Double Splenic Artery Pseudoaneurysm Associating Splenic Infarction in Chronic Pancreatitis

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Abstract

Pseudoaneurysm represents a rare complication in chronic pancreatitis, caused by enzymatic digestion of peripancreatic arteries or the erosion of a visceral artery by pseudocysts. The presence of multiple pseudoaneurysms is rarely seen and their association with splenic infarction has been rarely reported. This case presentation reports the concomitant presence of two pseudoaneurysms with different mechanisms of formation, one of them diagnosed by EUS features and histology of pseudotumoral chronic pancreatitis; the second was diagnosed by contrast-enhanced transabdominal US and CT scan. Their association with splenic infarction was explained by ischemic pathogenesis.

Key words


Discussion

Both possibilities of SA formation in CP such as enzymatic digestion of peripancreatic arteries or erosion of a visceral artery by a PP [4, 5] are presented here. The vascular fistula into the PP is not always detected by CT, although an intracystic hemorrhage may be suspected owing to the intracystic fluid density [6]. In such cases, contrast-enhanced US and EUS are helpful [7]. Although rupture in the gastro-intestinal tract or pancreatic duct is the most frequent SA complication, splenic infarction can also occur and the clinical manifestation is usually pain and anemia, as in our case. The mechanism of splenic infarction includes ischemia due to celiac axis thrombosis (spontaneous or abdominal quadrant pain associated with low blood pressure. The hemoglobin level was 7.37 g/dl (normal 12-14 g/dl); amylasemia and coagulation tests were normal.

Contrast-enhanced transabdominal US and CT showed an inhomogeneous, well-delineated hypoechoic pancreatic lesion near the tail of the pancreas suggestive of PP connected with distal splenic artery; a massive sharply delineated hypoechoic subcapsular lesion of the spleen, splenic vein thrombosis and intra-abdominal free fluid (Figs. 1, 2). There was also a second hypoechoic inhomogeneous mass in the pancreatic body having close contact with splenic artery. The EUS aspect of this second mass was hypoechoic with hyperechoic foci inside and included a saccular-like dilatation of splenic artery near the celiac trunk division, suggestive for SA (Fig. 3). No malignancy on fine needle aspiration EUS was found in this mass. Considering also the history of the patient, the final diagnosis was pseudotumoral CP with double SA, splenic infarction, splenic vein thrombosis.

Surgical assessment confirmed the PP with blood content and communicating with the distal splenic artery, the massive splenic infarction, the hemoperitoneum, and the pseudotumoral mass involving the celiac trunk division, which impeded splenic artery ligation at this level. Caudal splenic artery ligation and splenectomy with PP excision were performed. No complications were observed immediately after operation or on follow-up a year later.
after octreotide treatment) [2, 8, 9]. Another mechanism could be splenic ischemia caused by a bypass of blood flow into a SA [10] evidenced in our case, or after transcatheter embolizations [6].

The diagnosis consists of transectional imaging, although arteriography remains the reference method. Contrast-enhanced US and endoscopic ultrasonography may highlight the vascular fistula within the pseudocyst [7]; the CT scan cannot always see the fistula but can raise the suspicion of an intracystic hemorrhage based on the fluid density.

Interventional radiology or partial splenectomy are indicated whenever possible to avoid the risk of infection after a total splenectomy, which remains reserved for a ruptured spleen, hemorrhage, abscesses, or persistent PP.
In conclusion, we reported the concomitant presence of two pseudoaneurysms with different mechanisms of formation, diagnosed by means of EUS and CEUS in a patient with chronic pancreatitis.

Conflicts of interest

None to declare.

References