J Gastrointest Canc (2010) 41:135–137
DOI 10.1007/s12029-009-9075-x

BRIEF COMMUNICATION

Adenocarcinoma of Aberrant Pancreas in the Jejunum: Report of a Case

Kenji Fujiwara · Chihiro Nakahara · Toru Yamasaki · Toshimitsu Iwashita

Published online: 28 November 2009

Abstract
Introduction Aberrant pancreas in the jejunum is a rare condition, and its malignant transformation is very unusual.
Case report We presented a case in which jejunal carcinoma occurred in the aberrant pancreas. A 76-year-old woman was admitted to our hospital due to repetitive vomiting after meals. Radiology showed high obstruction in the proximal jejunum. Laparotomy revealed that the obstruction was a submucosal tumor. Partial resection of the jejunum including the tumor was performed. Histology showed that the tumor was made up of well-differentiated adenocarcinoma originating from aberrant pancreatic tissues.
Conclusion This was the tenth case of aberrant pancreatic carcinoma in the jejunum reported in literature.

Keywords aberrant pancreas · adenocarcinoma · jejunum

Introduction

Aberrant pancreas in the jejunum is a rare condition, and its malignant transformation is very unusual. We presented a case in which jejunal carcinoma occurred in the aberrant pancreas.

K. Fujiwara (✉) · C. Nakahara · T. Yamasaki · T. Iwashita
Department of Surgery,
Kitakyushu Municipal Wakamatsu Hospital,
1-17-1 Hamamachi, Wakamatsu-ku,
Kitakyushu 808-0024, Japan
e-mail: kengdom@yahoo.co.jp

Case Report

A 76-year-old woman, who had been previously operated on for cholecystolithiasis, was admitted to our hospital due to 4-month duration of vomiting and body weight loss in July 2008. Her abdomen was distended, and no mass was palpable. Laboratory studies showed a white blood cell count of 6,710/mm^3, hemoglobin 12.5 g/dl, aspartate transaminase 40 IU/l, alanine transaminase 33 IU/l, lactic dehydrogenase 298 IU/l, carcinoembryonic antigen (CEA) 4.4 ng/ml (normal range: <5 ng/ml), and CA 19-9 75.6 U/ml (normal range, <37 U/ml). Computed tomography showed invagination of the jejunum and incomplete obstruction of a barium meal accompanied by dilated loop of proximal jejunum (Fig. 1).

Based on these findings, the patient was diagnosed as having intestinal obstruction of unknown etiology, and surgery was performed in August, 2007. Laparotomy revealed an elastic-hard tumor existing in the jejunum 40 cm anal site from Treitz's ligament (Fig. 2). The tumor had invaded the entire thickness of the wall and was exposed beyond the serosa. The proximal bowel was extremely dilated, and partial resection of the jejunum including the tumor was performed.

Gross inspection revealed a yellowish-brown protruding tumor, measuring 2.0×1.5 cm (Fig. 3). Histopathological examination showed that the tumor consisted of well-differentiated adenocarcinoma and nested from the mucosa through the serosa (mainly in the submucosa and proper muscular layer; Fig. 4). Immunohistochemically, the tumor cells showed positive staining for CK7 and CEA but negative for CK20, desmin, S-100, and KIT. Regional lymph nodes were also involved. The small areas composed of smooth muscle tissue and ducts were neighboring the tumor cells and showed conversion into the malignant cells.

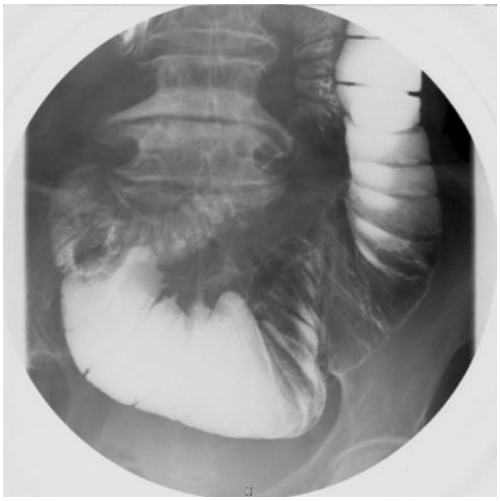

Fig. 1 Upper gastrointestinal series showing incomplete obstruction of the jejunum with dilated loop of proximal jejunum

