, 平成 15 年 11 月 27 日)
 (受理, 平成 16 年 6 月 8 日)

■報 告

家族歴調査のシステム化による家族性腫瘍相談室の運営

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当院では、入院患者を対象とした家族歴調査をシステム化し、そのデータに基づき家族性腫瘍相談室を運営している。家族性腫瘍の診断基準にあてはまる症例、強く疑う症例は、相談室内のデータベースに入力すると共に、外来・入院主治医を通じて家族性腫瘍相談外来を紹介する。その後、患者の希望に応じて家族性腫瘍相談外来にて相談医がカウンセリングを行っている。必要に応じ遺伝子診断を行う体制を整え、診断後の発端者の精神的支援、近親者への医療的配慮にも努力している。2000年11月から2004年1月までに行った家系調査は2,448件であり、家族性腫瘍と考えられたのは59人であった。カウンセリングは25人、遺伝子診断は10人に行われ、そのうち5人に病的変異を確認した。また、パンフレットやインターネットを利用した情報発信・啓蒙活動にも尽力している。こうした取り組みは将来、家族性腫瘍の診療・研究の中心になってゆくと思われる。

キーワード：家族性腫瘍、家族歴、情報管理、カウンセリング、遺伝子診断

I. はじめに

家族性腫瘍の診療において、家族歴の調査は重要である。家族歴は特定の疾患に対する家系のリスクを示すものであり、家系構成員の疾患に対する易罹患性を推測する医療情報として重要である。一方で、遺伝性疾患に対する偏見、差別を受けることがないように個人情報としての慎重な取り扱いが必要である。過去にはこういった家族性腫瘍に関する家族歴の聴取と管理は主治医の個人的努力にゆだねられていた。そのため、担当医の転出に伴い引き継いだ担当医に家族歴情報が正確に伝達されないなどの問題が生じていた。家族歴情報に基づいた診療は、患者本人だけでなくその血縁者が対象となることから、地域に根ざして経時的に行う必要がある。よって個人情報保護の観点からも家族性腫瘍の診療記録は、個々の患者の主治医レベルではなく、厳重な管理の下に医療機関の責任下で管理・保管することが望ましいと考える。

当院では2000年11月から入院患者を対象とした家族歴調査を病院全体で行い、その情報を家族性腫瘍相談室が一元管理している。このことによって、主治医の転出に伴う家族歴情報の喪失を防ぎ、また十分な安全管理下に家系情

報を扱うことができるようになってきている。本報告では、このような四国がんセンター家族性腫瘍相談室における家族歴管理システムに関し、報告する。

II. 方 法

1. 家族性腫瘍相談室

当院では既報¹⁾のごとく、2000年11月に家族性腫瘍相談室を立ち上げた。2004年1月現在の運営者は、医師5名、病歴管理者2名である。医師は消化器内科、消化器外科、乳腺外科の医師で構成され、一般診療を兼任している。病歴管理者の1名は家族歴の管理を行い、1名はホームページの管理・作成を行っている。当相談室では、月1回の定期カンファレンスを行い、症例検討を行っている。また、各種セミナーに参加し、家族性腫瘍に関するホームページの作成、パンフレット作成などによる啓蒙活動を積極的にやっている。

2. 家族歴調査

当院では、入院患者全員を対象とした家族歴調査を行っている。調査は本人および第一度および第二度近親者を対象に行う。家族歴調査票はあらかじめ入院カルテにはさみこんでいる。家族歴の聴取は各診療科の主治医が行う。家族歴調査票は2枚複写になっており、1枚は一般診療カルテ用、1枚は家族性腫瘍相談室用である。家族性腫瘍相談室用の家族歴調査票は各病棟詰所の回収箱に提出され、病歴管理者が定期的に回収している。

