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Concomitant Presentation With Cardioembolic Ischemic Stroke and Non ST Elevation Myocardial Infarction in a Patient With New Onset Atrial Fibrillation

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Introduction

Although Atrial Fibrillation (AF) is a common cause of ischemic stroke, it rarely causes acute coronary syndromes (ACS). Cardioembolic events from AF cause considerable morbidity and mortality. Concomitant ischemic stroke and ACS remains an exceedingly rare event.

We describe the case of a patient presenting with cardioembolic ischemic stroke and acute coronary syndrome.

Case Presentation

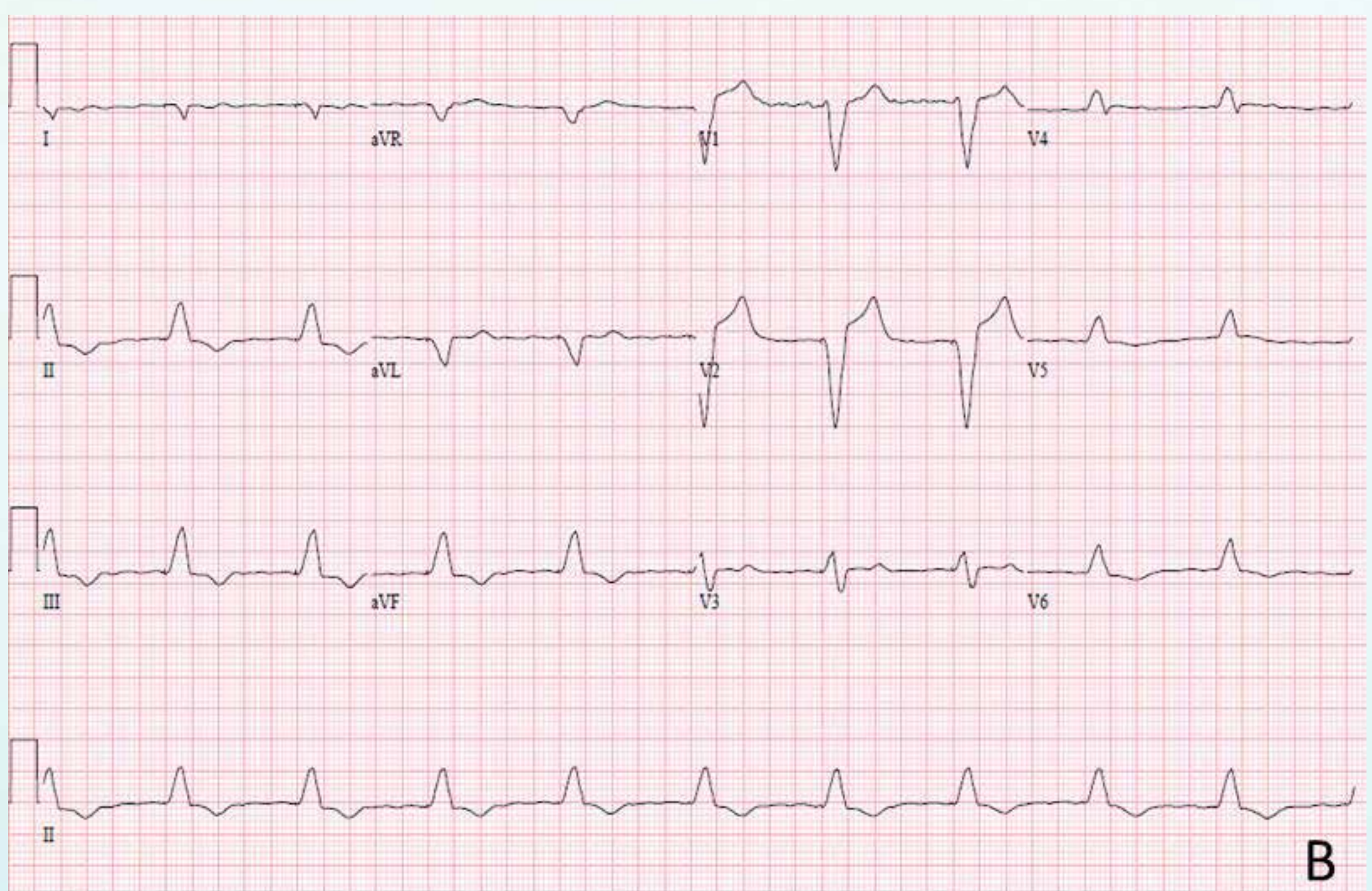
An 83 year old male with a prior history of heart failure with preserved ejection fraction, permanent pacemaker for complete heart block, and chronic kidney disease on hemodialysis presented with acute left sided facial and extremity weakness, gait ataxia and profound dysarthria. Physical examination and stroke work up demonstrated right M1 territory ischemic stroke (A). EKG demonstrated AF with ventricular pacing (B). The patient subsequently underwent emergent right middle cerebral artery thrombectomy. Device interrogation confirmed new

onset AF for ten days. Hemodynamic instability and up trending troponin post-procedurally prompted an echocardiogram which demonstrated new LAD wall motion abnormality with an ejection fraction of 15%. The patient underwent cardiac catheterization with coronary thrombectomy for a 100% mid-LAD occlusion with good angiographic result (C, D). He was initiated on intravenous anticoagulation in the setting of AF. Unfortunately, given his significant comorbidities and need for multiple vasopressors, the patient succumbed to his profound cardiogenic shock.

