

# A Rare Case of Celiomesenteric Trunk and Concomitant Giant Type-2 Thoracoabdominal Aortic Aneurysm

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## Clinical image description

An 73-year-old man was referred to our Emergency Vascular Surgery Department from another tertiary hospital without vascular service, due to acute abdominal pain and a known history of a type-2 thoracoabdominal aortic aneurysm diagnosed 3 years ago. He was hemodynamically stable at presentation. Physical examination revealed tenderness of the upper abdominal area without any palpable abdominal mass, while he had elevated liver function tests-an alanine aminotransferase of 306 IU/L (normal range, <41 IU/L), aspartate aminotransferase of 448 IU/L (normal range, <37 IU/L), gamma-glutamyl transpeptidase of 185 IU/L (normal range, 11-49 IU/L), and alkaline phosphatase of 243 IU/L (normal range, 45-122 IU/L) and high serum amylase (820 IU/L- normal range, 28-100 IU/L). Serum C-reactive-protein levels were also high (259 mg/L- normal range, <4 mg/L). A Computer Tomography Angiography (CTA) of the thoracoabdominal aorta was performed to exclude acute mesenteric ischemia, and revealed a giant 10.5 cm unraptured type-2 thoracoabdominal aortic aneurysm with extensive mural thrombus, originating from a chronic type-B descending aortic dissection extending up to the right common iliac artery bifurcation (Figures 1A-B). It also showed a mild pericholecystic fluid collection and diffuse contrast enhancement of the pancreatic parenchyma, without cholelithiasis. Another significant finding was the absence of the celiac trunk and, instead, a common celiomesenteric trunk, with the common hepatic artery, the splenic and the superior mesenteric artery originating from a common arterial branch of the abdominal aorta and the left gastric artery originating from the common hepatic artery (Figures 2A-B). All splanchnic arteries

were patent, with no signs of occlusion. The Superior Mesenteric Artery (SMA) originates separately from the aorta about 1 cm below the celiac trunk. However, there is a very close anatomical and functional connection between the celiac trunk and the SMA, and considerable variations on their branching pattern have been observed in previous studies [1-8]. Among these variations, Celiomesenteric Trunk (CMT) has been considered as one of the rare types, with incidence ranging from 0.4% to 2.7% [9,10]. The simultaneous presence of thoracoabdominal aortic aneurysm disease and of this rare CMT variation is extremely rare, and, according to our knowledge there has been no similar case reported in the literature so far. Since the patient was in a stable condition, he was transferred back to the referring surgical department due to the probable diagnosis of acute pancreatitis for further treatment and was advised to an expedited vascular surgical consultation for definitive endovascular repair of his aortic aneurysm on an elective basis.

**Keywords:** Thoracoabdominal aortic aneurysm; Celiac artery; Superior mesenteric artery; Computed tomography angiography.

## Declarations

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**Conflict of interest:** The author has no conflicts of interest to declare.

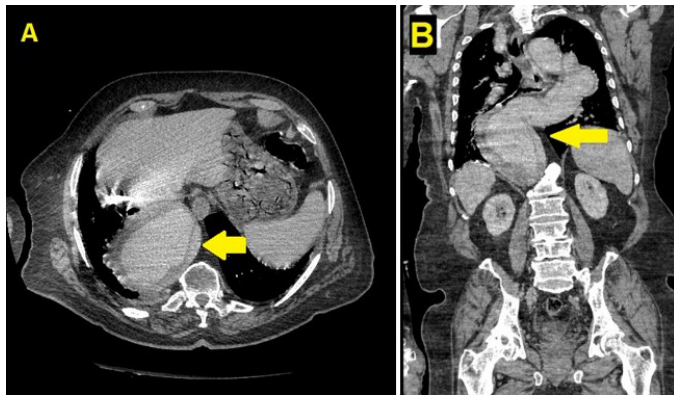
**Ethical statement:** The author is accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated

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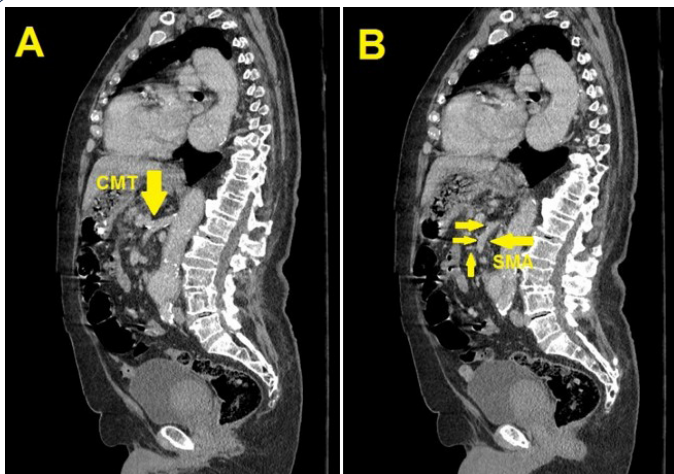
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**Figure 1:** Computer Tomography Angiogram (CTA) showing a giant 10.5 cm type-2 thoracoabdominal aortic aneurysm (A, arrow) extending from the descending thoracic aorta up to the bifurcation of the right common iliac artery, as a result of chronic type-B aortic dissection (B, arrow), with no signs of rupture.



**Figure 2:** A very rare anatomical variation of the abdominal aorta, with the presence of a common Celiomesenteric Trunk (CMT) (A, arrow), as seen in the same Computer Tomography Angiogram (CTA) of this patient. The Superior Mesenteric Artery (SMA) and its branches are seen patent (B, arrows), with no signs of thromboembolization.

and resolved. Written informed consent was obtained from the patient for publication of his CTA images.

**Author's contributions:** The sole author contributed fully to all aspects of preparation of the present manuscript.

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