

Massive gastric bleeding from pseudoaneurysm of the arteria lienalis as a serious complication of pancreatic pseudocyst perforating to the stomach

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Abstract. We report an unusual case of a 45-year-old woman with life threatening gastric bleeding from a pseudoaneurysm of the splenic artery as a complication of pancreatic pseudocyst perforating into the stomach. Chronic alcoholic calcifying pancreatitis was the principal disease and massive haemorrhage was surprisingly its first symptom. CT scan confirmed the suspicion of the endoscopist having found a pancreatic pseudocyst with blood clots bulging to the stomach. Arteriography recognized a pseudoaneurysm of the arteria lienalis. The bleeding was controlled by means of interventional radiological clotting of the artery (coil embolization and acrylate obliteration). The patient's recovery was rapid and uneventful.

Key words: gastric bleeding, pseudoaneurysm of the splenic artery, chronic pancreatitis, pseudocyst, coil embolization

Al-Tashi M, Krajina A, Sobotka L, Rejchrt S, Kopáčová M, Kupková B, Maňák J, Sedláček Z, Papík Z, Bureš J. Masivní žaludeční krvácení z pseudoaneuryzmatu arteria lienalis jako závažné komplikace pankreatické pseudocysty perforující do žaludku. Folia Gastroenterol Hepatol 2005; 3 (4): 144 – 149.

Souhrn. Je popsán neobvyklý případ 45-leté ženy, u které došlo k život ohrožujícímu žaludečnímu krvácení z pseudoaneuryzmatu arteria lienalis jako komplikace pankreatické pseudocysty perforující do žaludku. Chronická etylická kalcifikující pankreatitida byla základní onemocnění a závažné krvácení bylo překvapivě prvním projevem onemocnění. CT potvrdilo podezření endoskopicky a našla pankreatickou pseudocystu s krevními koaguly, vyklenující se do žaludku. Arteriografie odhalila pseudoaneuryzma lienální tepny. Krvácení bylo ošetřeno obliterací artérie intervenčním radiologem (embolizace metalickými spirálkami a aplikace akrylátu). Rekonvalescence pacientky byla rychlá a bez dalších komplikací.

Klíčová slova: žaludeční krvácení, pseudoaneuryzma arteria lienalis, chronická pankreatitida, pseudocysta, embolizace metalickými spirálkami

A pancreatic pseudocyst is a maturing collection of pancreatic juice encased by reactive granulation tissue. The lining of pancreatic pseudocysts consists of fibrous and granulation tissue, the lack of an epithelial lining distinguishes pseudocysts from true cystic lesions of the pancreas (10). Pseudocysts develop in approximately 10 percent of patients with chronic pancreatitis (7). Most pseudocysts are asymptomatic. However, they can produce a wide range of clinical problems depending upon the location and extent of the fluid collection. Expansion of the pseudocyst can produce abdominal pain, duodenal or biliary obstruction, vascular occlusion, or fistula formation into adjacent viscera, the pleural space, or pericardium. Another severe complication is a spontaneous infection with abscess formation. Digestion of an adjacent vessel can result in a pseudoaneurysm, which can produce a sudden expansion of the cyst or gastrointestinal haemorrhage due to bleeding into the pancreatic duct (haemosuccus pancreaticus) (3,7,10).

Arterial pseudoaneurysms occur in approximately 10 percent of patients with pancreatic pseudocysts (6,7,12,15). Pseudoaneurysms can be a source of severe haemorrhage into the upper gastrointestinal tract, peritoneal cavity or the retroperitoneal space (8,10,12).

We report quite an unusual case of life threatening gastric bleeding from an arterial pseudoaneurysm as

a complication of pancreatic pseudocyst perforating into the stomach.

Case report

A 46-year-old woman presented with a massive haematemesis followed by a collapse as the first

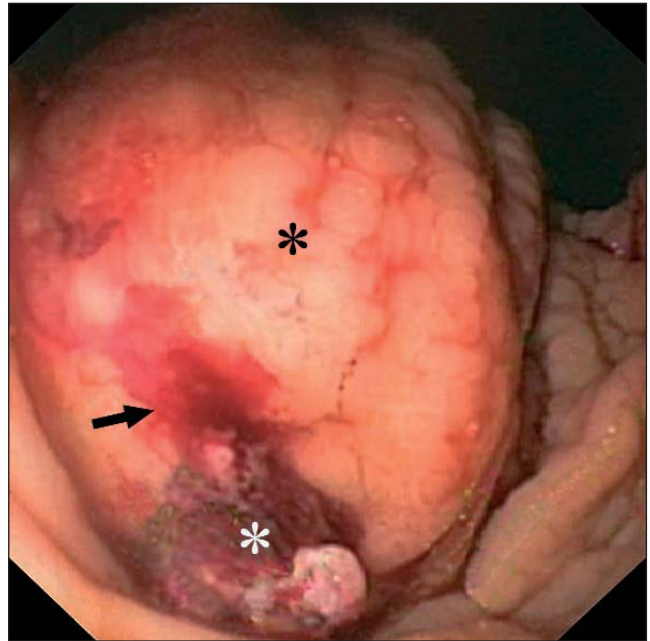


Figure 1
Huge impression (black asterisk) of pancreatic pseudocyst into the gastric lumen. Adherent blood clot (white asterisk) and minor actual oozing bleeding (arrow) at the distal margin of the bulge is seen.

