

Unusual Origin of Splenic Artery: A Case Report

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Abstract: *The splenic artery is one of the common and constant branch of the coeliac artery. Coeliac artery is one of the visceral branches of the abdominal aorta, immediately after branching out it divides into the left gastric, common hepatic and splenic arteries. Variation in the origin of the left gastric and common hepatic artery have been documented but variation in the origin of the splenic artery are rarely been reported. Variations relative to the origins of the visceral branches of the abdominal aorta have been reported by numerous investigators. However, in the course of recent routine CT to rule out aortic dissection one unusual anomalous origin of splenic artery has been encountered.*

Introduction:

The splenic artery is one of the largest branch of the coeliac trunk and it is considered tortuous artery in the body. In its course it runs superior and anterior to the splenic vein, along the superior border of the pancreas. At the hilum of the spleen, the artery normally divides into 4-5 terminal branches. The splenic artery in its course it also gives branches including the left gastroepiploic, short gastric artery to the stomach, pancreatic branches to the pancreas and sometimes, posterior gastric artery. The posterior gastric artery when it is present it courses posterior to the body of the stomach and ascends behind the peritoneum of the lesser sac to reach the fundus of the stomach, it supplies posterior wall of the body, cardiac area and the fundus of the stomach. Review of literature shows many variations in the course and branching patterns of the splenic artery (1-6).

Case Report:

A known 86 year old COPD male patient came to Accident and Emergency Department with complaint of shortness of breath and pleuritic chest pain. Patient was referred to the radiology department to rule out pulmonary emboli. Pulmonary angiogram was negative on CT, following which the patient was again referred to radiology department for CT aortogram to rule the dissection. While interpreting the imaging incidentally we encountered an interesting, exceptional normal variant of splenic artery arising directly from the abdominal aorta was seen (Figure 1).

Discussion:

The splenic artery largest branch of the coeliac trunk in its course to supply the spleen it gives off short gastric arteries, pancreatic branches and the left gastroepiploic artery. Splenic artery is very tortuous in its course as described in most of the standard anatomical text books (7 &8). However, the tortuosity of splenic artery is absent in infants and in children and develops with age (9). The average length of the splenic artery is 13 cm and the average width is 7.5 mm. Numerous authors have been described variations relative to the origins of one or more of the visceral branches of the abdominal aorta. Dissection of 50 cadavers to study the celiac trunk and its branches in India, revealed that in 86% of cadavers, the left gastric, common hepatic and splenic arteries arise from the celiac trunk. In one case, all three branches arose directly from the abdominal aorta, and the origin of the splenic artery was 1 cm distal to the origin of the left gastric and common hepatic arteries (10). Li J and Ren ZF reported that in a 62 year old male cadaver, where a gastroduodenal-splenic trunk was found to give rise to the splenic and gastroduodenal arteries (11).

Our literature survey also showed variations in the branches of the splenic artery such as an additional branch from the middle part of its course called posterior gastric artery which supplies to the stomach (8). Amonoo-Kuofi et al. (6) found an anomalous middle colic artery from the proximal segment of the splenic artery. Liu ST (5). reported a branch from the splenic artery to the left colic flexure. Bamac et al. (12) reported a case of distal one-third of the transverse colon being supplied by a branch from the distal part of the splenic artery. In our case report we did not find any such variations in the branches of the splenic artery.

The variation in the branching pattern of the splenic artery can be correlated with its embryological development. The coeliac, superior mesenteric and inferior mesenteric arteries are derived from fusion of the vitelline arteries supplying the yolk sac, and are located in the dorsal mesentery of the gut. These vessels supply the derivatives of the foregut, midgut and hindgut (13). Embryologically, the splenic artery is derived from the celiac trunk (14). It supplies the spleen, pancreas, stomach and greater omentum (15). The variation seen in our case can possibly be attributed to abnormal migration of these primary arteries.

Conclusion:

The awareness of the variation in the origin of the splenic artery provides academic as well as clinical relevance. Splenic artery as described in the present case report would contribute to minimise vascular complications during abdominal surgeries. Additionally, knowledge of such vascular variations should also prove useful in angiographic studies.

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Figure 1:



1. Splenic Artery
2. Coeliac Axis
3. Aorta

Figure 2:

