

People with Heart Disease have to be more Vigilant so as to Avoid COVID-19

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Abstract

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes coronavirus disease 2019 (COVID-19). COVID-19 has not only spread in Indonesia, it has even become a world health problem. World Health Organization (WHO) reported that cases of COVID-19 globally there have been 44,888,869 confirmed cases, including 1,178,475 deaths. Until October 29th 2020, Indonesia's population who confirmed for COVID-19 (confirmed cases) had reached 404,048 (+3,565 new cases), 60,569 active cases (15.0% of confirmed cases), 329,778 patients had recovered (81.6% of confirmed cases), and 13,701 died (3.4% of confirmed cases). Several case reports suggest that heart injury occurs in COVID-19 patients. Many cases in COVID-19 patients who died from complications of heart disease. Nevertheless, there remains hope that COVID-19 patients with complications of heart disease will be cured. This hope is proven by anti-inflammatory glucocorticoid and immunoglobulin therapy.

Keywords: SARS-CoV-2; COVID-19; Heart disease; Anti-inflammatory glucocorticoid; Immunoglobulin therapy

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Letter

Our society now understands that severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes coronavirus disease 2019 (COVID-19). COVID-19 is a global health problem and not only in Indonesia [1]. The World Health Organization (WHO) reported that on December 5th, 2020, 00:09 GMT, cases of COVID-19 globally there are 64,603,428 confirmed cases, the number of deaths 1,500,614 and 220 Countries, territories or territories with cases [2]. The Indonesian government formed a Task Force for The Acceleration of Handling COVID-19 (Satuan Tugas Percepatan Penanganan COVID-19) under the control of The National Disaster Management Agency (Badan Nasional Penanggulangan Bencana=BNPB), The Government of The Republic of Indonesia. Based on data from the agency, until December 5th 2020, Indonesia's population who confirmed for COVID-19 (confirmed cases) had reached 569,707 (+6,027 new cases), 81,669 active cases (14.3% of confirmed cases), 470,449 patients had recovered (82.6% of confirmed cases), and 17,589 died (3.1% of confirmed cases) [3].

This paper focuses on the number of deaths due to COVID-19, comorbidities of heart disease that accompany the death process. Heart disease is one of the top 3 diseases that accompany COVID-19 patients in Indonesia. Several cases of death due to COVID-19 related to heart disease have been reported. One of

the heart complications that occur in COVID-19 patients is cardiac injury or myocarditis. It is further explained that the occurrence of cardiac injury or myocarditis in COVID-19 patients is a complicated process. It has been reported that a 38 year old Indonesian man became a COVID-19 patient and reportedly suffered a cardiac injury. The mechanism of cardiac injury in COVID-19 patients still needs to be explored. Therefore it needs proper diagnosis and treatment from the beginning of the treatment for COVID-19 patients [4]. Other studies have also reported that the coronavirus is associated with acute myocarditis. In detail, that angiotensin-converting enzyme 2 (ACE-2) receptor binding with the virus spike protein, furthermore increased of cytokine secretion, thus hypoxia and induced cardiac myocyte apoptosis [5]. Another case of COVID-19 from Indonesia was also reported that is a 51 year old man. These patient died within eight days of being admitted to the hospital with sudden cardiac arrest complication. In addition, these patient also had acute respiratory distress syndrome. It should be noted that this patient had comorbidities, namely diabetic ketoacidosis and hypertension [6]. Beside that, in the case study, it was found that the aorta was enlarged in the cadaver [7], but still needs to be explored further is there an association between aortic enlargement with heart and blood vessel disorders in COVID-19 patients.

Apart from the two cases mentioned above, it was also reported that heart injury increases the risk of death in patients

hospitalized with COVID-19 in Wuhan, China. The results of this study reported that eighty-two out of 416 patients hospitalized with COVID-19 (19.7%) had heart injuries [8]. The results of this study accordance with the statement that heart injury occurs in COVID-19 patients [9]. Beside that, the results of the other study concluded that heart injury can occur in the early stages of COVID-19. The occurrence of heart injuries is associated with a high incidence of death. This studies were conducted on 73 patients consisting of 49 men and 24 women. These patients were aged between 24-79 years with a mean age of 58.36 years [10]. Based on the results of research in China, it was reported that the frequency of acute myocardial injury in COVID-19 patients varies considerably. The report also noted that there were differences in the basic characteristics of the study, including age, sex and comorbidity. The report is also recorded about the difference in the percentage of comorbidities in COVID-19 patients, including hypertension, diabetes and chronic obstructive pulmonary disease [11]. We argue that difference in the percentage of comorbidities in these studies certainly affects the frequency of acute myocardial injury in COVID-19 patients. It has been studied that one of the causes of acute myocardial infarction includes thrombosis in the coronary artery and causes complications, including ventricular arrhythmia and heart failure [12].

There is good news, that COVID-19 patients with complications of heart disease have successfully recovered with anti-inflammatory glucocorticoid and immunoglobulin therapy. Initially a male COVID-19 patient was hospitalized with complaints of chest pain

and shortness of breath accompanied by diarrhea. Symptoms in this patient have appeared since the last 3 days before being admitted to the hospital. The cardiac chamber dimensions of this patients increased in a short period of time and quickly returned to normal after treatment with anti-inflammatory glucocorticoid and immunoglobulins. Therefore the anti-inflammatory therapeutic actions of glucocorticoids and immunoglobulins may have important value for this type of COVID-19 patient [13].

Previously we gave a message to the elderly suffering from hypertension and diabetes mellitus to live healthy so that avoid SARS-CoV-2 infection [14]. Currently, we should have a healthy lifestyle to avoid heart disease. For people with heart disease have to be more vigilant so as to avoid COVID-19.

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Competing Interests

The author completed the ICMJE Unified Competing Interest form (download from <http://www.icmje.org/conflicts-of-interest/>) and declare no conflicts of interest.

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