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Cholangiocarcinoma presenting as pseudoachalasia and gastroparesis

症狀為假性食道弛緩和胃輕癱的膽管癌

Cholangiocarcinoma most commonly presents as painless progressive jaundice. We report a case occurring in a 56-year-old Chinese woman with an unusual presentation of progressive dysphagia and vomiting. Oesophageal manometric and barium studies were indicative of achalasia, and computed tomography confirmed the presence of cholangiocarcinoma extending to the gastroesophageal junction and proximal lesser curve of the stomach. In this case, a constricting tumour at the gastroesophageal junction with probable invasion of the vagus nerves led to features of achalasia and gastroparesis.

膽管癌最常見的病徵是無痛但逐步加劇的黃疸病。本文報告的病例徵狀較為特別，患者是五十六歲的華裔女性，出現吞嚥困難，而且日趨嚴重，並伴有嘔吐。食道測壓法和鋇劑造影檢查結果顯示可能屬食道弛緩，其後以電腦斷層照相術證實患者患上膽管癌，並已蔓延至胃與食道的接合處和胃小彎近側。在胃與食道的接合處的緊縮性腫瘤，加上癌細胞極可能已侵入迷走神經，造成了食道弛緩和胃輕癱的表徵。

Introduction

Cholangiocarcinoma, a relatively rare form of cancer in the West, is more common in East Asia, where fluke infestations (*Clonorchis sinesis* and *Opisthorchis viverrini*), hepatolithiasis, and recurrent pyogenic cholangitis—all known risk factors for cholangiocarcinoma—are prevalent.[1] The most common clinical manifestations of cholangiocarcinoma are jaundice, pruritis, right upper-quadrant abdominal pain, and weight loss.[2] In this report, we describe a patient with cholangiocarcinoma whose presenting symptoms were dysphagia and persistent vomiting. Oesophageal manometric and radiographic examinations showed features of achalasia.

Case report

A 56-year-old Chinese woman presented to the Alice Ho Miu Ling Nethersole Hospital in October 1999 because of progressive dysphagia, 2 months of postprandial vomiting, and a weight loss of 6 kg. She gave a history of steroid-dependent asthma, bronchiectasis, cor pulmonale, and iatrogenic Cushing's syndrome due to long-term steroid use. In addition, she had recurrent pyogenic cholangitis, the most recent episode of which had occurred 1 year previously. Ultrasonography and endoscopic retrograde cholangiopancreatography (ERCP) at that time had shown a stricture at the left intrahepatic duct, ductal dilatation, and multiple intraductal stones proximally. However, the patient's poor pulmonary reserve had prevented major surgical intervention such as left hepatic lobectomy. That episode of cholangitis eventually subsided after percutaneous biliary drainage and administration of intravenous antibiotics. Further ERCP had been proposed to remove the intraductal stones and to obtain brush cytology of the stricture segment, but the patient had refused.

At presentation, baseline blood test results were normal apart from mildly elevated alkaline phosphatase (ALP) levels. The findings were as follows: haemoglobin, 120 g/L (reference range, 120-150 g/L); white blood cell count, 9.3 x 10^9 /L (4.5-11.0 x 10^9 /L); platelet count, 380 x 10^9 /L (150-450 x 10^9 /L);

