Poster No. 25

COVID-19: NOT JUST A RESPIRATORY ILLNESS

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INTRODUCTION

Cardiac manifestations of coronavirus 2019 (COVID-19) are common but often missed because patients might be either asymptomatic with or without clinical signs, or symptomatic of heart failure. Arrythmia is one of the most common features of COVID-19-related myocarditis and here we present a case of a 25 year old man with no previous medical illness, who was diagnosed as COVID-19-related myocarditis.

CASE REPORT

This patient was initially admitted to our Low Risk Quarantine and Treatment Centre for mild COVID-19. Upon his daily assessment, he complained of palpitations and had persistent tachycardia ranging from 120-145 beats per minute (bpm); hence he was transferred to our Emergency Department. He otherwise denied any respiratory symptoms.

During our examination, he had an episode of symptomatic bradycardia ranging from 50-55 bpm which spontaneously reverted. Soon after, he developed stable supraventricular tachycardia (SVT) (Figure 1a) that was initially resistant to carotid massage and intravenous (IV) adenosine. It was eventually reverted to sinus tachycardia after he was given IV verapamil 5 mg. His subsequent electrocardiogram (ECG) (Figure 1b) showed sinus rhythm with paroxysmal ventricular and atrial complexes.

He had type one respiratory failure and his chest X-ray showed bilateral ground glass opacities (Figure 2). His initial troponin level was raised at 0.76 ng/mL as was his serum ferritin, at 695.3 µg/L. He underwent Computed Tomography Pulmonary Angiogram (CTPA) which showed features of organizing pneumonia but no evidence of pulmonary embolism. His echocardiography (ECHO) showed no regional wall motion abnormality. He was admitted to the Intensive Care Unit (ICU), responded well to antiviral and high dose steroid therapy. He was discharged well after one week.

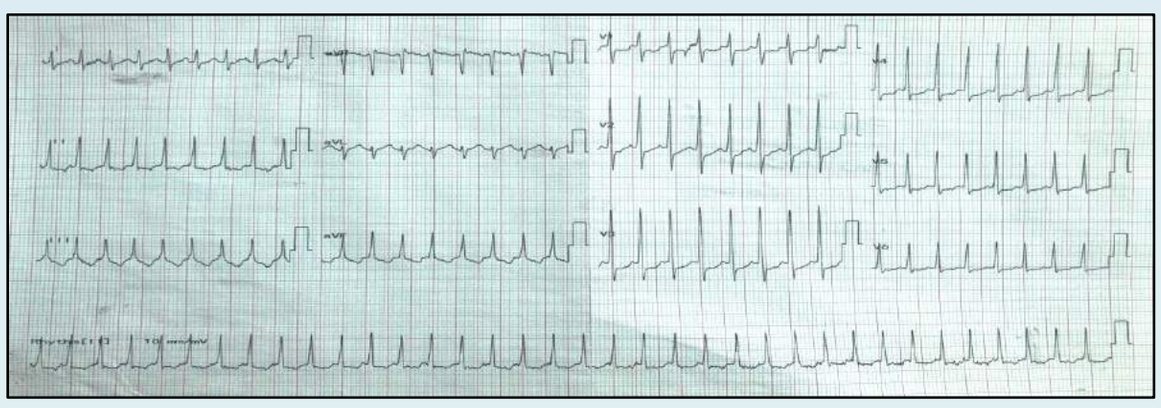

Figure 1a: ECG during SVT.

Figure 1b: ECG after IV verapamil 5 mg.

DISCUSSION

COVID-19 could lead to myocardial injury directly via viral-induced myocarditis or secondary to stress, hypoxia, ischemia, cytokine storm or right heart strain.[1] When investigated on infected animals, researches suggested that these coronaviruses might have cardiotropism effect.[1] COVID-19 patients with new-onset heart failure or ECG abnormalities including cardiac arrhythmias, combined with elevated troponin level, should point towards the diagnosis of myocarditis or myocardial injury.[2]

The American Heart Association (AHA) and European Society of Cardiology (ESC) recommends cardiovascular magnetic resonance (CMR) and endomyocardial biopsy (EMB) as diagnostic tools for myocarditis and to differentiate the condition from other cardiac diseases.[1] Nonetheless, further assessment would only be necessary if it would change the treatment especially when there are restrictions of resources and expertise.[1]

CONCLUSION

COVID-19-related myocarditis is challenging to diagnose and manage due to its chameleonic manifestations and restrictions of further diagnostic modalities due to the disease transmissibility, but a high index of suspicion could help prevent potential morbidity and mortality.

Figure 2:
Chest X-ray on the day of admission

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DECLARATION OF CONFLICT

Both authors declare there is no conflict of interest in the publication of this article.

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