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Short Communication

Cardiac Management in Covid-19 Patients

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Abstract:

Coronavirus disease 2019 (COVID-19) was initially identified in late December 2019 in Wuhan, China. COVID-19 has spreaded swiftly over the planet, becoming a global pandemic affecting over 200 nations and territories, having an extraordinary impact not only on public health but also on social and economic activity.

Key words: cardiac management; cardiac patient; covid-19

Introduction

Coronavirus disease 2019 (COVID-19) was initially identified in late December 2019 in Wuhan, China. COVID-19 has spreaded swiftly over the planet, becoming a global pandemic affecting over 200 nations and territories, having an extraordinary impact not only on public health but also on social and economic activity [1-3]. The exponential surge in the number of COVID-19 patients over the last 6 months has overburdened health-care systems in several nations throughout the world [4]. With the rapid increase in confirmed cases, the cardiovascular diseases (CVDs) induced by SARS-CoV-2 have generated considerable concern. A study of 138 hospitalized patients with COVID-19 showed that 7.2% had an acute myocardial injury. Huang et al. reported that 12% of COVID-19 patients were diagnosed as having an acute myocardial injury. COVID-19 patients with underlying coronary artery disease (CAD) who develop myocardial injury (MI) were found to have poorer in-hospital outcomes [5,6].

Patients with COVID-19 who have cardiac difficulties are at a greater risk of morbidity and death. They may have the following cardiac complications: worsening of a prior cardiac issue, acute heart failure (AHF), acute myocarditis, acute coronary syndrome (ACS), acute stent thrombosis, venous thromboembolism, and different arrhythmias. Some individuals may arrive with ACS-related ECG abnormalities but non-significant lesions. Other people may have severe cardiomyopathy with normal coronaries (Takotsubo-like syndrome). Some individuals may experience negative effects with COVID-19 medication, such as the hydroxychloroquine-azithromycin combination, which can result in a deadly extended QT interval. These patients should be investigated as follows: CBC, ESR, CRP, D dimers, cardiac troponin, ECG (to assess ischemia, arrhythmia, and QT interval), CXR (to assess signs of cardiomegaly or pneumonia), echocardiography (to assess LV diastolic dysfunction, LVEF, valvular lesions, and pericardial effusion), coronary angiography if indicated, PCR to nasopharyngeal swabs and CT chest. Most cardiac drugs, such as antiplatelets, statins, and RAS blockers can be safely continued after the diagnosis of COVID-19 [7,8].
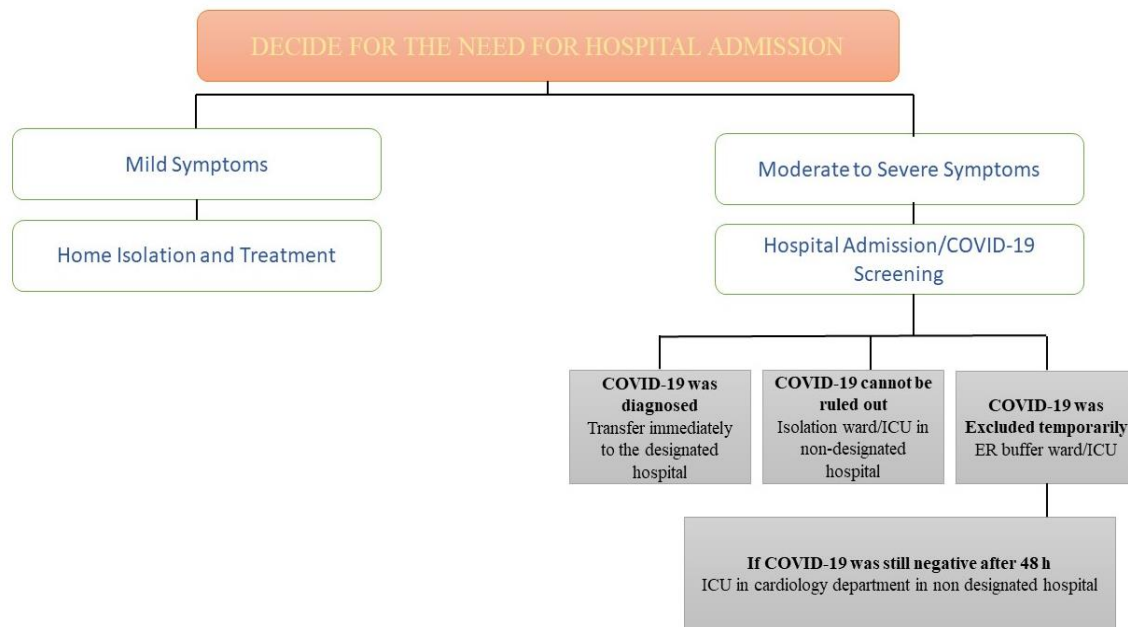
Figure 1: *Management of cardiac patient with respiratory symptoms (suspected COVID-19) in a non-designated hospital.*