3. 家族歴調査票の管理

病歴管理者は回収した家族歴調査票に記入項目の漏れ、

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2004年3月10日受付 2004年11月11日受理

家族性腫瘍 第5巻 第1号 (2005年) p.57-60

Table 1. 当院の家族性腫瘍の拾い上げ基準

家族性乳癌	
A	第1度近親者に発端者を認め、3人以上の乳癌患者がいる場合
B	第1度近親者に発端者を認め、2人以上の乳癌患者があり、いずれかの乳癌が次のいずれかを満たす場合
	1) 40歳未満の若年者乳癌
	2) 同時性あるいは異時性両側乳癌
	3) 同時性あるいは異時性多臓器重複癌
C	第1度近親者に乳癌患者と卵巣癌患者がそれぞれ1人以上いる。
D	患者が1人っ子あるいは同胞がすべて男性であり、かつ母親が乳癌と診断されている。
遺伝性非ポリポーシス大腸癌	
【古典的 Amsterdam 診断基準】(ICG-HNPNN in 1990)	
1	第一度近親者(親・子・同胞)を含む3名以上の血縁者が大腸癌である(FAP除く)
2	少なくとも継続する2世代にわたり罹患者がいる
3	罹患者の1名は50歳以下で診断されている
の3項目を満たすもの。	
【改訂 Amsterdam 診断基準】(ICG-HNPCC in 1999)	
3名以上の血縁者がHNPCC関連癌(大腸癌・子宮内膜癌・小腸癌・腎盂癌・尿管癌)に罹患しており、かつ以下の全ての条件に合致する	
1)	罹患者の1名は他の2名の第1度近親者である
2)	少なくとも継続する2世代にわたり罹患者がいる
3)	罹患者の1名は50歳未満で診断されている
4)	FAPが除外されている
5)	癌の診断が組織学的に確認されている
【Japanese Clinical Criteria】(日本大腸癌研究会, 1991)	
A群	第一度近親者(親子同胞)に発端者を含む3例以上の大腸癌患者を認める大腸癌
あるいは	
B群	第一度近親者に発端者を含む2例以上の大腸癌患者を認め、なおかつ
a	50歳以下の若年性大腸癌
b	脾湾曲部より近位の右側大腸癌
c	同時性あるいは異時性大腸癌
d	同時性あるいは異時性他臓器重複癌、いずれかの条件を満たす。
【HNPCC-variant】	
1	40歳以下の若年発症大腸癌である。
2	大腸癌を含む胃、子宮体癌、卵巣癌などの多臓器多発である。

不備がないかをチェックする。患者氏名、ID番号、患者の主病名や年齢などの単純な記載漏れは病歴管理者が補足する。これを毎月当番医師が目を通し、当院の拾い上げ基準(Table 1)に照合して、家族性腫瘍の可能性のあるものとそうでないものに分類する。追加調査、追加聴取が必要な場合は当番医師が調査あるいは主治医に依頼する。家族歴調査票は、G (gene counseling) : 家族性腫瘍と考えられ相談医によるカウンセリングが必要と判断されるもの、P (progeny) : 確定的ではないが家族性腫瘍の可能性があるため、データベースへの登録を行うもの、C

(check) : 調査時点において家族性腫瘍の可能性がないことをチェックしたものの、の3つのカテゴリーに分類している。カテゴリーGとPの家族歴調査票は定期カンファレンスで提示、確認し、家系図作成ソフト Progeny (Progeny Software, LLC) に入力する。家族歴調査票はカテゴリー別にファイルし、鍵がかかるロッカーに保管する。家族歴を入力したコンピューターはネットワークに接続せず、パスワード管理し、鍵のかかる部屋に設置している。

4. カウンセリング

カテゴリーGの患者に対し、一般診療の主治医からカウンセリング受診を勧めてもらう。カウンセリング担当医はあらかじめカンファレンスにおいて決めておく。これは相談室を運営している医師は、一般診療と遺伝カウンセリングを兼任しているの、主治医と遺伝カウンセリング担当医が重複することを避けるためである。カウンセリングは5人の医師で分担して行い、全員が家族性腫瘍研究会などの主催する研修会に参加した経験を持つ。カウンセリングルームは外来診療部門とは独立した個室を設けて、原則として予約制で行っている。遺伝子診断は必要に応じて行っている。家族性大腸癌の遺伝子診断は、厚生労働省がん研究助成金による研究班に参加して行っている。同意が得られた患者については、大腸癌研究会の遺伝性非ポリポーシス大腸癌の全国調査に情報を登録している。また、入院を介さない、カウンセリング外来も行っている。カウンセリング受診以降の記録は別カルテを作り、鍵がかかるロッカーに保管している。

5. ホームページとパンフレット作成

米国国立癌研究所 (National Cancer Institute: NCI) で作製された小冊子『遺伝子診断の理解のために (Understanding Gene Testing)』を米国国立癌研究所の許可を得て翻訳し、日本語版の小冊子を作成した。これは家族性腫瘍相談室の紹介のパンフレットとともに院内の総合受付に設置している。また、当院のホームページ内に当相談室のホームページを設置し、一般に公開している (http://ky.ws5.arena.ne.jp/NSCC_HP/kazoku/)。ここに上述の『遺伝子診断の理解のために』も掲載している。ホームページの作成、運営は厚生労働科学研究費補助金・がん予防等健康科学総合研究事業の支援を受けて行っている。

III. 成績

1. 入院患者

2000年11月から2004年1月までに回収した入院患者の家族歴調査票は、2,448件であり、そのうち悪性疾患は2,117名であった。罹患疾患は大腸癌252名、乳癌610名であった。このうち家族性大腸腺腫症は2人、遺伝性非ポリポーシス大腸癌は17人、当院の家族性乳癌の拾い上げ基準を満たすものは30人、合計49人であった。これらのうち15人に対して家族性腫瘍カウンセリングが行われた