

IMAGES IN INTERVENTION

Anterior ST-Segment Elevation Myocardial Infarction in a Patient With an L-I Type Single Coronary Artery

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These images are from a 51-year-old man who presented to the emergency department with an anterior ST-segment elevation myocardial infarction, Killip class I. During emergency coronary

angiography, we were unable to engage the right coronary artery (RCA) with a JR4 catheter (Cordis, Bridgewater, New Jersey) and proceeded to engage the left coronary artery with an XB3.5 guiding

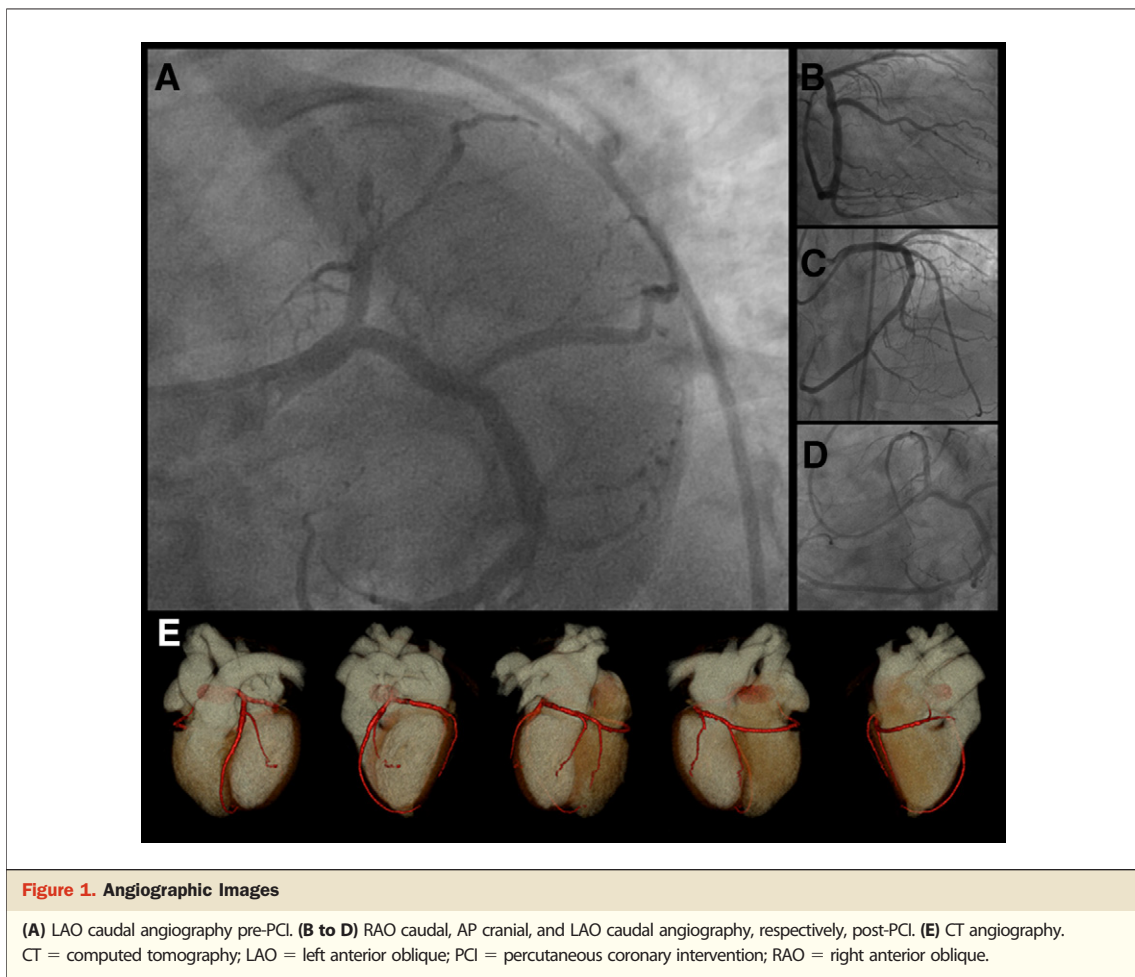


Figure 1. Angiographic Images

(A) LAO caudal angiography pre-PCI. (B to D) RAO caudal, AP cranial, and LAO caudal angiography, respectively, post-PCI. (E) CT angiography. CT = computed tomography; LAO = left anterior oblique; PCI = percutaneous coronary intervention; RAO = right anterior oblique.

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catheter (Cordis). The culprit lesion was identified in the mid-left anterior descending artery (LAD), and he underwent successful thrombus aspiration and percutaneous coronary intervention (PCI). Subsequent angiography showed Thrombolysis In Myocardial Infarction (TIMI) flow grade 3 in the LAD, and a dominant left circumflex (LCX) artery that continued in the atrioventricular (AV) groove to supply the RCA distribution. Gated computed tomography (CT) angiography confirmed that this patient had an L-I type single coronary artery. A single coronary artery is a rare anomaly that has been reported in 0.024% to 0.066% of catheterizations (1). Angiographic still frames are shown: left anterior oblique (LAO) caudal angiography showing the thrombus occluding the mid LAD (Fig. 1A); right anterior oblique (RAO) caudal, anterior-posterior (AP) cranial, and LAO caudal views, respectively, after PCI showing the LCX continuing to supply the RCA distribution (Fig. 1B to 1D, Online Videos 1, 2, 3, 4, and 5); and CT angiography of this patient's coronary anatomy (Fig. 1E). Online Video 1 shows LAO caudal angiography pre-PCI. The mid-LAD is thrombotically occluded in the mid-vessel. Online Video 2 shows LAO caudal angiography post-PCI. After PCI, the LAD has TIMI flow grade 3. The LCX artery is seen to

continue in the AV groove to supply the RCA distribution. Online Video 3 shows AP cranial angiography post-PCI. The acute marginal and conus branches are also seen arising from the distal LCX artery. Online Video 4 shows RAO caudal angiography post-PCI and the extensive distribution supplied by the LCX artery. Online Video 5 shows rotating cardiac CT angiography. This is a reconstruction from gated CT angiography showing a 3-dimensional representation of this patient's coronary anatomy. Additional cine-angiographic images are available online.

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REFERENCE

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APPENDIX

For accompanying videos, please see the online version of this article.