Figure 2
Abdominal contrast enhanced CT.
Pancreatic pseudocyst filled with blood clots (asterisk) bulging into the stomach (arrowheads). Splenic infarction (arrow).



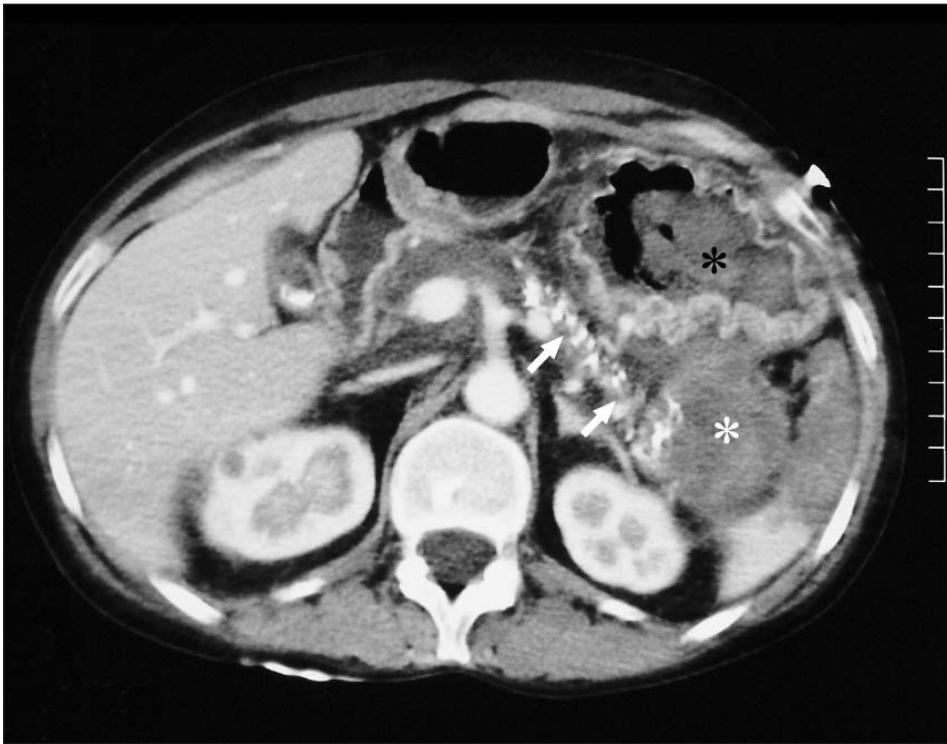


Figure 3
Abdominal contrast enhanced CT. Chronic calcifying pancreatitis (arrows). Blood clots in the stomach (black asterisk) and pancreatic pseudocyst (white asterisk)