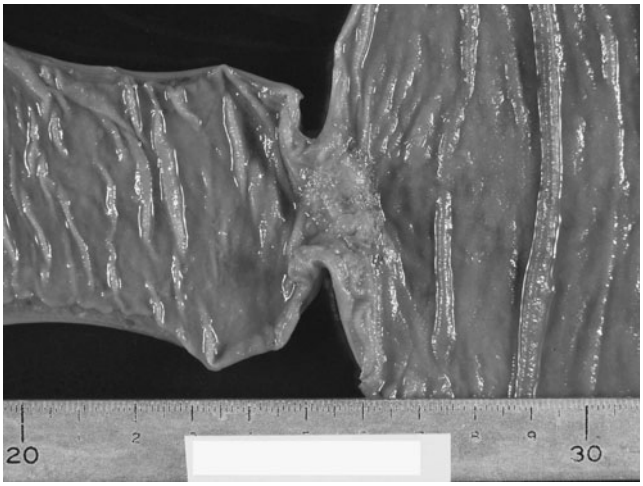

Fig. 3 Gross photograph of the resected jejunum. A circular elevated tumor, 2×1.5 cm in size, constricted the jejunum

On the basis of these findings, a diagnosis of adenocarcinoma originating from aberrant pancreas tissues in the jejunum was made. Cytodiagnosis of ascites taken at operation showed carcinoma cells.

Four months after operation, multiple liver metastases and peritoneal carcinomatosis emerged. Five months after surgery, the patient died of liver failure.

Discussion

Adenocarcinoma of the small intestine is a rare condition. However, our case had the features different from those of ordinary jejunal carcinoma, and the tumor located mainly beneath the mucosa. This finding suggested incidental collision with the metastatic adenocarcinoma derived from other organs. At surgery, no other primary lesions of adenocarcinoma could be found in the abdomen, and postoperative computerized tomography showed no other lesions in the neck, chest, or abdomen. The small areas composed of smooth muscle tissue and ducts were neighboring the tumor and showed transition to malignant cells. The former findings represented aberrant pancreas and the origin of the tumor.

Aberrant pancreas is defined as the pancreatic tissue lacking anatomical and vascular continuity with the normally located pancreas, and it is usually incidentally found at upper abdominal laparotomy or autopsy. Based on its histological features, aberrant pancreas has been classified into the following three types by Heinrich. In

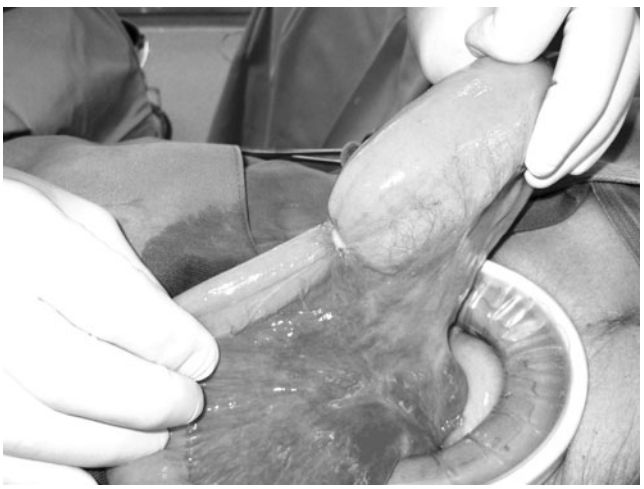

Fig. 2 The tumor had invaded the entire thickness of the wall and was exposed beyond the serosa. The proximal bowel was extremely dilated

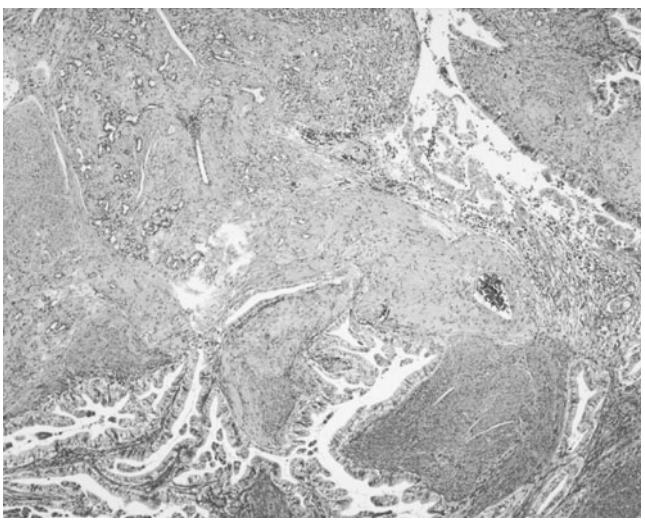

Fig. 4 A high-magnification photomicrograph showing the tumor was well-differentiated tubular adenocarcinoma. Small areas of aberrant pancreatic tissue composed of ducts and smooth muscle cells (*left upper*) and neighbor tumor cells (*lower* and *right upper*) accompanied by transition of aberrant pancreas to malignant cells (H&E stain, ×100)

