Case Report

Celiomesenteric Trunk with Concurrent Aneurysm: Report of a Case

YI WANG1, PING CHEN2, NING SHEN1, JUN-TAO YANG2, JIN-HUA CHEN1, and WEI-GUO ZHANG1

Departments of 1Radiology and 2Hepatobiliary Surgery, Third Affiliated Hospital and Research Institute of Surgery, Third Military Medical University, Chongqing 400042, PR China

Abstract

This report describes a rare case of a common celiomesenteric anomaly with a concurrent aneurysm demonstrated by contrast-enhanced multidetector computed tomography (MDCT) angiography. The patient, a 53-year-old man, had no abdominal pain or discomfort. Abdominal CT scanning was performed because of hypoglycemia. Celiac digital subtraction angiography (DSA) was carried out 10 days after CT angiography. The CT angiographic images clearly showed a saccular aneurysm originating from the bifurcation of a common celiomesenteric trunk. The origin and course of the hepatic, splenic, and superior mesenteric arteries were also visualized. These findings were confirmed by intraarterial DSA. The lesion was resected surgically because of the risk of a rupture of the aneurysm, and the superior mesenteric artery was replanted into the celiomesenteric trunk.

Key words Celiomesenteric trunk · Aneurysm · Multidetector computed tomography · Computed tomographic angiography · Digital subtraction angiography

Introduction

Although abdominal visceral artery aneurysms are not uncommon, aneurysms that involve a celiomesenteric anomaly are rare. Only a few cases have previously been reported.1–8 This report presents the case of an aneurysm accompanied by a celiomesenteric anomaly as seen on 64-row multidetector computed tomography (MDCT) angiography in a patient with a medical history of hypoglycemia, hunger, and palpitation, without abdominal pain or discomfort. Reconstructed images obtained on MDCT with CT angiography are illustrated with correlative digital subtraction angiographic images. This is the first report of an evaluation of the common celiomesenteric trunk with a concurrent aneurysm using MDCT angiography. The lesion was resected surgically, with the superior mesenteric artery replanted into the celiomesenteric trunk.

Case Report

A 53-year-old man presented at the Department of Hepatobiliary Surgery with a 2-week history of hypoglycemia, hunger, and palpitation, but with no abdominal pain or discomfort. The patient’s general condition was satisfactory and the physical examination was normal for a medium-stature man (body mass index, 24.2 kg/m²; normal range, 20–25 kg/m²) with a blood pressure of 120/80 mmHg and pulse of 72 beats/min. The systemic examination was unremarkable except for the presence of epigastric bruit.

The laboratory investigation revealed mild hypoglycemia (random blood sugar 1.19 mmol/l; normal range, 3.9–6.1 mmol/l) and a serum creatinine level of 1.2 mg/dl (normal, 0.8–1.2 mg/dl). Serum aldosterone, plasma renin, aldosterone/renin ratio, plasma fractionated catecholamines, and urine metanephrines were all within the normal limits.

An initial plain abdominal CT scan revealed an isodense mass behind the pancreas. Contrast-enhanced CT showed homogeneous enhancement similar to the abdominal aorta (Fig. 1A,B). Computed tomographic angiography with three-dimensional (3D) volume-rendered and maximum intensity projection images revealed a common trunk with the celiac axis and the superior mesenteric artery. There was a calcified saccular aneurysm located at the bifurcation of the common trunk, approximately 38.3 × 25.3 mm in size, 15.7 mm in the antilinar plain. The splenic vein and portal vein...
were displaced by compression from the aneurysm (Fig. 2A,B). Celiac arterial digital subtraction angiography (DSA) was carried out 10 days after the CT scan was performed. These CT angiographic findings were confirmed by intra-arterial DSA (Fig. 3A,B).

The patient was placed in the supine position and general anesthesia induced without difficulty. A midline abdominal incision was made to access the peritoneal cavity. A lesser sac approach was used to expose the celiomesenteric trunk, celiac axis, hepatic artery, splenic artery, and superior mesenteric artery. The aneurysm and its parent arteries. Following exploration of the abdominal cavity, the gastrohepatic ligament was divided to expose the lesser sac. Sharp dissection was carried out in a periadventitial plane to expose the abdominal aorta and its branches. The celiomesenteric trunk, celiac axis, hepatic artery, splenic artery, and superior mesenteric artery were exposed. The aneurysm was identified, mainly situated on the celiac axis before the branching of the hepatic and splenic arteries, but with