

BACKGROUND

- Coronary artery embolism (CAE) is a rare clinical entity and remains an under-recognized etiology for acute myocardial infarction (AMI) with non-obstructive coronary arteries.

CASE PRESENTATION

- A 67-year-old female presented with epigastric pain, nausea, and vomiting for 1 day. Initial exam and labs were unremarkable except for elevated hemoglobin (17.1 g/dL) and LDL (177 mg/dl).
- Five hours later, she developed sudden onset chest pain with inferior ST segment elevations on EKG.
- During emergent coronary angiography, initial access from the right common femoral artery (CFA) revealed a large clot.
- Subsequent angiogram via the left CFA showed 80% mid-RCA stenosis without evidence of plaque rupture.
- A large clot was noted in the mid LAD, treated with aspiration thrombectomy, and there was an additional 95% stenosis at the bifurcation of a circumflex marginal.
- Absence of a culprit lesion in the RCA territory could be explained by distal clot embolization.
- Echocardiogram noted normal biventricular systolic function with mild hypokinesis of the apical inferior wall.

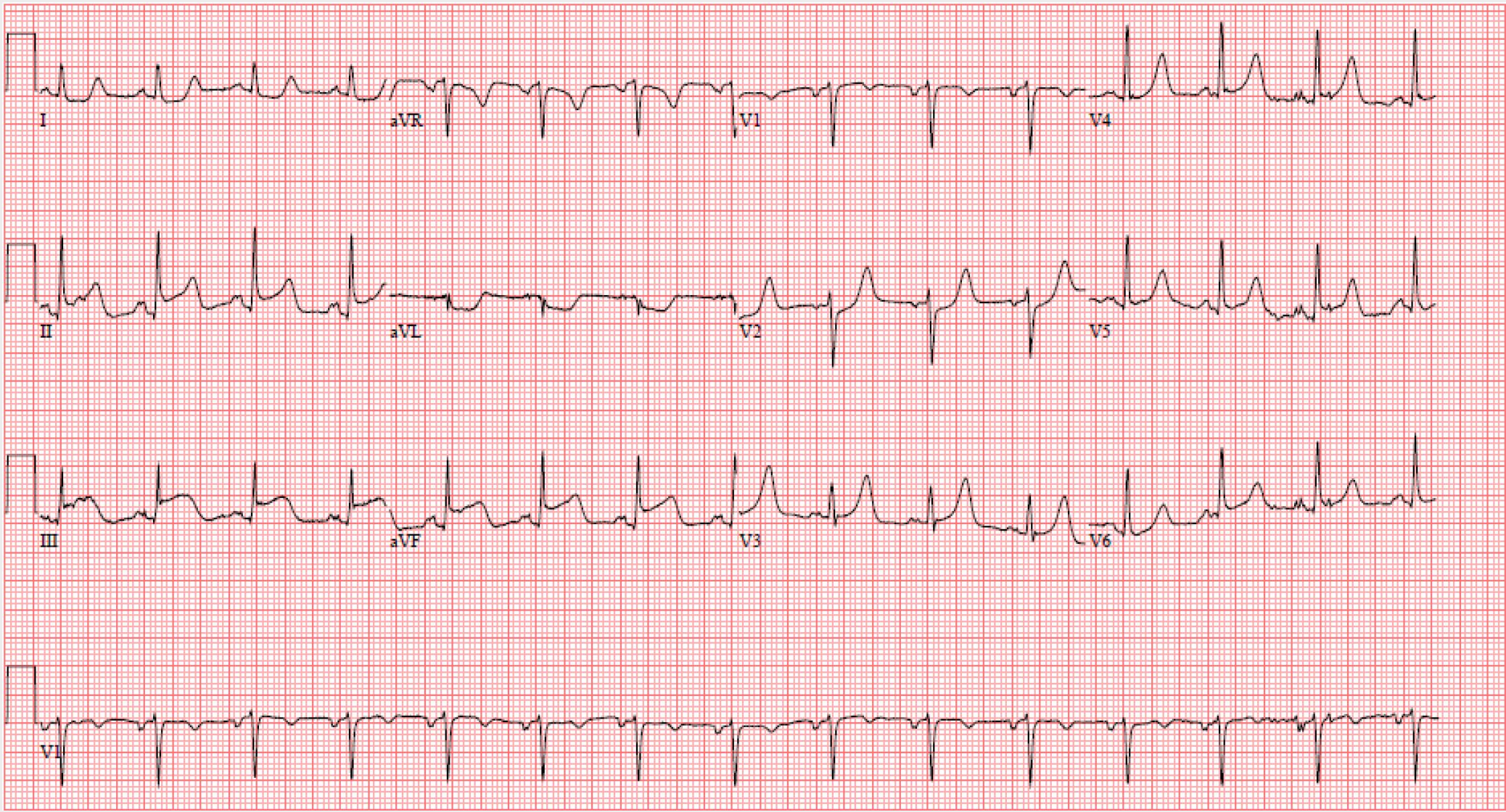


Figure 1: EKG demonstrating inferior ST segment elevations with reciprocal changes