Principle Recommendations during Covid-19 Pandemic

During the pandemic, hospitals should be divided into two main categories:

A. COVID-19 designated hospitals—for patients infected with the virus. These hospitals will need all specialties including cardiologists.

B. Non-COVID-19 designated hospitals—for noninfected patients with other diseases. Yet, due to the long incubation period of the virus and the presence of asymptomatic infection, the potential infection risk of medical staff in non-designated hospitals exists. Moreover, some COVID-19 patients may present with what looks like cardiac complaints and this puts cardiologists at risk of getting the infection [9].

Management

Patients with CVDs are more likely to suffer a MI and have a poor prognosis. CV biomarkers should be regularly tested on all COVID-19 hospitalised, especially those with pre-existing CVDs. Although these individuals required very minor cardiac care, the CVDs was found to be strongly associated with death in COVID-19 individuals. Increased TnT levels may aid in the identification of high-risk individuals and may need a change in care plan. Furthermore, cardiac concerns may be concealed since individuals who diagnosed with severe respiratory problems might swiftly worsen before cardiac difficulties become evident [10].

Managing CV risk factors may thus safeguard against more chronic COVID-19 disease. To do this, innovation must be applied in novel ways. Teleconsultations are used to provide general care and cardiac support in various nations. When services are disrupted for an extended period, pragmatic methods to person monitoring are required. Certain medical gadgets and mobile applications, for example, might be used to detect arrhythmias [11].

There is a need to determine the most critical CV complication that might contribute to the development of the illness to focus medical personnel's attention on potential problems. Additionally, psychological counselling should be offered to individuals to ensure that everyone is aware of the facts of the matter and to better equip people to deal with their hospitalisation and following COVID-19 follow-up [12]. Patients with high blood pressure, diabetes, and/or obesity are a high-risk category that should be constantly watched in hopes of avoiding or cure potential consequences from SARS-CoV-2 illness. Males and individuals over the age of 60 with serious infection are of particular concern, as they have been demonstrated to have a longer duration of virus in stool, serum, and respiratory samples [13]. We presently have little information on the potential CV problems that may emerge because of CoV. So far, there has only been speculation regarding the molecular impacts on cardiomyocytes and endothelial cells, as well as a probable elevated risk of HF in the future. Nevertheless, due to the rising recognition of CVD impairment in this condition, a longer term follow up of severe COVID-19 survivor will be required to answer this issue.

The World Heart Federation Science (WHF) Committee will continue to closely monitor the evolving nature of the data on COVID-19 and its potential link with CVDs. They strive to keep updating the latest information on the clinical implications of COVID-19 outbreak on CVDs and organize webinars involving expert panellists to share experience of the front-line health workers managing COVID-19 and CVDs. Furthermore, WHF COVID-19 CVD global survey will provide key insights to inform clinical and policy practices, for a better understanding of the CVDs that increase the risk of developing severe COVID-19, and a better characterization of cardiovascular complications in hospitalized patients with COVID-19.

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