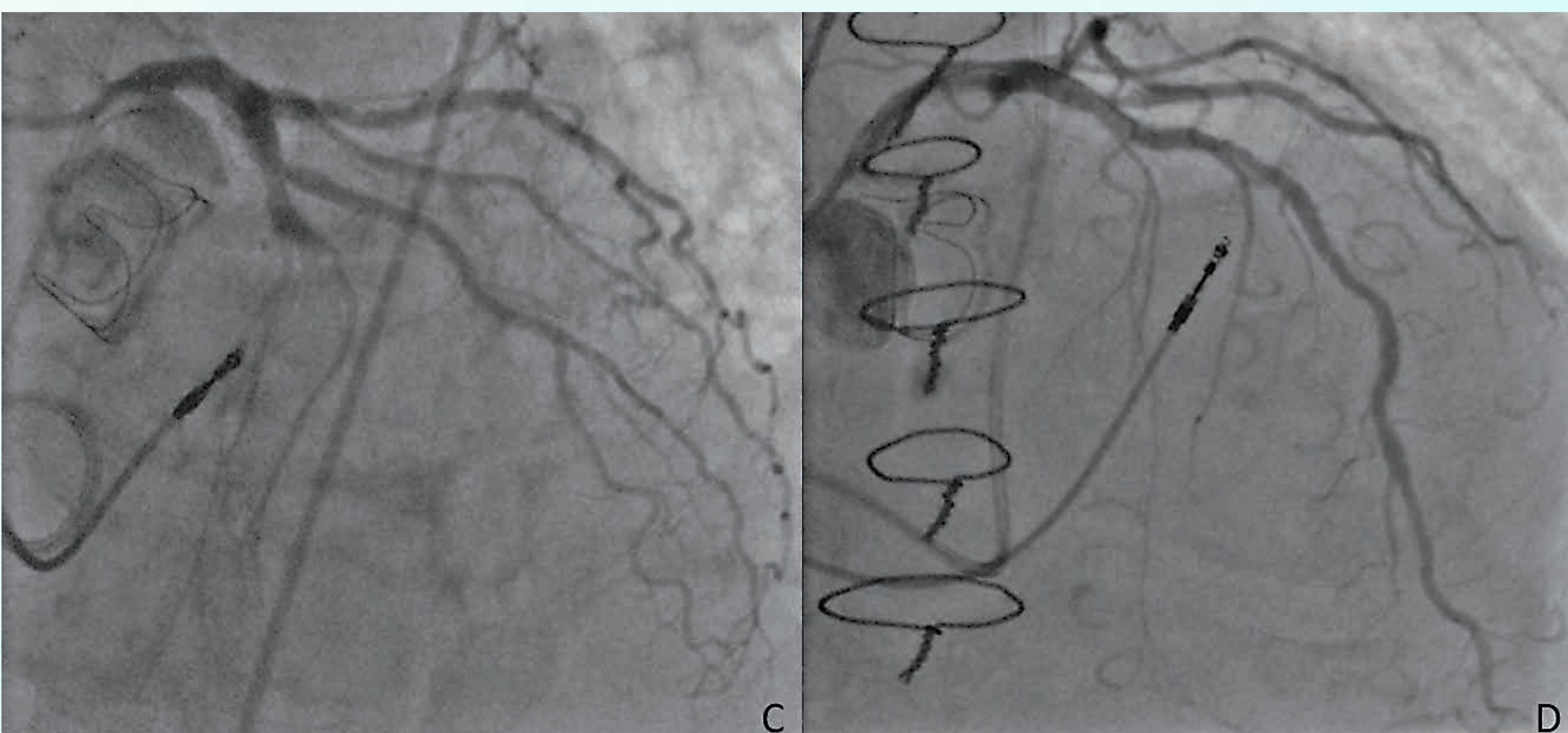
Discussion

This case highlights that clinicians should maintain a high degree of suspicion for coronary embolic phenomena in patients presenting with clinical or biochemical signs of acute MI in the setting of AF and its sequela. Though the most common cause of MI is atherosclerotic plaque rupture, coronary embolism is the underlying etiology in 3% of cases. The most common complication of AF is thromboembolic ischemic stroke and portends significant morbidity and mortality. Expedious identification of at risk patients is critical to appropriate and timely coronary revascularization with thrombectomy or coronary stenting.

A) Computed tomography angiography demonstrating a right MCA M1 territory thrombembolus.



B) Electrocardiogram demonstrating a ventricular paced rhythm with underlying atrial fibrillation.



C/D) Coronary angiography demonstrating middle left anterior descending artery lesion with 100% occlusion and TIMI 0 Flow. Post-thrombectomy coronary angiography demonstrating TIMI 3 flow and 30% residual stenosis

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DISCLOSURES:

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