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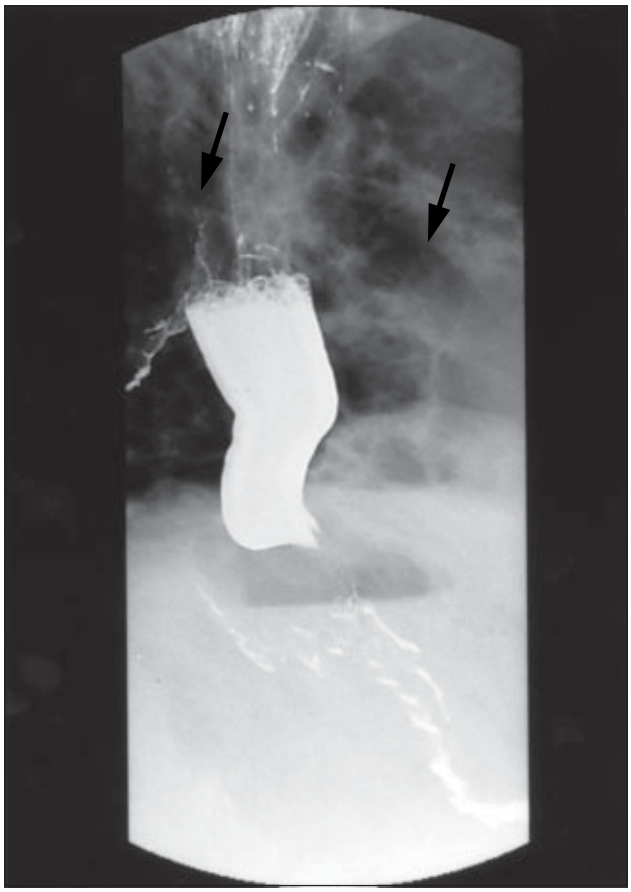

Fig 1. Barium swallow showing dilated oesophagus with the distal segment ending in a pointed beak-like appearance

albumin, 330 g/L (35-50 g/L); bilirubin, 15 μmol/L (5-21 μmol/L); ALP, 151 U/L (50-120 U/L); and alanine aminotransferase, 7 U/L (10-40 U/L). A barium swallow test showed a dilated oesophagus with a beak-like smooth tapering distal segment that was suggestive of achalasia (Fig 1). Upper gastrointestinal endoscopy revealed a dilated oesophageal body, and mild resistance was encountered while traversing the gastroesophageal junction, although no mucosal lesion was identified. Furthermore, oesophageal manometry showed evidence of achalasia, absence of primary oesophageal peristalsis, elevated basal lower-oesophageal sphincter pressure, and incomplete sphincter relaxation. Contrast-enhanced computed tomography (CT) revealed a large tumour at the lateral segment of the left lobe of liver, in close proximity to the gastroesophageal junction and proximal lesser curve of the stomach (Fig 2). Transcutaneous biopsy of the tumour confirmed the presence of adenocarcinoma and suggested cholangiocarcinoma.

In view of the malignant nature of the pseudoachalasia, a covered expandable modified Gianturco-Z oesophageal endoprosthesis (Song stent; Sooho Medi-Tech, Seoul, South Korea) was inserted at the gastroesophageal junction to relieve the dysphagia. The patient tolerated a fluid diet initially but developed persistent postprandial vomiting 4 days later; gastric succussion splash indicated gastric outlet obstruction. Upper gastrointestinal endoscopy showed the

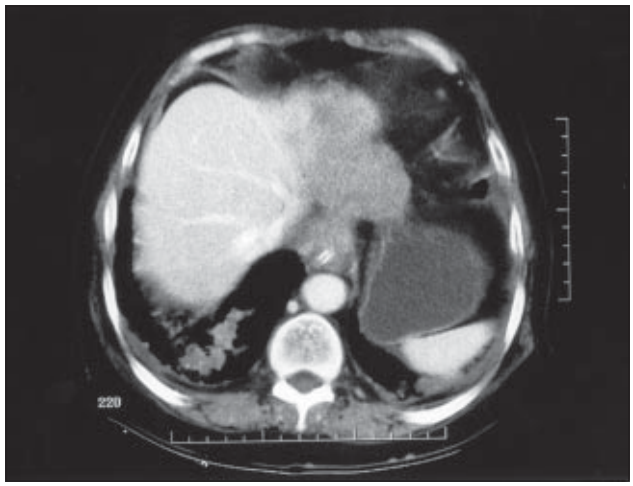

Fig 2. Computed tomographic scan showing a large tumour at the left lobe of the liver extending towards the lesser curve of stomach and the gastroesophageal junction

expanded stent at the gastroesophageal junction with a large amount of fluid residue in the stomach; the bullet-tip of the stent introducer was also visible within the stomach. A mechanical cause of gastric outlet obstruction was thus excluded. A subsequent barium follow-through test confirmed that the stent was patent and did not detect any mechanical lesions in the small intestine.

