

Editorial



The Impact of COVID-19 on Heart Failure: What Happened to the Patients with Heart Failure Who Could Not Visit Our Clinic Amid the COVID-19 Pandemic?

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Coronavirus disease 2019 (COVID-19) is evolving as a global pandemic. COVID-19 has rapidly spread worldwide and a large number of patients are developing severe pneumonia, requiring mechanical ventilation.¹⁾ Although vaccines for COVID-19 are currently available, their protective effect remains under investigation. There are currently no effective treatments for patients with COVID-19. Since the beginning of the COVID-19 pandemic, the best approach to control the spread of COVID-19 has been social distancing, quarantine, and isolation of infected patients.²⁾ National and regional governments have decided to implement business closures, travel restrictions, and some countries have enforced extensive societal lockdowns.³⁾ These changes have resulted in the disruption of daily routines. Patients with cardiovascular symptoms were more likely to seek alternative treatments and stay home rather than visiting hospitals due to fear of contracting COVID-19. Furthermore, hospitals have intentionally reduced non-emergent medical care to focus on the treatment of COVID-19 patients. During the lockdown in the United Kingdom, the hospitalization rate for acute decompensated heart failure (ADHF) was significantly decreased when compared to that in the same period in 2019; however, the severity of heart failure (HF) was higher.⁴⁾ A similar trend—a lower incidence rate and higher mortality rate—was observed in patients with acute myocardial infarctions in a study from Italy.⁵⁾ These findings suggest that the care of patients with cardiovascular disease amid the COVID-19 pandemic is not only a medical issue but also a serious social complication, which requires the intervention of the public healthcare system.

In 2020 December issue of *International Journal of Heart Failure*, Burgos et al.⁶⁾ reported the incidence rate and outcomes of ADHF at a national referral center in Argentina, amid the COVID-19 pandemic. Hospitalizations due to ADHF had declined from 79 to 60 patients, corresponding to a 25% decrease, in March through June 2020 relative to that in the same period in 2019. The in-hospital mortality rate did not differ from before to that after the COVID-19 pandemic. Interestingly, patient referrals from other clinics decreased significantly (31.6% to 15%) during the pandemic compared to that in the same period in 2019. The use of mechanical ventilation and mechanical circulatory support also decreased during the COVID-19 pandemic compared to that in 2019. Before the COVID-19 pandemic, this center performed five emergency heart transplantations in four months; however, none were

performed during the pandemic. The decrease in the number of referral patients and those with severe HF imply that patients with HF who would previously be referred for advanced treatment may not have been referred due to the COVID-19 pandemic and lockdown of the referral system. The authors have stated that this could be the main cause of the decreased incidence of ADHF. Some limitations of the current study need discussions. The number of HF patients is small and only a single center with an advanced HF clinic participated in the study. Further studies with a large HF population and multiple centers are needed to develop health care policies for the care and referral of patients with HF during a pandemic. Despite these limitations, this study has an important message for public health: urgent attention is needed to understand the changes in the incidence rates and pattern of ADHF during the pandemic. This understanding can assist in planning an appropriate and timely referral system for patients with advanced HF during the COVID-19 pandemic.

A study on the longitudinal outcomes in patients with cardiovascular disease (CVD) in 2020 (post-COVID-19 era) compared to that in 2019 (pre-COVID-19 era) is lacking. In the Danish national registry study, the overall in-hospital and out-of-hospital mortality rate in patients with established CVD (more than 300,000 patients) were compared between 2019 and 2020.^{7,8)} During and after lockdown, the overall mortality rate of patients with CVD in the Danish population was not significantly different compared to that in the same period in 2019. However, in the analysis of in-hospital and out-of-hospital mortality rates, the result was different. During the lockdown, the in-hospital mortality rate was lower; however, the out-of-hospital mortality rate was significantly higher than that in the preceding year. These findings were consistent in the subgroup with HF. The higher severity of and mortality due to COVID-19 in patients with CVD were previously reported and well-announced to the public.⁹⁾ Patients with CVD may be less likely to visit hospitals due to the fear of contracting COVID-19, which may result in the increased out-of-hospital mortality in the Danish population. Amid the COVID-19 pandemic, the lockdown policy and reorganization of the healthcare system, rather than the COVID-19 pandemic *per se*, may have changed the longitudinal outcomes in patients with cardiovascular diseases, including HF. These findings suggest that the public health message to “stay at home” should be different. Adherence to HF medications and tailored dose adjustment by HF experts are important factors to improve clinical outcomes and quality of life in patients with HF.¹⁰⁾ Public health messages for patients with HF should reinforce the adherence to guideline-directed medical therapy (GDMT) and emphasize the need for consulting their physicians if they experience cardiovascular symptoms suggestive of worsening HF.¹¹⁾¹²⁾

Patient-centered care has been the main concept of modern medicine. However, a perspective for the community- and public-centered care systems is required amid the COVID-19 pandemic. The Argentinian study during the ensuing humanitarian crises conveys important messages. It is time that clinicians and HF experts need a question: What happened to our HF patients who did not or could not visit their HF clinics amid the COVID-19 pandemic? This question should be linked to our efforts to reinforce the adherence to GDMT and reorganize health care systems, such as telehealth monitoring for patients with HF, amid the COVID-19 pandemic.⁶⁾ In addition, this effort will lead to developing strategies on how to manage patients with HF in the next unexpected pandemic.

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