

Coeliomesenteric trunk - a rare variation to be aware of

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Introduction

The Coelic axis (CA) and the Superior Mesenteric Artery (SMA) are the anterior visceral arteries of the Abdominal Aorta. CA arises at the level of lower 12th thoracic vertebra while SMA arises at the first Lumbar vertebral level. Normally CA divides into Common Hepatic (CHA), Left Gastric (LG) and Splenic Arteries (SA). These branches supply liver, spleen stomach, upper duodenum and pancreas. The SMA supplies the small intestine. Rarely these two arteries have a common origin due to variations in the embryological development i.e. Coeliomesenteric Trunk (CMT) [1, 2]. It is important to be aware and detect such variation to avoid complications during interventions.

Case presentation

A 71-year-old female underwent contrast-enhanced Computed Tomography (CT) for non-specific abdominal pain at the Teaching Hospital Anuradhapura, Sri Lanka. CT was done with Multidetector Toshiba Aquilion Prime CT machine with 60 ml of Omnipaque 300 (iohexol) contrast agent and arterial images were obtained after a delay of about 25 seconds. Images were interpreted after 3D reconstruction in the console. There was an incidental finding of CMT arising at the first lumbar vertebral level. The CMT divided into CA and SMA. The CA divided further into CHA, LG and SA (figure 1, 2). There were no other abnormalities detected.

Discussion and conclusion

The reported incidence of CMT is about 2.7% to 5.4% [2,3]. CA and SMA develop by a series of ventral branches (Omphalo Mesenteric Arteries –OMA) from the dorsal aorta which appears during the embryological period (figure 3). A longitudinal vessel connects the OMA [1]. First OMA develops into CA while the fourth develops into SMA. CHA,

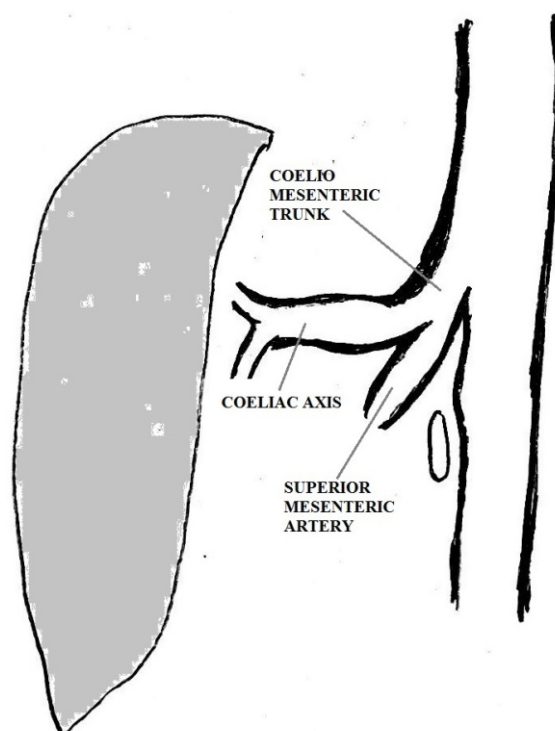
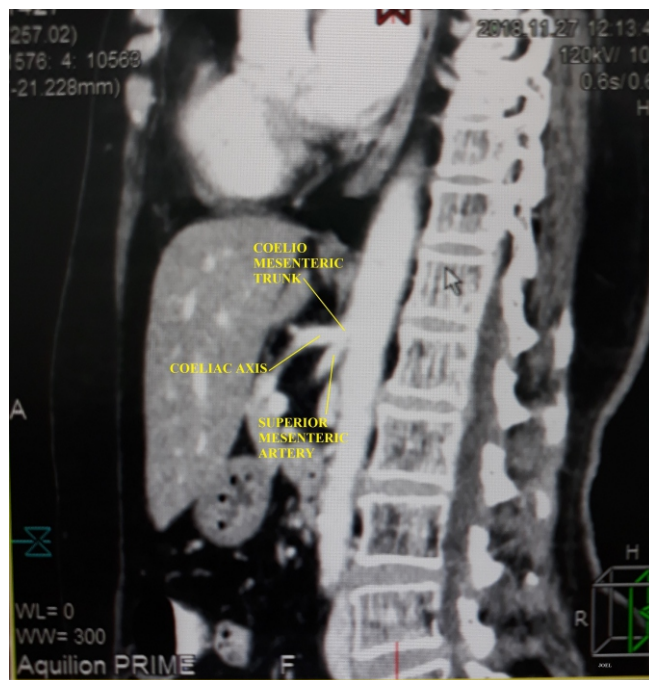



Figure 1 & 2. Coelio mesenteric trunk

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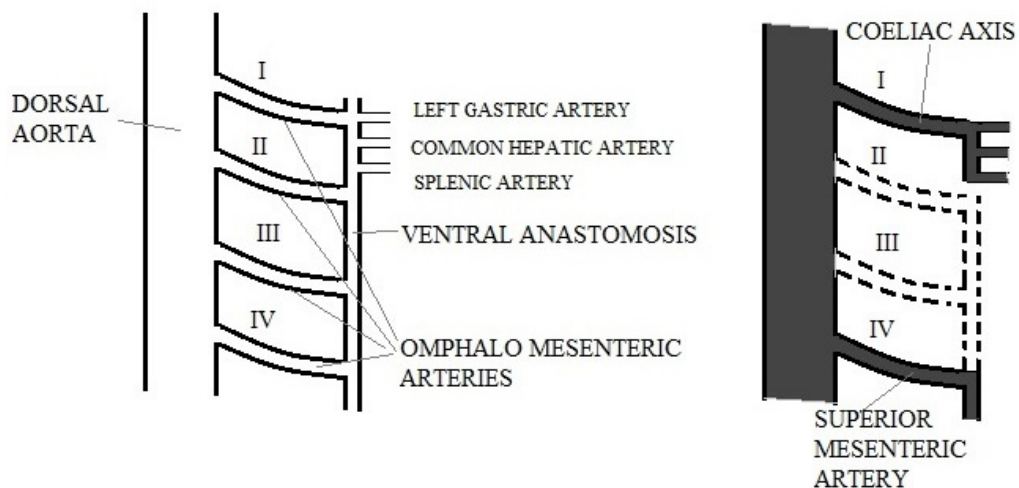


Figure 3. Coelio mesenteric trunk development

LG and SA develop from this longitudinal anastomosis. The part of the longitudinal anastomosis distal to these branches and the second, third OMA disappear thus separating CA and SMA. If the First or the fourth OMA disappear CMT develops [1]. Awareness of this variation is important to plan surgeries, interventional procedures and to avoid complications.

All authors disclose no conflict of interest. The study was conducted in accordance with the ethical standards of the relevant institutional or national ethics committee and the Helsinki Declaration of 1975, as revised in 2000.

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Learning Points:

- Coeliomesenteric trunk is a rare variation.
- Awareness of this will prevent potential disasters.