The patient had persistent vomiting and did not respond to cisapride or intravenous metoclopramide. She eventually died 2 months later and her family declined a postmortem examination.

Discussion

Painless jaundice is the most prominent sign and usual presentation of patients with cholangiocarcinoma. Bilirubin and ALP levels are usually elevated. In contrast, the patient in this case presented with dysphagia and vomiting. Although dysphagia has been reported as the presenting symptom in a patient with metastatic cholangiocarcinoma in the para-oesophageal lymph nodes,[3] this patient also had manometric and radiographic features of achalasia, together with clinical features suggestive of gastroparesis.

Malignant pseudoachalasia accounts for approximately 4% of cases of achalasia.[4] Whereas adenocarcinoma of the gastric cardia accounts for most of these cases, other tumour types that have been reported to cause this syndrome include lymphoma, pleural mesothelioma, and oesophageal, bronchogenic, pancreatic, prostatic, hepatocellular, colonic, and renal cell carcinomas.[5] These tumours usually produce achalasia as the result of one of three mechanisms. Firstly, the tumour mass may encircle or compress the distal oesophagus, thereby producing a constricting segment. Secondly, malignant cells may infiltrate the oesophageal myenteric plexus and impair postganglionic innervation of the lower oesophageal sphincter. Thirdly, the tumour may directly affect vagus nerves to cause achalasia-like features

similar to the complication of achalasia seen after surgical vagotomy. In rare instances, paraneoplastic visceral neuropathy of the myenteric plexus without direct infiltration may produce a clinical picture of achalasia.[6] The clinical features of malignant pseudoachalasia closely resemble idiopathic achalasia. Certain historical features can help raise the suspicion of the presence of a malignant tumour. A short duration of symptoms (<1 year), presentation later in life (at the age of 50-60 years), and unusual weight loss (6.8-9.0 kg) are all more typical of malignancy than of idiopathic achalasia. These criteria, however, have poor predictive value and are not especially helpful in individual cases.[7] Furthermore, both oesophageal manometry and barium study cannot distinguish between the two forms of achalasia. Thus, all patients with suspected achalasia should undergo upper gastrointestinal endoscopy to exclude a diagnosis of tumour at the cardia or gastroesophageal junction. Extramural tumour will inevitably be missed by normal endoscopic examination, and contrast-enhanced CT can be helpful in these circumstances. More recently, endoscopic ultrasonography has been used to differentiate achalasia from pseudoachalasia.[8]

Just as vagal 'injury' by a mediastinal tumour may result in disturbances of oesophageal motility, the same mechanism has been implicated in cases of tumour-related gastroparesis.[9] Complete denervation of the vagi results in gastric atony, loss of fundic receptive relaxation, loss of pyloric sphincter relaxation, weakening of distal gastric contraction, and defective antral trituration (grinding and mixing of solids).[10] Gastroparesis due to paraneoplastic visceral neuropathy has also been linked to tumour malignancy.[11] This condition frequently involves the entire alimentary tract and is associated with oesophageal dysmotility and intestinal pseudo-obstruction.[7,9]

The pseudoachalasia in the patient in this case is likely a result of tumour bulk compressing against the distal oesophagus with or without direct invasion into the oesophageal wall and myenteric plexus. The patient also had features suggestive of delayed gastric emptying, which could be explained by tumour infiltration of the vagus nerves along their course at the gastroesophageal junction or along the gastric lesser curve.

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