Case 1733

Eurorad

Chronic Mesenteric Ischemia

Published on 29.10.2002

DOI: 10.1594/EURORAD/CASE.1733
ISSN: 1563-4086
Section: Abdominal imaging
Imaging Technique: CT
Case Type: Clinical Cases
Authors: D. Tack, I. Perlot, O. Alkeilani, C. Delcour
Patient: 64 years, female

Clinical History:

Chronic abdominal pain for six months. The pain is essentially postprandial and located in the periumbilical and back region. Weight loss is 6 kg.

Imaging Findings:

The patient complains of chronic abdominal pain for six months. The pain is essentially postprandial and located in the periumbilical and back region. Weight loss is 6 kg.
A contrast-enhanced abdominal CT scan is performed, no biological, sonographic nor endoscopic (stomach and colon) abnormality explaining the symptoms having been elicited prior to the CT.
Contrast-enhanced CT scan of the abdomen (fig. 1) shows on maximum intensity projection (MIP) in a sagittal oblique orientation (A) a superior mesenteric artery stenosis (white arrow). Left oblique coronal MIP (B) shows collateral vascular supply to the superior (black arrows) and inferior (white arrows) mesenteric arteries originating from the celiac trunk and its branches. Oblique axial multiplanar reconstruction (MPR) at the level of the origin of the superior mesenteric artery (C) visualizes an intraluminal filling defect at the proximal segment of the artery (white arrow). Oblique sagittal and axial MPR (D) demonstrates a stenosis at the origin of the inferior mesenteric artery (white arrows).
The angiographic criteria for chronic mesenteric ischemia are fulfilled. They consist of a significant stenosis or obliteration of two of the three main gastrointestinal arteries. The angiographic diagnosis is obtained with a multidetector CT and a 3D workstation without selective catheterization.

Discussion:

This case illustrates the capabilities of the new multidetector computed tomographic (MDCT) technique. It provides precise vascular mapping without vessel catheterization. The 3D reconstructions (MIP, MPR, SSD) are best suited for demonstration of the collateral vascular supply. Since the efficacy of CT in the diagnosis of acute intestinal ischemia has been demonstrated, further studies will be needed to determine its performance and role in the diagnosis of chronic intestinal ischemia. The following scan parameters have been used: 120 KV, 120 mAs, collimation: 4 x 1 mm; rotation time: 0. 5 s, feed by rotation: 8mm, pitch: 2 (8): acquisition time: 19. 7 s. Reconstruction parameters: soft algorithm, slice thickness: 1,5 mm; increment: 1 mm.

Differential Diagnosis List: Chronic mesenteric ischemia

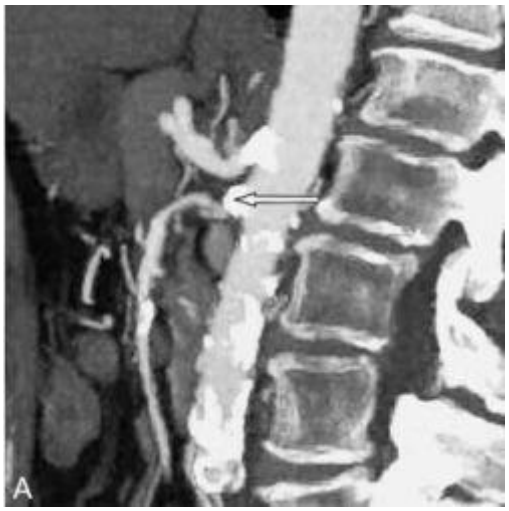
Final Diagnosis: Chronic mesenteric ischemia

References:

Boley S.J., Brandt L.J., Veit F.J.: Ischemic disorders of the intestine. Curr Prob Surg, 1978, 15: 1-85. (PMID:365467)
Klein H.M., Lensing R., Klosterhalfen B., et al.: Diagnostic imaging of mesenteric infarction. Radiology, 1995, 197: 79-82. (PMID: 7568858)
Rogers A.L., Cohen J.L.: Ischemic bowel disease. Gastroenterology, 4° ed., vol. 3, Editor: J.E. Berk. Philadelphia, Saunders, 1915-1935.
Yamada K., Saeki M., Yamaguchi T., et al.: Acute mesenteric ischemia. CT and plain radiographic analysis of 26 cases. Clin Imaging. 1998 Jan-Feb;22(1):34-41. (PMID: 9421653)

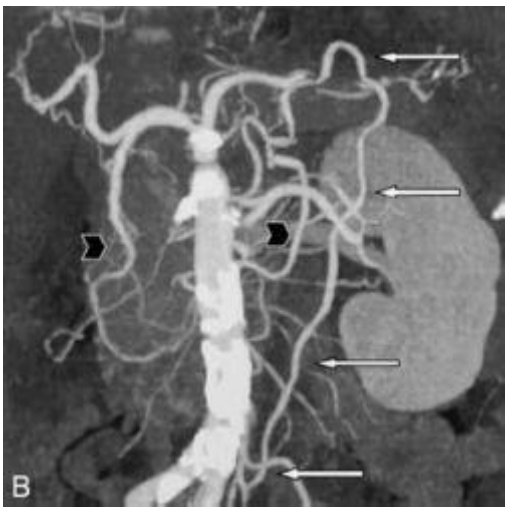
Figure 1

a



Description: Contrast-enhanced CT scan of the abdomen shows on maximum intensity projection (MIP) in a sagittal oblique orientation a superior mesenteric artery stenosis (white arrow). **Origin:**

b

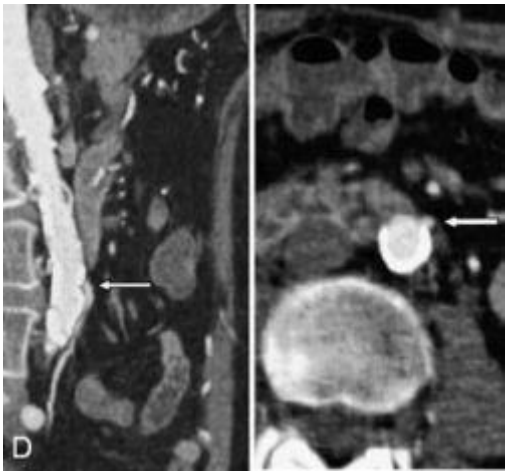


Description: Left oblique coronal MIP shows collateral vascular supply to the superior (black arrows) and inferior (white arrows) mesenteric arteries originating from the celiac trunk and its branches. **Origin:**

c

Description: Oblique axial multiplanar reconstruction (MPR) at the level of the origin of the superior mesenteric artery visualizes an intraluminal filling defect at the proximal segment of the artery (white arrow). **Origin:**

d



Description: Oblique sagittal and axial MPR demonstrates a stenosis at the origin of the inferior mesenteric artery (white arrows). **Origin:**