Massive haematemesis – presenting symptom of cystadenocarcinoma of the pancreas

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Summary: A 43 year old woman presented with attacks of abdominal pain, haematemesis and hyperamylasaemia. Gastrointestinal X-rays and repeated upper gastrointestinal endoscopy failed to reveal the source of bleeding. Ultrasound and computed tomographic scan demonstrated a calcified mass in the tail of the pancreas. Surgical exploration revealed a solitary mass in the pancreas and histological examination showed cystadenocarcinoma. The patient died 2 years later because of local recurrence, but haematemesis and melaena did not recur.

This case presents an unusual manifestation of cystadenocarcinoma of the pancreas with massive bleeding from the tumour via the pancreatic duct and associated pancreatitis. Other possible reasons for bleeding with cystadenocarcinoma of the pancreas are discussed.

Introduction

Cystadenocarcinomas of the pancreas account for only 2% of primary pancreatic tumours.¹ They appear clinically as a local mass and patients may present with abdominal pain and non-specific complaints.² The difficulty in making preoperative non-invasive diagnosis has been discussed before.^{3–5} We report on a patient who presented with massive haematemesis originating from a pancreatic tumour. Such an unusual presentation may cause delay in the diagnosis.

Case report

A 43 year old woman was transferred to the Rambam Medical Center from another hospital, for investigation of recurrent haematemesis. She had been well until 6 months prior to her transfer when massive haematemesis and melaena necessitated admission and transfusion of 10 units of blood. Radiological and endoscopic examination of the upper gastrointestinal tract were normal. Five months later she was again hospitalized because of vague upper abdominal pain and melaena. A repeated upper gastrointestinal endoscopy failed to reveal the source of bleeding, and she was transferred to our hospital.

On examination, she was pale with no evidence of jaundice. The upper abdomen was tender but no mass

was palpated. Laboratory tests showed severe hypochromic anaemia (haemoglobin 5 g/dl). During the first week of hospitalization there were two episodes of severe abdominal pain, haematemesis and melaena associated with elevation of amylase in serum (950 IU/100 ml) and urine (3,500 IU/12h). Between these two attacks serum amylase returned to normal. No rise in serum bilirubin was noted. Endoscopy during bleeding was negative. Barium meal (Figure 1) revealed a deformity of the lesser curvature of the stomach, thought to be due to compression by an extrinsic mass which was peripherally calcified. An hyperechoic mass 9 × 6 cm containing areas of calcification was shown on gray scale ultrasound. Computed tomographic (CT) scan confirmed the presence of the mass and localized it to the tail of the pancreas. Coeliac arteriography (not under active bleeding) demonstrated a moderately vascular mass but failed to reveal the exact source of bleeding.

At surgery a soft mass was found in the pancreatic tail. It was completely resected. The macroscopic specimen consisted of a well delineated mass 11 × 7 × 5 cm in size with cut surface showing some cysts, up to 2 cm in diameter. The cysts contained digested blood and a small calcified area and were surrounded by scanty pancreatic tissue. The cystic wall was lined with malignant epithelium (Figure 2).

The postoperative course was uneventful. The patient later received irradiation (5000 rad) to the upper abdomen and a course of 5-fluorouracil. Although bleeding did not recur, she continued to

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Figure 1 Barium study of the upper GI tract: a round calcified mass is slightly compressing the lesser curvature of the stomach.

suffer from continuous severe upper abdominal pain which required a coeliac block. One year later local recurrence was confirmed by CT scan. The patient died two years after her first admission, without evidence of rebleeding. Autopsy was refused.

Discussion

Cystadenocarcinoma of pancreas comprises 5% of all pancreatic cysts.^{6,7} This tumour has a low malignant potential and its histology resembles cystadenocarcinomas seen in other organs such as ovary and thyroid.⁸ Clinical manifestations are non-specific and include upper abdominal discomfort, fatigue, weight loss, nausea and vomiting.² Our patient had an unusual clinical presentation with attacks of massive haematemesis and melaena accompanied by clinical

Figure 2 Cystic wall of tumour lined by malignant epithelium. H & E × 125.

and biochemical features suggestive of acute pancreatitis.

The source of bleeding was attributed to the tumour itself via the pancreatic duct. This could be concluded after exclusion of any other source of bleeding, and by the presence of free blood in the tumour itself which was closely related to the pancreatic duct.

Cystadenocarcinoma presenting with haematemesis has been described by others.^{9–12} This may be due to mucosal erosions,⁹ gastritis associated with the Zollinger Ellison syndrome,^{13,14} oesophageal varices after splenic thrombosis,¹⁰ or direct invasion of the gastric wall vessels.^{11,12} Direct communication of cystadenoma of the pancreas with the main pancreatic duct was described by Magino *et al.*¹⁵

Pancreatitis itself is a rare presentation of pancreatic cystadenoma. Hyperamylasaemia, however, was described with cystadenocarcinoma of the pancreas and ovary^{14,16} but this was produced by the tumour cells themselves.

In our case hyperamylasaemia was always associated with bleeding and pain, with levels returning to normal between attacks. This suggests recurrent episodes of pancreatitis. The presence of calcification in cystadenocarcinoma helps to make the diagnosis in 30% of cases.³ This may appear as microcalcification, or 'sunburst' inside the tumour. The massive bleeding and the calcification of the capsule (peripheral calcification) render our case peculiar both in clinical and radiological appearance.

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