Inflamed Heart

Atypical case of SARS-CoV-2 induced myopericarditis

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Objectives

- To examine an atypical presentation of myopericarditis due to SARS-CoV-2 infection.
- To educate clinicians on the importance of keeping this etiology in the differential diagnosis when evaluating patients with chest pain during this pandemic.

Case Report

20-year-old obese man with family history of premature coronary artery disease who presented with new onset chest pain that woke him up from his sleep. His chest pain was pressure like, severe, non-radiating, ongoing for more than 30 minutes. In the ED he had normal vital signs, ECG revealed ST segment elevations in inferior and lateral leads, with troponin peaking to 7.72 ng/ml, negative drug screen, and SARS-CoV-2 PCR resulted positive. Patient was loaded with aspirin, given ticagrelor, and started on heparin. He was subsequently taken for cardiac catherization, which revealed no significant coronary artery disease with elevated left ventricular end diastolic pressure. A follow up CTA with pulmonary embolism protocol was negative for pulmonary emboli. A transthoracic echocardiograph showed normal left ventricular ejection fraction with no regional wall motion abnormalities. Given this work up, patient was diagnosed with SARS-CoV-2 induced myopericarditis and was treated conservatively with aspirin and was scheduled for a follow up transthoracic echo.

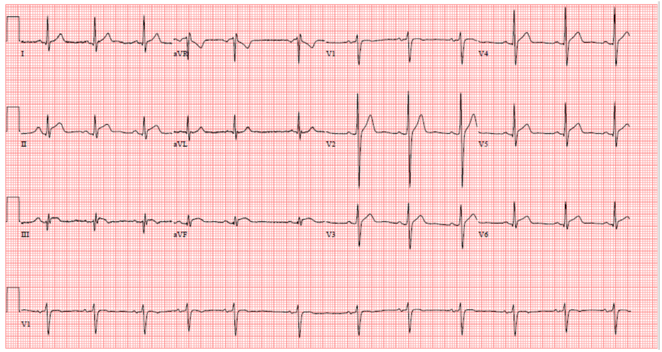

Figure 1.ECG

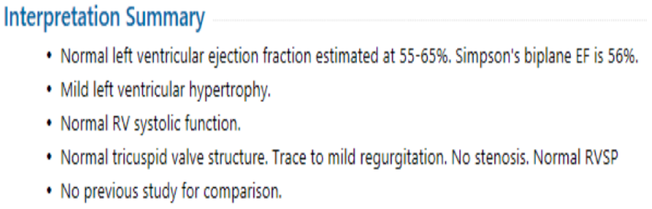

Figure 2. TTE

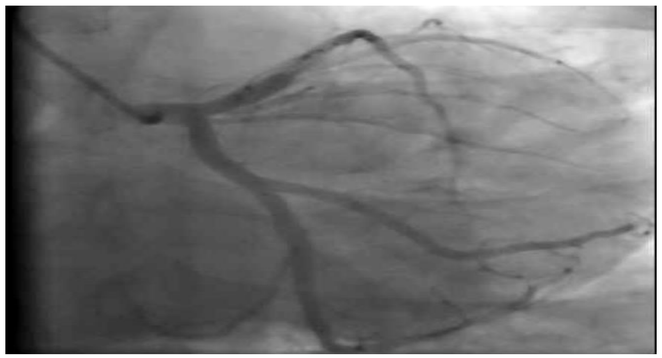

Figure 3. Coronary Angiogram

Discussion

Myopericarditis often presents with a viral prodrome followed by a constellation of symptoms including chest pain, dyspnea, dizziness, myalgias, fatigue. Rarely do patients present with isolated chest pain. There have been case reports describing myocarditis attributed to SARS-CoV-2, yet these patients present also with typical symptoms as mentioned above.

This case illustrates an atypical presentation of SARS-CoV-2 induced myopericarditis. This patient was quite young and did not present with a viral prodrome as seen in majority of myopericarditis patients. Few case reports which have described myopericarditis involved patients who also had reduced left ventricular ejection fraction, which was not the case with this patient. Clinically suspected myopericarditis is not a common cause of myocardial injury, and has myriad of clinical presentations. We suspect it is likely underdiagnosed in patients with SARS-CoV-2 infection. It is thought the underlying mechanism of myocarditis is due to direct myocardial necrosis from the virus itself as seen in post-mortem pathology reports. Furthermore, myocarditis has been reported as the cause of death in some SARS-CoV-2 patients, thus, it is important to be cognizant of myocarditis as a possible sequela of SARS-CoV-2 infection and to keep it in the differential diagnosis of chest pain given the current pandemic

References

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