Simultaneous thrombotic culprit lesions in two separate coronary arteries in a patient with ST-elevation myocardial infarction

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A 78-year-old male with no history of coronary artery disease presented to our emergency department with intermittent chest pain that had worsened over 5 days. Electrocardiogram showed ST elevation in V1 and V2 (Panel A). The patient was taken emergently to the cardiac catheterization laboratory, where he developed hypotension and bradycardia requiring placement of a transvenous pacemaker and an intra-aortic balloon pump. Transradial angiography of the left coronary system showed a 70% stenosis in the middle portion of the left anterior descending (LAD) coronary artery with haziness suggestive of thrombus (Panel B) and TIMI II flow. Aspiration thrombectomy of red and white thrombus was performed (Panel C), and a drug-eluting stent was placed. Despite an excellent angiographic result, the patient’s chest pain persisted and, during the procedure, he was noted to have new inferior ST elevations (Panel D). Subsequent angiography of the right coronary artery showed an 80% hazy stenosis in the middle portion of the vessel with TIMI II flow (Panel E). Aspiration thrombectomy of white and red thrombus was performed (Panel F), and a drug-eluting stent was placed, with resolution of the chest pain and ST elevations.

No atrial fibrillation was noted during admission, and there was no left ventricular thrombus on echocardiogram suggestive of an embolic source. Ultimately, our patient had simultaneous, active, thrombotic, culprit lesions in two separate coronary arteries—a phenomenon that has rarely been described in case reports and series. It is possible that our patient’s anterior ST elevations were reciprocally neutralizing inferior ST elevations, which were then unmasked after reperfusion of the LAD.