Anomalous origin of left internal mammary artery arising directly from the aortic arch

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DESCRIPTION

A 72-year-old man who had undergone coronary artery bypass grafting 18 years previously (including left internal mammary artery (LIMA) graft to the left anterior descending artery) presented with an acute coronary syndrome. He underwent angiography to assess coronary artery bypass graft patency. Attempts to locate the origin of the LIMA in the left subclavian artery were unsuccessful (figure 1A). An aortic arch angiogram was performed using a 4 Fr Pigtail catheter (figure 1B). This revealed that the LIMA arose directly from the aortic arch, which was subsequently selectively engaged with a 5 Fr multi-purpose catheter (figure 1C).

The LIMA arises from the inferior aspect of the proximal third of the subclavian artery in 92% of cases, the middle third in 7% and the distal third in 1% of cases. There are reports of the LIMA originating from the junction of the left subclavian artery and aorta,¹ and from the vertebral artery.² To the best of our knowledge, this is the first description of the LIMA arising directly from the aortic arch. Angiographic evaluation of the LIMA is not routinely performed prior to coronary artery bypass grafting. This case therefore exemplifies the importance of performing non-selective aortic arch

angiography before concluding that the LIMA graft is occluded.

Learning points

- In a minority of cases (8%), the left internal mammary artery may not arise from the inferior aspect of the proximal third of the subclavian artery.
- Non-selective aortic arch angiography should always be performed prior to concluding that a left internal mammary artery graft is occluded.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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Figure 1 (A) No left internal mammary artery (LIMA) seen arising from the left subclavian (LSC) artery. (B) Origin of LIMA seen from aortic arch (white arrow). (C) Selective intubation of LIMA.

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