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Case Report

Incidental Double Dissection of the Celiac Trunk with Aneurysmal Dilatation Detected on Emergency CT in Acute Biliary Pancreatitis: A Case Report

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Abstract

Isolated dissection of the celiac trunk is a rare vascular condition that is often discovered incidentally on contrast-enhanced computed tomography (CT). We report the case of a 72-year-old male who presented to the emergency department with acute biliary pancreatitis. Contrast-enhanced abdominal CT revealed biliary obstruction and an incidental aneurysmal dilatation of the celiac trunk associated with two distinct dissection planes extending toward the splenic artery without vascular occlusion or organ ischemia. As the vascular lesion was asymptomatic, conservative management with clinical and imaging follow-up was recommended. This case highlights the importance of systematic evaluation of vascular structures during emergency CT examinations, even when imaging is performed for non-vascular indications.

Keywords: Celiac trunk dissection; Visceral artery dissection; Aneurysmal dilatation; Computed tomography; Incidental finding.

INTRODUCTION

Spontaneous dissection of visceral arteries is an uncommon condition affecting the splanchnic arterial circulation [1,2,6]. Among the visceral vessels, isolated involvement of the celiac trunk is reported less frequently than dissection of the superior mesenteric artery [1,2]. The increasing use of contrast-enhanced computed tomography (CT) in emergency and routine practice has led to more frequent detection of asymptomatic vascular abnormalities that were previously underdiagnosed [1,5]

We report a case of incidental double dissection of the celiac trunk associated with aneurysmal dilatation discovered during CT performed for acute biliary pancreatitis.

CASE PRESENTATION

A 72-year-old male was admitted to the emergency department with acute epigastric pain that débute 04 days prior. His medical history included arterial hypertension, ischemic heart disease under treatment, and previous ischemic stroke without residual deficit. No history of trauma or toxic exposure was reported.

The patient complained of severe epigastric pain radiating in a belt-like pattern, associated with repeated vomiting and fever. On physical examination, he was hemodynamically stable. Mild jaundice was noted without peripheral edema.

Laboratory investigations showed elevated serum lipase (499 U/L) and leukocytosis (21,030/mm³), consistent with acute pancreatitis.

Ultrasound demonstrated dilatation of the bile ducts suggestive of biliary obstruction. A contrast-enhanced abdominal CT scan was performed in the emergency setting.

CT demonstrated dilatation of the intrahepatic bile ducts and the common bile duct upstream of a hyperdense stone in the distal common bile duct, associated with inflammatory changes consistent with acute biliary pancreatitis. The findings were indicative of mild acute pancreatitis, with a CT severity index (CTSI) of 0 and no evidence of pancreatic necrosis.

The arterial phase, an incidental vascular abnormality. There was a 14 mm focal dilatation in the

celiac trunk and (Figure1). Two dissection planes were visible (Figure 1,2). One was located near the origin of the celiac trunk (Figure 2), and the second extended toward the splenic artery (Figure 3), which remained patent. No ischemia, thrombosis, or rupture was detected. The superior mesenteric artery and renal arteries were normal.

The patient was managed conservatively with bowel rest, intravenous fluid resuscitation, and analgesic therapy for acute pancreatitis. Broad-spectrum intravenous antibiotics were administered for associated acute cholangitis.

Following vascular surgery consultation, antihypertensive therapy was initiated. No surgical or endovascular intervention was indicated. Close clinical and radiological follow-up was recommended, and a follow-up angio-CT scan was scheduled at three months to assess the stability of the vascular lesion.

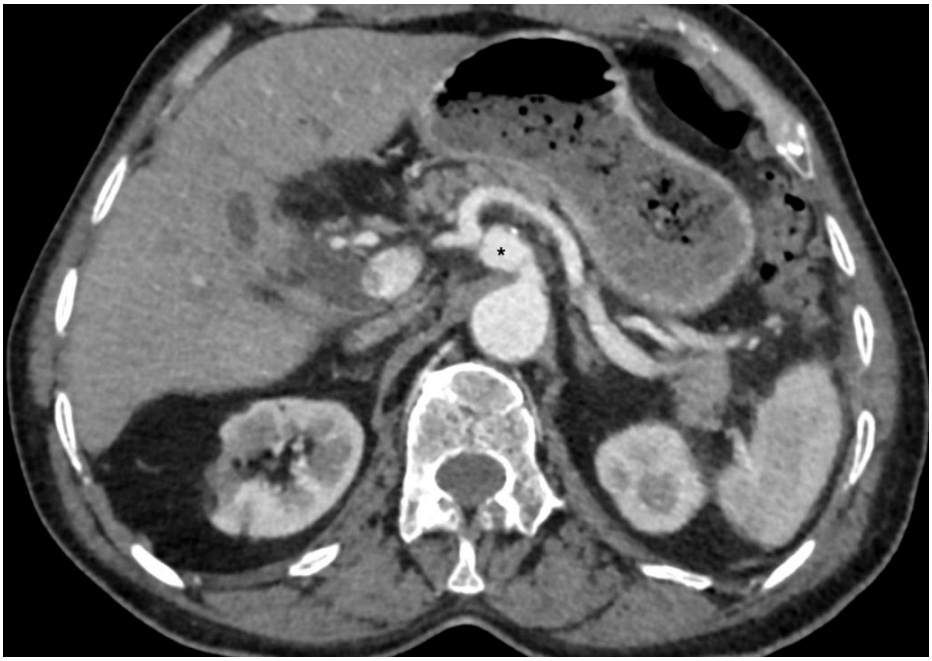

Figure 1: Axial contrast-enhanced abdominal CT during the arterial phase demonstrating: a. aneurysmal dilatation of the celiac trunk (asterisk)

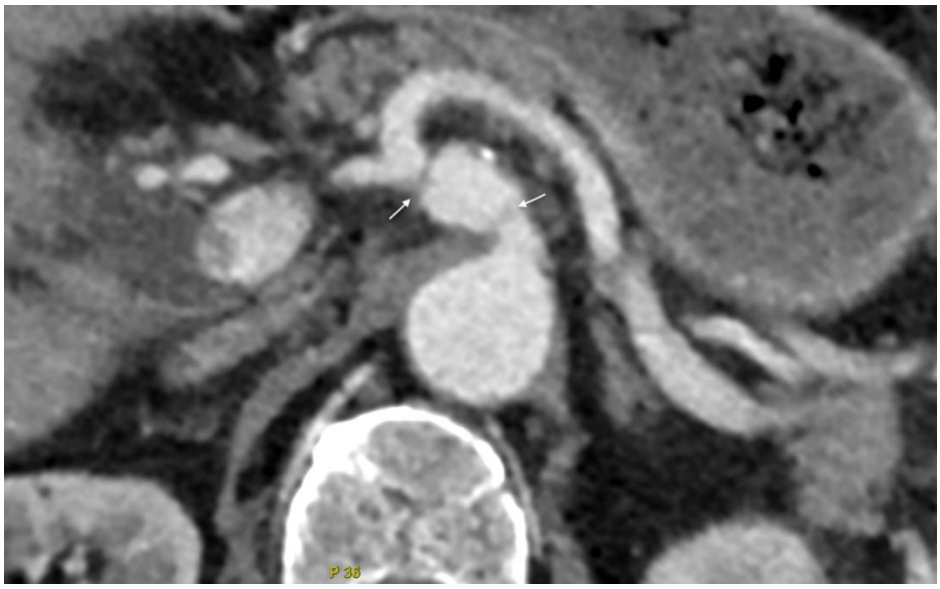

Figure 1: Axial contrast-enhanced abdominal CT during the arterial phase demonstrating: b. Double dissection, located in the post-ostial segment and just proximal to the bifurcation (arrows)

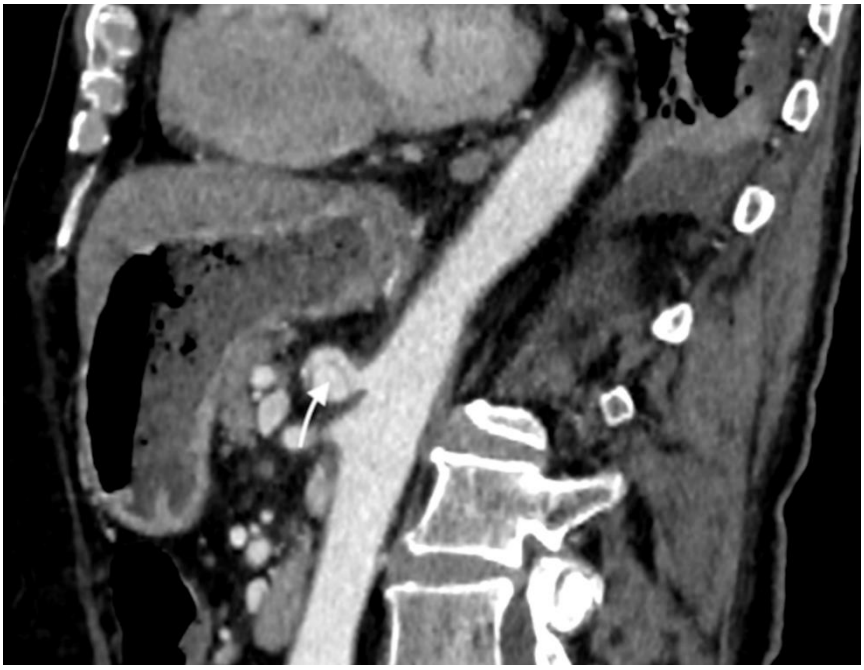

Figure 2: Contrast-enhanced abdominal CT with sagittal (a) reconstructions obtained during the arterial phase showing aneurysmal dilatation of the celiac trunk with an intimal flap (arrow)