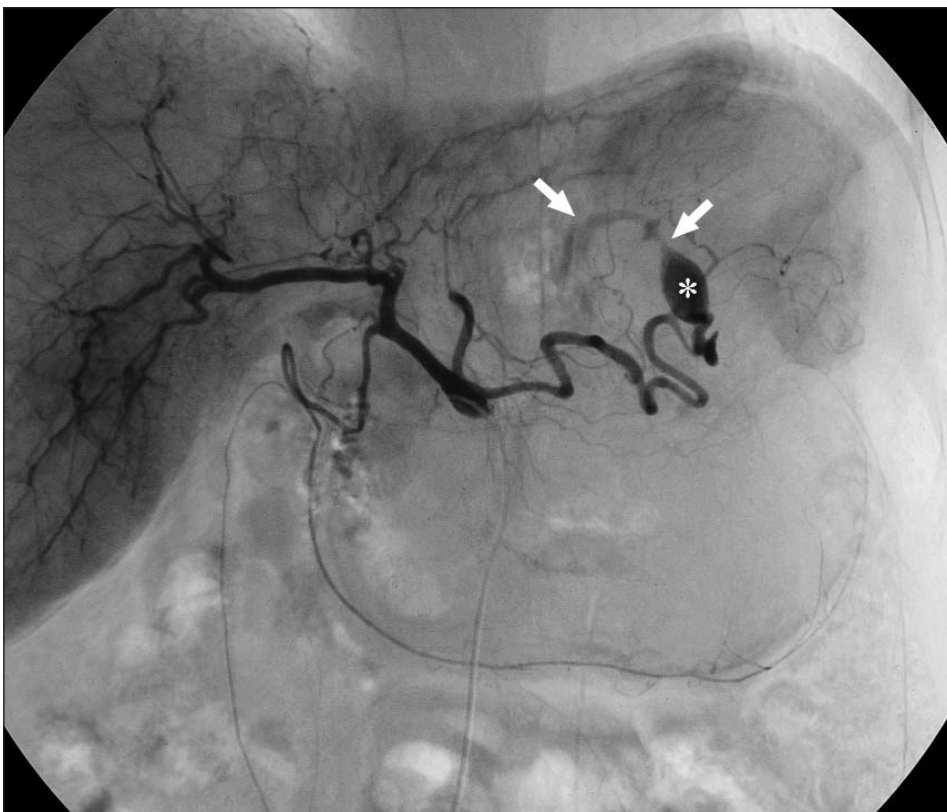


Figure 4
Coeliac angiography. Actively bleeding (arrows) pseudoaneurysm of the splenic artery (asterisk).

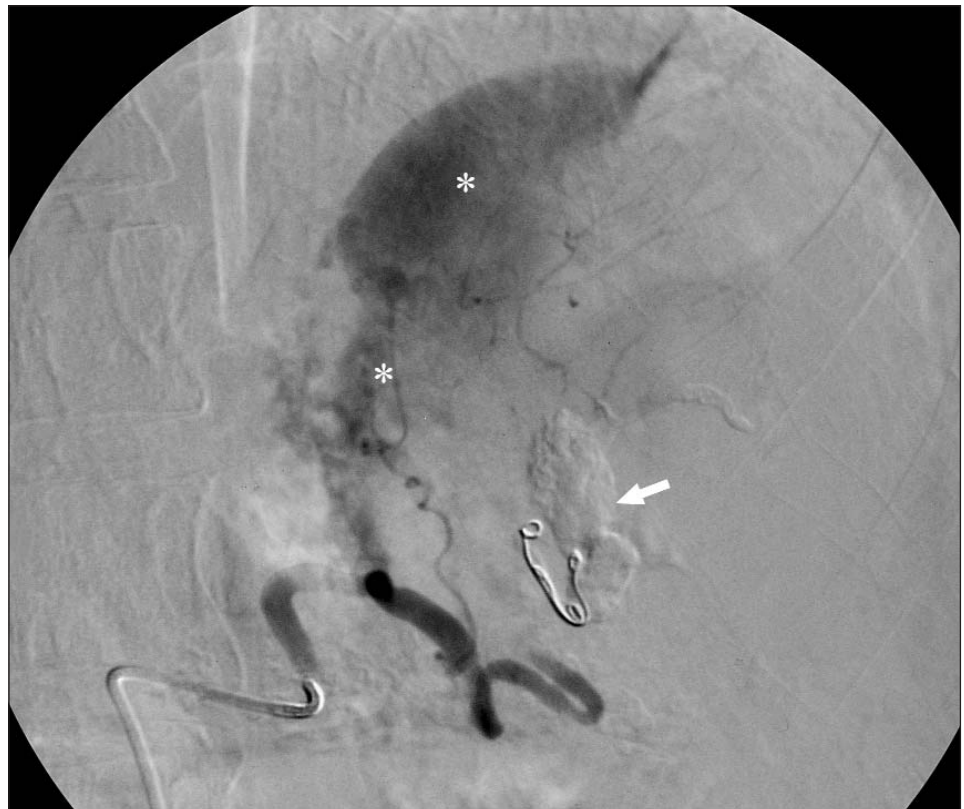
symptom of the disease. She admitted smoking and drinking alcohol regularly for many years. She was admitted to the intensive care unit because of circulatory instability (blood pressure 70/40 mmHg in a supine position, heart rate 120, haemoglobin 34 g/L). At the beginning, saline, polygeline and terlipressine parallel infusions and i.v. bolus of omepra-

zole were administrated. Initial gastroscopy found large adhering blood coagulum in the gastric corpus but was not able to identify the exact source of bleeding. The endoscopy was broken off because of circulatory instability. After a further 12-hour blood and volume resuscitation the gastroscopy was repeated. There was a huge impression into a lumen at the

Figure 5
Coeliac angiography (later arterial phase). Extravasation (asterisks) from pseudoaneurysm of the splenic artery (arrow) demonstrating active bleeding.



