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## Heart Failure and Cardiomyopathies

### IMPACT OF HEART FAILURE ON COVID-19 PNEUMONIA HOSPITALIZATIONS: ANALYSIS OF THE NATIONAL INPATIENT SAMPLE 2020

Poster Contributions  
Poster Hall\_Hall F  
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**Background:** SARS-CoV-2 swept across the globe, overwhelming healthcare systems regardless of borders and socioeconomic factors. While many were directly affected by COVID pneumonia (CP), others were impacted by the lack of access to healthcare. Those with heart failure (HF) are particularly vulnerable and if left unmanaged, pulmonary edema can develop, impacting the poor pulmonary reserve in CP patients. We aimed to assess the impact of CP on patients with underlying HF.

**Methods:** We utilized the National Inpatient Sample from 2020 to identify 1,058,815 hospitalized adults with CP. These hospitalizations were further stratified based on the presence of HF. A multivariate regression model was used to adjust for confounders and analyze the variables.

**Results:** Of those who were admitted for CP, 164,025 (15%) had HF. In-hospital mortality was higher in those with HF (19.5% vs 9.5%;  $p<0.001$ ). *Figure 1* shows the Forrest plot for multivariate analysis of in-hospital outcomes when adjusted for patient demographics, comorbidities, and hospital characteristics. When adjusted similarly, CP patients with HF had longer length of stay (LOS) by 1.4 days ( $p<0.001$ ) and had additional hospital costs (HC) of \$15,131 ( $p<0.001$ ).

**Conclusion:** CP patients who had HF had significantly worse outcomes in terms of in-hospital mortality, LOS, HC, cardiac arrest, arrhythmias, sepsis, cardiogenic shock, and being intubated. These patients poorly tolerate hypervolemia and pulmonary edema due to already reduced pulmonary reserve.

Figure 1. Impact of HF on Outcomes in COVID Hospitalizations