FIGURES

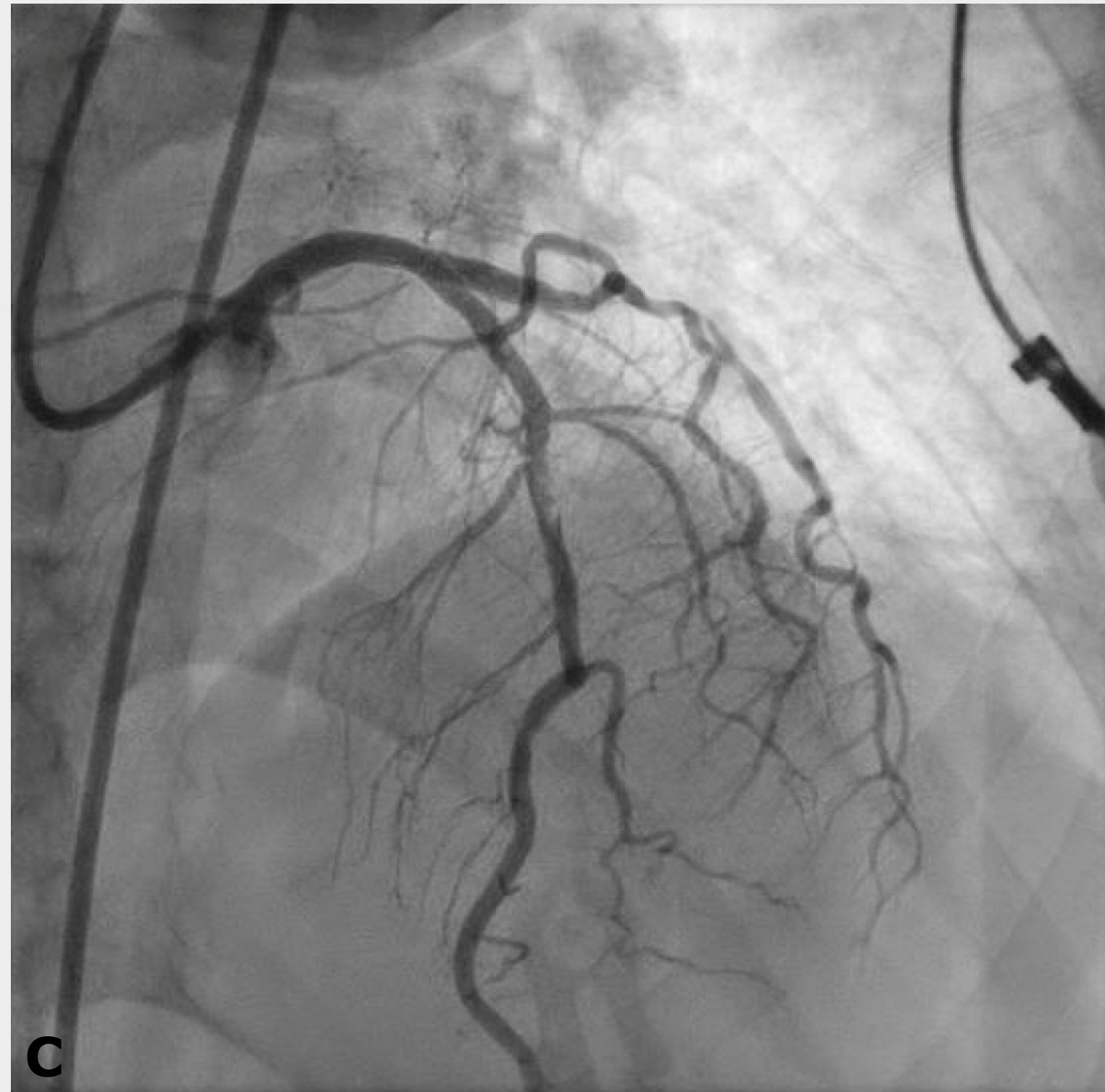
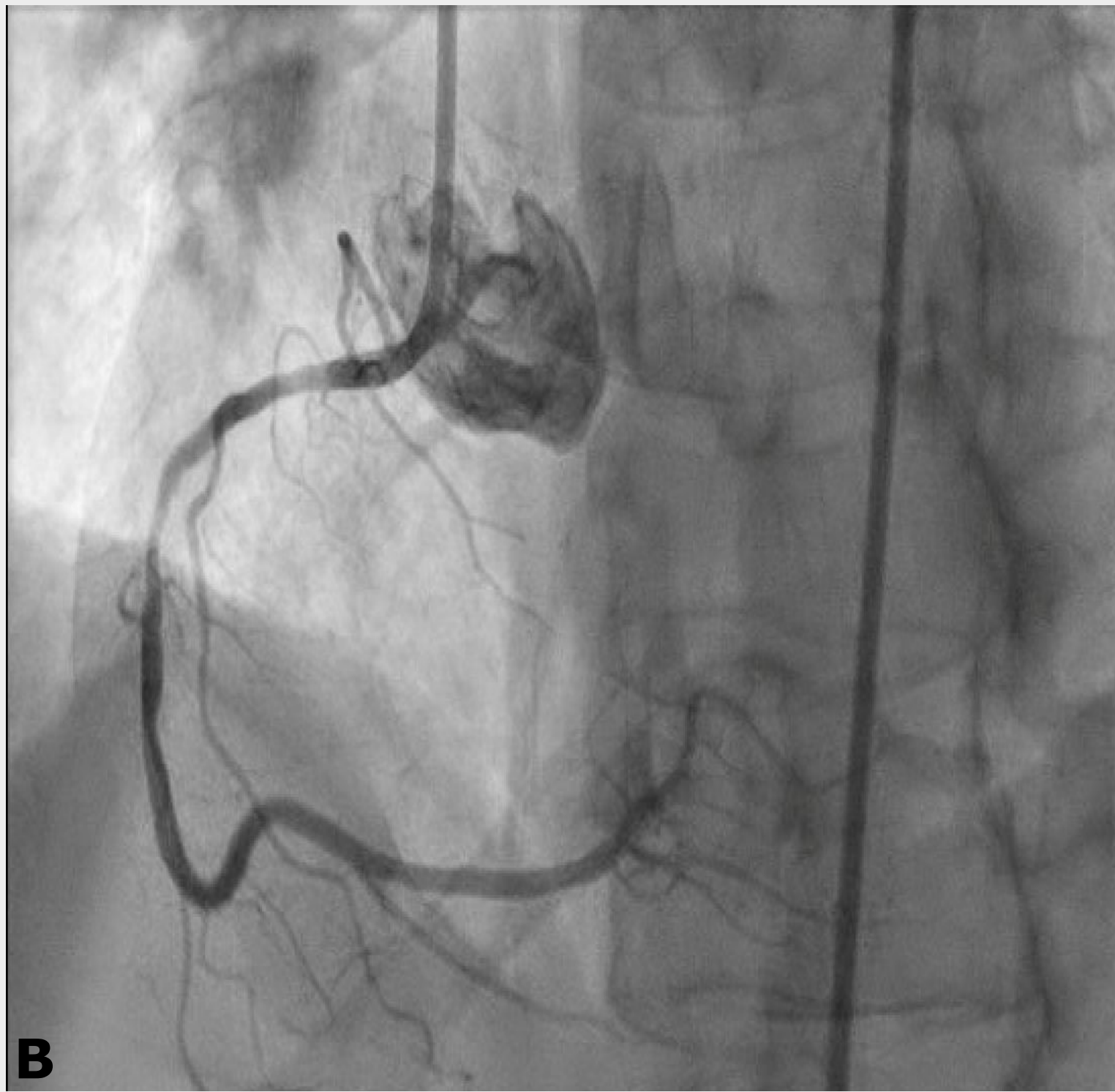