Figure 6
Superselective coeliac angiography after coil embolization and acrylate obliteration of pseudoaneurysm of the splenic artery (arrow). Motion artefacts caused by the diaphragm movement (asterisks).



upper part of the gastric body on the major curvature with actual oozing bleeding (Fig. 1). Suspicion of pancreatic pseudocyst was stated and the patient was referred to CT scan (Figs 2 and 3). Pancreatic pseudocyst (filled with blood clots) bulging into the

stomach was found (Fig. 2). Multiple calcifications were identified in the pancreas (Fig. 3). Subsequent coeliac angiography revealed actively bleeding pseudoaneurysm of the splenic artery (Figs 4 and 5). The pseudoaneurysm of the arteria lienalis was treated by

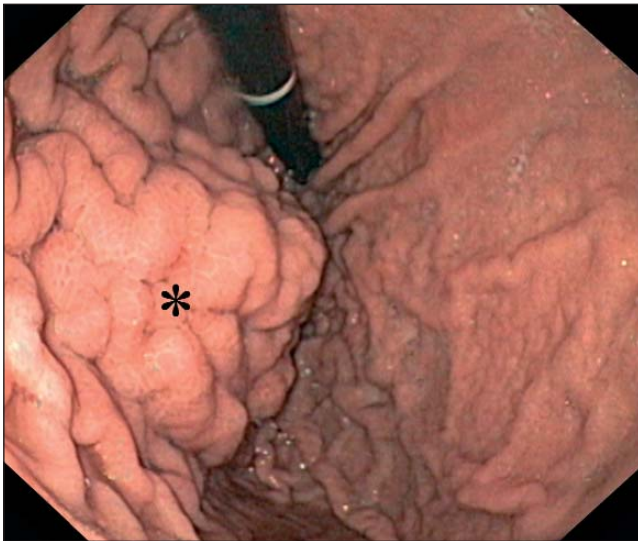


Figure 7
 Reduced bulging of pancreatic pseudocyst into the posterior gastric wall (asterisk) at control endoscopy after one month.

coil embolization and acrylate obliteration (Fig. 6). Thus the bleeding was fully controlled. Arterial occlusion caused a minor asymptomatic splenic infarction. The patient recovered rapidly and uneventfully. Control gastroscopy one month later showed reduced bulging of the pseudocyst into the stomach (Fig. 7). During subsequent follow-up pancreatic pseudocyst reduced its volume. Six months later the patient was symptom-free.

Discussion

In this case report, we have described a female patient presented with a massive gastric haemorrhage from pseudoaneurysm of the splenic artery as a complication of a pseudocyst of the pancreas perforated to the stomach. Chronic alcoholic calcifying pancreatitis was the principal disease and life-threatening bleeding was surprisingly its first symptom. CT scan confirmed the suspicion of the endoscopist having found a pancreatic pseudocyst with blood clots, arteriography recognized a pseudoaneurysm of the *arteria lienalis*. The bleeding was controlled by means of interventional radiological clotting of the artery.

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We are aware of only three similar papers published in available literature. Shahani et al. (21) reported six patients with pseudoaneurysm of the splenic artery with severe upper gastrointestinal bleeding. Chronic pancreatitis was noted in all cases (four were chronic alcoholics). Two patients bled from the pseudoaneurysm directly into the stomach, in another one the aneurysm eroded in the posterior wall of the stomach with a thin membrane separating the two. All cases were treated surgically (21). Quandalle et al. (16) published four patients with severe gastrointestinal haemorrhage caused by rupture of aneurysms of splanchnic arteries. In one of those four cases, the coeliac trunk aneurysm bled into the stomach due to erosion of the posterior gastric wall. The bleeding was treated surgically. Kubo et al. (13) published a case of 45-year-old woman with acute pancreatitis. Seven days after the start of treatment CT scan revealed fluid collection in the pancreatic tail. Three days later she developed massive haematemesis. Emergency gastroscopy found fresh blood and clots in the stomach. The presence of air bubbles revealed perforation on the lesser curvature. CT scan showed pseudoaneurysm of the left gastric artery with free air. Ruptured pseudoaneurysm was the source of bleeding. Transcatheter arterial embolization with coils provided successful treatment of the haemorrhage (13).

Several papers reported successful treatment of gastrointestinal haemorrhage via the pancreatic duct (haemosuccus pancreaticus) from arterial pseudoaneurysm by angiographic embolization (1, 4, 9, 14, 19, 20, 22). In patients with recurrent bleeding or failed embolization, emergency surgery is required (2,5,6,11,12,17,18).

The differential diagnosis of gastrointestinal bleeding should include haemorrhage from pseudoaneurysm of splanchnic arteries, especially in case of chronic pancreatitis when a bleeding episode is presented with severe abdominal pain.

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