



Adult patients with congenital heart disease during the Coronavirus disease 2019 epidemics

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Letter to Editor

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Dear Editor

Coronavirus, which is a new pathogen, is now almost an emerging infectious disease; we still have little knowledge about the effect of virus on adult patients with congenital heart disease (CHD).¹ CHD is the most common congenital defect, with around 1 million adult patients in North America and 1.2 million in Europe. Today, more than 90% of these patients reach adulthood due to the advancement of surgical methods and medical management approaches.² Despite the progress made in various fields of treatment of patients with CHD, many of them still have significant residua which increases their mortality and morbidity when faced with viruses.³

As mentioned above, this group of patients has different underlying diseases, such as renal dysfunction, hematologic problems, iron and vitamin D deficiency, pulmonary disorder, and ventricular dysfunction, which make them more vulnerable during epidemic viral infections.⁴ In addition to the underlying diseases, the risk of developing other comorbidities such as hyperlipidemia, hyperuricemia, and diabetes mellitus in these patients is higher than that in general population.²

The severe acute respiratory syndrome coronavirus 2 causes direct injury to lung epithelial cells, which can cause severe pneumonia. In addition, to the severe inflammatory response, there is a possibility of multi-organ damage and disseminated intravascular coagulation in some groups of patients.¹ Due to the novelty of this virus and lack of sufficient information about the different mechanisms of pathogenesis and possible harms, it is recommended that special attention be paid to the adult patients with CHD, and that there should be effective patient-physician relationship to overcome the possibility of developing underlying

disorders. In addition to the above-mentioned advices, early diagnosis and effective treatment of associated disorders in these patients will play an important role in improving prognosis.

Although no studies have been performed on the effects of the severe acute respiratory syndrome coronavirus 2 on adult patients with CHD, they should be considered among high-risk groups due to their unique condition because of their anatomical and physiological stage classification.

To sum up, regarding the high incidence of pulmonary disorders in adult patients with CHD, particularly restrictive pattern and direct damage to lung epithelia reported in severe acute respiratory syndrome coronavirus 2, special attention should be paid to these patients, especially those with lung disorders including Fontan circulation, Tetralogy of Fallot, and pulmonary stenosis.

Conflict of Interests

Authors have no conflict of interests.

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