

Letter to Editor

Clinical challenges of stress cardiomyopathy during coronavirus 2019 epidemic



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ABSTRACT

A type of viral pneumonia that broke out in Wuhan, China in December 2019, and new strains of it are spreading rapidly around the world, is called coronavirus disease 2019 (COVID-19). The incidence of cardiovascular complications has increased both in the general population and in patients diagnosed with the disease during the COVID-19 epidemic. One of the conditions is stress cardiomyopathy, which may be related to COVID-19. During the COVID-19 epidemic, stress cardiomyopathy may be present as a complication of acute infection or as an indirect consequence of quarantine. These conditions have created complications in patient care that have led to increased adverse outcomes, hospitalization, and medical costs. Stress cardiomyopathy is caused by various emotional and physical stressors such as anger, sadness, happiness, surgery, multiple medications, general anesthesia, and infectious diseases. The outbreak of the new coronavirus has posed an ongoing challenge for these patients with several medical and economic consequences. Providing useful information on stress and COVID-19 to people with heart disease and their families can be very important, and also, education and psychotherapy of heart patients can reduce the number of hospitalization and their complications.

Dear Editor,

Coronavirus disease 2019 (COVID-19), which broke out in Wuhan, China in December 2019, is a type of viral pneumonia that has spread rapidly around the world. The World Health Organization (WHO) has said that the virus has caused a global health emergency [1, 2]. It is now well known that COVID-19 patients with comorbid non-communicable diseases such as chronic obstructive pulmonary disease, a history of coronary heart disease, infarct, diabetes, hypertension, and malignancy, are weaker against COVID-19 and have a higher mortality rate [3]. COVID-19 has also been shown to cause cardiovascular symptoms, such as arrhythmia, heart failure, acute coronary syndrome, myocarditis, and cardiogenic shock. Recent COVID-19 research has identified and reported another new entity called stress cardiomyopathy or broken heart syndrome [4]. Stress cardiomyopathy presents with

acute symptoms of stress and its reversible period. During this epidemic, the psychological stress caused by the COVID-19 (lockdown, economic downfall, unemployment, etc.) is known to cause acute stress [5]. In addition, previous data suggest that this type of cardiomyopathy is associated with depressive disorder, sickness or death of a loved one, hospitalization, relocation to another place, unemployment, bankruptcy, etc. These are considered to be some of the most common emotional stimuli associated with stress cardiomyopathy in healthy people. Clinically, this entity mimics the condition of other heart diseases and appears in the patient primarily with chest pain and shortness of breath, and with immediate treatment, has a favorable result [3, 4]. It is common to see that these patients have heart problems but have no significant medical history in the past [6].

There is evidence that the incidence of

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mental health disorders (such as self-injury, insomnia, anxiety, depression, etc.) has increased during the epidemic and that these factors may contribute to the development of stress cardiomyopathy. In addition, patients admitted to intensive care units and COVID-19 experience a period of stress with varying degrees of stress, anxiety, and depressive symptoms, and are therefore more exposed to stress cardiomyopathy [7]. With that in mind, if a COVID-19 patient shows signs and symptoms of cardiomyopathy, with a new electrocardiogram (ECG or EKG) changes (ST-segment elevation and T wave inversion), a slight increase in the cardiac biomarkers such as cardiac troponin and brain natriuretic peptide (BNP) and no signs of coronary artery occlusion and presence of left ventricular apical ballooning syndrome, a possibility of stress cardiomyopathy should be considered as a differential diagnosis. In such a patient, a thorough examination of the mental state is needed to understand the extent of stress, depression, and anxiety [8].

Having COVID19 and then being hospitalized or isolated from family is a stressful life event that, in the context of COVID19, can be viewed as a powerful emotional stimulus to predispose a person to stress cardiomyopathy [9]. Overall, the daily lives of people around the world have been severely affected by the COVID-19. In the meantime, it is important that patients with the COVID-19 not only be physically safe but that their mental and emotional health be taken care of. In these circumstances, social distance and the resulting isolation can affect the health of these patients and make it more difficult for them to cope with the disease. Effective measures must be taken to find immediate and long-term solutions to this problem. Therefore, recognizing the problems of patients with COVID-19 can provide the basis for effective prevention, education, intervention, and treatment for these patients.

Conflict of interest

The authors declare no conflict of interest.

Consent for publications

The authors read and proved the final manuscript for publication.

Availability of data and material

All data generated during this study are included in this published article.

Authors' Contribution

All authors had an equal role in study design, work, analysis and manuscript writing.

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Ethics approval and consent to participate

The study does not need ethical approval.

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