type I, differentiated aberrant pancreatic tissue contains ducts, acini, and endocrine islets. In type II, incompletely differentiated aberrant pancreatic tissue is composed predominantly of ducts and a few acini. In type III, incompletely differentiated aberrant pancreatic tissue is composed of smooth muscle tissue and ducts only (lacking acini and islets), which is so-called adenomyoma [1]. Our case corresponded to type III in the Heinrich classification.

While every researcher worries about uncertainty of the diagnostic criteria of adenocarcinoma originating from aberrant pancreas, Mibayashi [2] sets the two criteria for that as follows: (1) the tumor locates mainly in the submucosa, and possibility of distant metastases is denied, and (2) the aberrant pancreatic tissue exists near the tumor. Our case satisfied these criteria.

Malignant transformation of aberrant pancreas is rarely observed. Moreover, aberrant pancreatic carcinoma usually locates in the stomach or the duodenum [3], and one in the jejunum is extremely rare. Nine cases of carcinoma of aberrant pancreatic tissue in the jejunum have been reported in literature, and our case may be the tenth [3–10]. Among the nine reported cases, the mean age is 70.3 years (range, 54–85 years), male to female ratio is 7 to 2, and the mean tumor size is 2.6 cm. Five cases have Heinrich type I, three type II, and one type III. Our case represented the second case of type III.

Unlike for tumors of the stomach and large intestine, there are no screening tests such as endoscope for an intestinal tumor. Therefore, most of the patients with an intestinal tumor come to see doctors with symptoms, especially gastrointestinal constriction. In many cases, the tumor is already in advance stages. Our case also showed reoccurrence immediately after operation and rapid progress. We could not find the jejunal carcinoma on the laparoscopic cholecystectomy. We recognized again the importance of meticulous observation in the abdominal cavity on any laparoscopy even for a benign disease.

References

1. Heinrich H. Ein Btrage zur Histologie d. sog. Akzessrichen Pancreas. Virchows Arch. 1909;198:392–401. doi:10.1007/BF02085327.
2. Mibayashi Y, Ishikawa Y, Mukawa A, Mori A, Tsunamura Y, Miyanaga M. Carcinoma originating from the heterotopic pancreas in the stomach: report of a case (in Japanese). I to Cho (Stomach and Intestine). 1983;18:267–72.
3. Makhlouf HR, Almeida JL, Sobin LH. Carcinoma in jejunal pancreatic heterotopia. Arch Pathol Lab Med. 1999;123:707–11.
4. Persson GE, Boiesen PT. Cancer of aberrant pancreas in jejunum. Acta Chir Scand. 1988;154:599–601.
5. Fujiki T, Yamamoto K, Nishifuku K, Futatsuki K, Nakasima T, Suda K, et al. A case of heterotopic pancreatic carcinoma in the jejunum encountered in an abdominal operation (in Japanese). Tan to Sui. 1990;11:843–8.
6. Satoh T, Tabuchi S, Ino M, Hashimoto S, Sekine I, HSU C. A case of heterotopic pancreatic cancer in the jejunum (in Japanese with English abstract). J Jpn Surg Assoc. 1993;54:703–6.
7. Arao J, Fukui H, Hirayama D, Miyamura S, Arao M, Hasegawa Y, et al. A case of aberrant pancreatic cancer in the jejunum. Hepato-gastroenterol. 1999;46:504–7.
8. Uemura Y, Kobayashi K, Seki Y, Matsuyama J, Aoki T, Ukei T, et al. A case of aberrant pancreas cancer in the jejunum (in Japanese with English abstract). Jpn J Gastroenterol Surg. 2001;34:249–53.
9. Matsubara T, Tahara H. A case of adenocarcinoma of aberrant pancreas in the jejunum (in Japanese with English abstract). Nihon Rinsho Geka Gakkai Zasshi. 2004;65(1):200–3.
10. Sato K, Maekawa T, Maekawa H, Sakurada M, Inoue H, Wada R. A case of heterotopic pancreatic cancer in the jejunum. Nihon Gekakei Rengougakkaishi. 2007;32(6):904–8. doi:10.4030/jjcs.32.904.