Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Complex Clinical Cases

STEMI FOLLOWING MRNA COVID-19 VACCINATION

Poster Contributions
For exact presentation time, refer to the online ACC.22 Program Planner at https://www.abstractsonline.com/pp8/#!/10461

Session Title: Complex Clinical Cases: FIT Flatboard Poster Selections -- Covid
Abstract Category: FIT: Coronavirus Disease (COVID-19)

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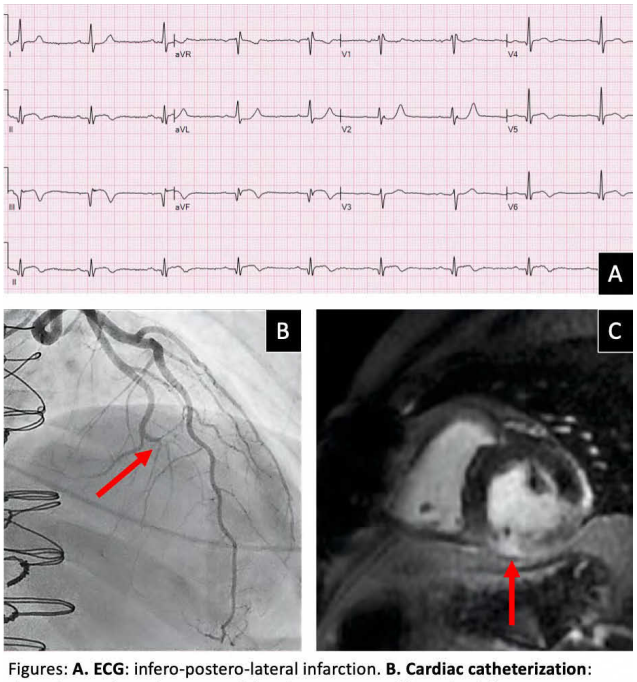
Background: We review the evaluation of a man with evidence of ST-elevation myocardial infarction (STEMI) after mRNA COVID-19 vaccination.

Case: A 37-year-old man with a history of hypertension, bicuspid aortic valve and coarctation repair noted malaise and body aches 9 days after a second dose of the Moderna mRNA vaccine as well as an episode of atrial fibrillation (AF) recorded by his Apple watch. Self-limited exertional chest pain and shortness of breath ensued. His physician saw him 10 days later; troponin I was 0.29ng/mL and ECG noted inferoposterolateral infarction [A]. Cardiac catheterization noted a thrombus at the distal obtuse marginal branch trifurcation [B]. Transthoracic echocardiogram showed right coronary and left circumflex artery territory wall motion abnormalities. Cardiac MRI noted late gadolinium enhancement in a vascular distribution consistent with MI in the inferior and inferolateral region [C].



Figures: **A. ECG**: infero-postero-lateral infarction. **B. Cardiac catheterization**: thrombus at the trifurcation of the obtuse marginal branch of the LCx artery. **C. Short axis delayed enhancement image:** demonstrates transmural hyperenhancement (arrow); the small dark signals within the hyperenhanced region suggest microvascular obstruction.

Decision-making: The STEMI was thought to be related to the left circumflex artery thrombus, possibly embolic due to AF; the possibility of plaque rupture, thrombosis and distal embolization could not be excluded. He was treated with aspirin, metoprolol, rosuvastatin, apixaban and losartan and recovered uneventfully.

Conclusion: Vaccine related myocarditis has been described in this patient's demographic. However, we posit that this patient's STEMI was due either to transient AF or plaque rupture. The timing suggests that the vaccine provoked an etiologic hypercoagulable state.