

COVID-19 and Heart Failure Outcomes: Readmission Insights from the 2020 United States National Readmission Database

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Abstract : Background: Although heart failure is one of the most common causes of hospitalization in adult patients, there is limited knowledge on outcomes following initial hospitalization for COVID-19 with heart failure (HCF-19). We felt it pertinent to analyze 30-day readmission causes and outcomes among patients with HCF-19 using the United States using real-world big data via the National readmission database. Objective: The aim is to describe the rate and causes of readmissions and morbidity of heart failure with coinciding COVID-19 (HFC-19) in the United States, using the 2020 National Readmission Database (NRD). Methods: A descriptive, retrospective study was conducted on the 2020 NRD, a nationally representative sample of all US hospitalizations. Adult (>18 years) inpatient admissions with COVID-19 with HF and readmissions in 30 days were selected based on the International Classification of Diseases-Tenth Revision, Procedure Code. Results: In 2020, 2,60,372 adult patients were hospitalized with COVID-19 and HF. The median age was 74 (IQR: 64-83), and 47% were female. The median length of stay was 7(4-13) days, and the total cost of stay was 62,025 (31,956 - 130,670) United States dollars, respectively. Among the index hospital admissions, 61,527 (23.6%) died, and 22,794 (11.5%) were readmitted within 30 days. The median age of patients readmitted in 30 days was 73 (63-82), 45% were female, and 1,962 (16%) died. The most common principal diagnosis for readmission in these patients was COVID-19= 34.8%, Sepsis= 16.5%, HF = 7.1%, AKI = 2.2%, respiratory failure with hypoxia =1.7%, and Pneumonia = 1%. Conclusion: The rate of readmission in patients with heart failure exacerbations is increasing yearly. COVID-19 was observed to be the most common principal diagnosis in patients readmitted within 30 days. Complicated hypertension, chronic pulmonary disease, complicated diabetes, renal failure, alcohol use, drug use, and peripheral vascular disorders are risk factors associated with readmission. Familiarity with the most common causes and predictors for readmission helps guide the development of initiatives to minimize adverse outcomes and the cost of medical care.

Keywords : Covid-19, heart failure, national readmission database, readmission outcomes

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