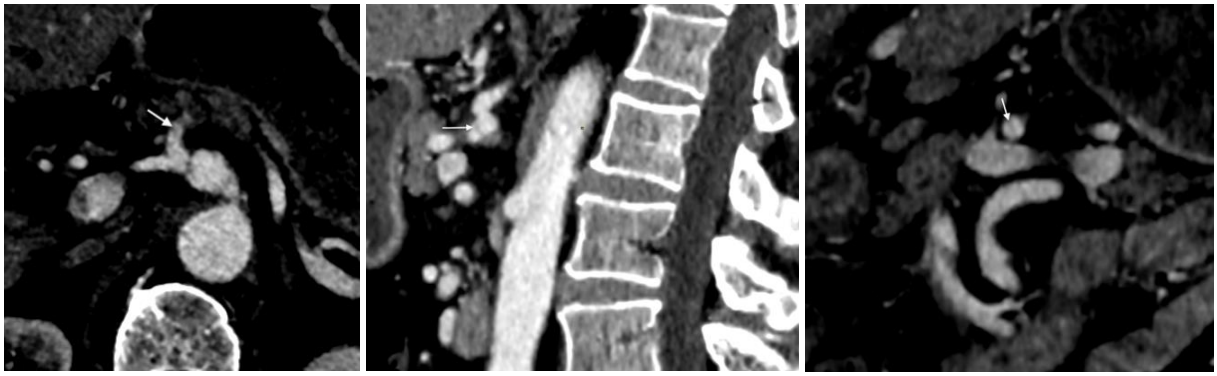

Figure 3: Contrast-enhanced abdominal CT with axial (a) and sagittal (b) an coronal (c) reconstructions showing dissection of the celiac trunk extending to the splenic artery

DISCUSSION

Isolated dissection of the celiac trunk is an uncommon vascular disorder involving the splanchnic arterial circulation [1,2,6]. Compared with superior mesenteric artery dissection, celiac trunk involvement is less frequent and typically occurs in middle-aged or elderly patients with cardiovascular risk factors such as hypertension or atherosclerosis [1,2].

This condition remains rare, with its true incidence still unclear. Early reports described only a limited number of cases, whereas more recent studies have identified increasing numbers of patients, with approximately 316 cases reported in the literature and fewer than 500 cases described worldwide to date. This apparent rise is largely attributed to the widespread use of computed tomography angiography (CTA), which has improved the detection of asymptomatic lesions that were previously underdiagnosed, rather than reflecting a true increase in incidence [1,8].

The exact mechanism of spontaneous visceral artery dissection remains unclear. Proposed predisposing factors include degeneration of the arterial wall, hypertension-related shear stress, and connective tissue fragility [3,5]. These conditions may lead to the formation of an intimal tear with development of a false lumen, which can progressively enlarge and result in aneurysmal dilatation of the affected vessel [3].

Clinical presentation is variable and ranges from incidental findings to acute abdominal pain related to ischemia or aneurysmal complications [2,4]. CTA is considered the imaging modality of choice for diagnosis and follow-up because it allows accurate evaluation of the arterial lumen, identification of intimal flaps, and detection of possible complications [1,5].

Management of isolated celiac trunk dissection is not standardized due to the rarity of this condition. In uncomplicated cases without signs of rupture or visceral

ischemia, conservative treatment including strict blood pressure control, with or without anticoagulation, and imaging follow-up is generally recommended [2,4,5]. Endovascular or surgical treatment is reserved for patients with complications or progressive aneurysmal dilatation [4].

In our patient, the dissection was detected during CT performed for acute biliary pancreatitis diagnosed according to accepted clinical, biological, and imaging criteria [7]. The pancreatitis was classified as mild, with a CT severity index (CTSI) of 0, making a causal relationship unlikely. The vascular abnormality was therefore considered an incidental finding.

The patient remained clinically stable and was managed conservatively with medical treatment and radiological surveillance. Follow-up imaging was planned to ensure stability of the aneurysmal dilatation.

Systematic evaluation of the arterial phase during abdominal CT performed in the emergency setting is essential, as incidental vascular abnormalities may be clinically relevant and may influence patient management [1,5].

CONCLUSION

Incidental dissection of the celiac trunk is a rare finding that may be detected during CT performed for unrelated conditions. Careful evaluation of vascular structures on CT is essential, as incidental vascular abnormalities can be clinically significant and may influence patient management. In the absence of complications, conservative treatment with clinical and radiological follow-up represents an appropriate management strategy.

Consent: Written informed consent was obtained from the patient for publication of this case report.

Conflicts of Interest: The authors declare no conflicts of interest.

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