



## COVID-19 INFECTION AND HEART FAILURE EVENTS

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### Introduction

COVID-19 pandemic has an impact on HF management, possibly leading to an increase in HF mortality, while history of HF is a risk factor for a more severe clinical course of COVID-19.

**Keywords:** heart failure, SARS-COV-2, risk factors

### Purpose

The aim of our study is to analyze the complex interconnection between the COVID-19 and heart failure events.

### Results

Of all patients in the CVDRF (cardiovascular disease risk factors) cohort, 13 (15%) patients experienced HF events at admission or during hospitalization, of which 40 (46%) patients in the HF subgroup and 7 (8%) in the non-HF subgroup, the latter accounting for 40% of all observed HF events. In the CVDRF cohort, patients with an HF event were at a two-fold increased risk for in-hospital mortality compared with those without HF events,  $P < 0.001$ , OR 3.10 [2.24–4.29]), even after adjustment for age, sex, risk factors, and co-morbidities. Interaction for HF events and age was significant ( $P = 0.023$ ). Age, CV diseases, CV risk factors, history of HF, atrial fibrillation, and CKD were significantly associated with HF events.

### Material and methods

The research included 89 COVID-19 patients, admitted to the cardiology department 18-91 years, the mean age being of  $67,23 \pm 13,20$  years, whereas 47% (42 pts) were men and 53% (47 pts) were women. Physical examination, ecg and echocardiography, laboratory parameters were collected: general blood count, natriuretic peptides, aspartate aminotransferase (AST), alanineaminotransferase (ALT), albumin, creatinine, serum sodium and potassium, D-dimers, and INR.

### Conclusions

This study demonstrates a higher mortality for hospitalized COVID-19 patients with HF compared with patients without HF, even after adjustment for other conditions and co-morbidities.