Figure2: Coronary Angiography. *Panel A* demonstrates the clot noted on the right common femoral artery access. *Panel B* represents stenosis without plaque rupture in the middle portion of the right coronary artery. *Panel C* represents a clot in the middle portion of the left anterior descending artery.

HOSPITAL COURSE

- Post-procedurally, the patient remained on heparin and eptifibatide drips.
- Course was complicated by access site bleeding and bilateral groin hematomas requiring temporary discontinuation of anticoagulation.
- CTA performed for ongoing abdominal pain revealed splenic infarcts without mesenteric ischemia and resolution of the right CFA clot.
- A tiny pseudoaneurysm of a small left CFA branch was also noted. PCI of the residual lesions was deferred in the setting of multiple access site complications.
- In the setting of abdominal pain, no identifiable culprit lesion on angiography, splenic infarcts, and significant clot burden on imaging, the AMI was suspected secondary to CAE to the RCA that passed into the distal circulation at the time of coronary angiography.
- However, the embolic source could not be identified. Testing for hypercoagulable states including polycythemia vera was unremarkable, and 30-day rhythm monitoring was prescribed to rule out atrial fibrillation.
- The patient had subsequent resolution of chest pain and was empirically started on apixaban in addition to aspirin, high-intensity statin, and a beta blocker.

DISCUSSION

- We report a rare case of AMI secondary to embolic phenomenon. The natural history, etiopathogenesis, and long-term outcomes of CAE are poorly understood.
- CAE usually is due to an underlying cardiac or systemic disease and presents as a diagnostic challenge.
- Additionally, it requires thorough investigations with an individualized and exact diagnostic and therapeutic approach.
- Further prospective mechanistic studies are needed to elucidate this disease process.

DISCLOSURE INFORMATION

The author declares that he has no relevant or material financial interests that relate to the research described in this paper.