

IMAGE FOCUS

doi:10.1093/ehjci/jew158

Online publish-ahead-of-print 25 July 2016

Left main artery compression by haematoma following acute aortic root dissection: identification by optical coherence tomography

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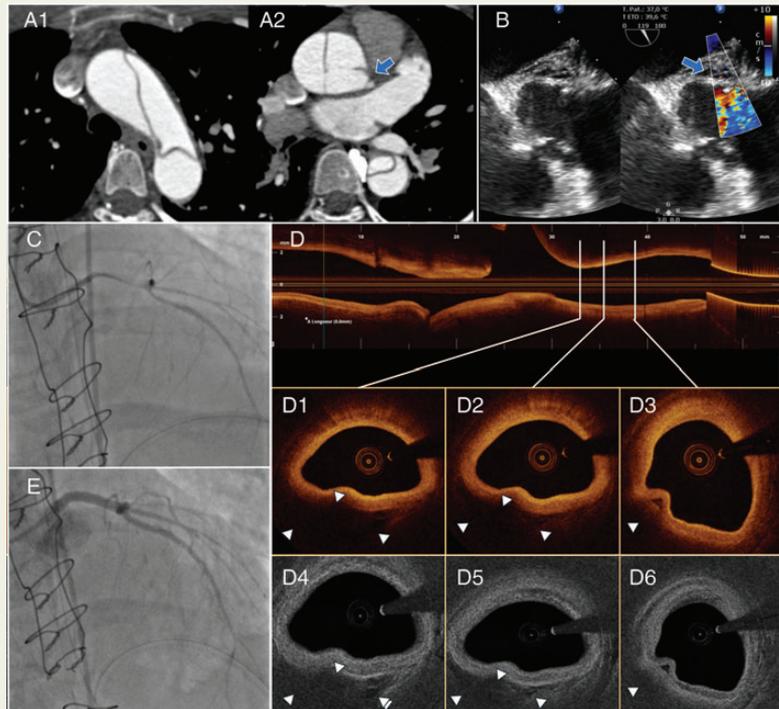
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A 42-year-old woman with no previous history of cardiovascular disease was referred to our institution for a type A aortic dissection (A1), compressing the left main artery (LMA) ostium (arrow/ A2) and causing anterior ST elevation myocardial infarction with cardiogenic shock.

The patient underwent emergent cardiac surgery: the ascending aorta was replaced, and a haematoma was removed from LMA ostium. Due to haemodynamic compromise, the patient was placed under extracorporeal membrane oxygenation and inotropic support.

The patient's haemodynamic status worsened 12 h following initial surgery. A transoesophageal echocardiography revealed compromised blood flow in LMA (arrow/B/Supplementary data online, *Movie 1*). An emergency angiography control was performed and showed the presence of a blurry subocclusive image in the distal LMA extending to ostial left anterior descending artery (LAD) and circumflex (C/Supplementary data online, *Movie 2*). A wire was navigated down the LAD, allowing flow improvement and subsequent vessel analysis with optical coherence tomography (OCT) (D/Supplementary data online, *Movie 3*). The images [conventional (D1–D3) and high-contrast compensated (D4–D6) OCT] identified an extra-adventitial hyposignal (arrowheads) leading to LMA compression and vessel wall indentation. This image was compatible with intramural haematoma around/at the level of the aortic root causing external compression of the LMA.

The patient was treated by *ad hoc* percutaneous coronary intervention (3.0 × 28 mm everolimus eluting stent implantation, with proximal oversizing dilation up to 4.5 mm). The final angiography showed no residual lesion and normalized flow in LAD and circumflex (E/Supplementary data online, *Movie 4*). Unfortunately, the patient died 28 days after the procedure due to infectious complications. This case illustrates that post-operative LMA flow assessment should be warranted to identify early complications in case of persistent haemodynamic compromise following type A aortic dissection.



Supplementary data are available at *European Heart Journal—Cardiovascular Imaging* online.

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