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

BRISK LEFT VENTRICULAR THROMBUS FORMATION IN THE SETTING OF HFREF AND RECENT COVID-19 INFECTION

Poster Contributions
Saturday, May 15, 2021, 1:15 p.m.-2:00 p.m.

Session Title: Complex Clinical Cases: FIT COVID-19 1
Abstract Category: FIT: Coronavirus Disease (COVID-19)

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Background: Left ventricular (LV) thrombus is a serious and potentially fatal complication associated with ischemic cardiomyopathy and heart failure with reduced ejection fraction (HFrEF), typically discovered in the LV apex. The combination of slow blood flow, dilated cardiac chambers, and endothelial dysfunction all work synergistically to create a breeding ground for thrombus formation. In this regard, more recently, SARS-CoV-2 infection has been associated with increased risk for arterial and venous thromboembolic events and may represent a novel additional trigger for LV thrombi formation.

Case: A 62-year-old female with recently diagnosed ischemic cardiomyopathy presented with left sided chest pain and dyspnea. Preliminary workup several weeks prior at an outside hospital revealed normal troponin levels, a 12-lead electrocardiogram with non-specific ischemic changes, a transthoracic echocardiogram revealed reduced LV ejection fraction < 20% and inferolateral basal aneurysmal remodeling. At our institution, a cardiac catheterization revealed chronic total occlusion of the proximal right coronary artery retrograde filled. A repeat echocardiogram demonstrated a new 2.1 x 1.3 cm globular LV thrombus near the mitral valve. COVID-19 testing revealed recent infection.

Decision-making: She was started on an infusion of unfractionated heparin with appropriate PTT response as a bridge to definitive therapy with warfarin. HFrEF guideline directed medical therapy was started. Given earlier imaging lacking the LV thrombus, we suspect that recent COVID-19 infection may have played a role in the pathogenesis. At one-month follow up, she endorsed improvement of symptoms and transthoracic echocardiogram revealed mild decrease in thrombus size.

Conclusion: LV thrombus is a life-threatening complication of HFrEF given the potential for embolization. Especial concern and clinical suspicion need to be raised in patients with COVID-19 infection given the possible increase on baseline hypercoagulable state, triggering rapid formation of thrombus as suggested in this case.