

Prognostic role of serum albumin level in heart failure patients: a real-life experience

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Background

Hypoalbuminemia is associated with poor prognosis, mostly in elderly patients or in patients with comorbidity. Heart failure (HF) patients are often elderly and have many comorbidities resulting in a worse nutritional status, which may favor the presence of low serum albumin.

Several studies have investigated the prognostic role of hypoalbuminemia in patients in intensive care settings with acute HF. This study investigated the effect of serum albumin level on survival in patients with chronic HF, admitted in a medium-intensity care setting, after the acute phase stabilization in Emergency Department.

Methods

Study population included 71 patients (45 women, 63%) with HF (mean age: 77.39 ± 10.06 years) admitted to the Emergency Department of our hospital ("Ospedale del Mare" of Naples, Italy) and were subsequently clinically stabilized and transferred to the General Medicine Department from January 1 to December 31, 2022. Patients were stratified into reduced ejection fraction (HFrEF), mildly reduced ejection fraction (HFmrEF) and preserved ejection fraction (HFpEF) according to European Society of Cardiology Guidelines.

Results

Overall, the three groups did not present significant differences for age, length of stay, serum albumin levels and other biochemical parameters. Mean survival was 182 days for HFrEF group (n= 38), 242 days for HFmrEF group (n=10) and 195days for HFpEF group (n=23). Mean albumin levels were 3.54 g/dL for HFrEF group, 3.56 g/dL for HFmrEF group, and 3.41 g/dL for HFpEF group. Serum albumin levels were associated to mortality in all subgroups (HR= 0.479; CI 95%= 0.236-0.972; p= 0.041).

Conclusions

HF is highly prevalent condition in older patients, in whom several comorbidities are often present, such as malnutrition, which worsen the prognosis. Hypoalbuminemia is independently associated with increased risk of death in HF patients, independent of left ventricular ejection fraction. Frailty assessment tools could be very useful in this cohorts of patients aiming at identifying and preventing conditions that burden the prognosis; however, are still underused in Emergency Department setting.

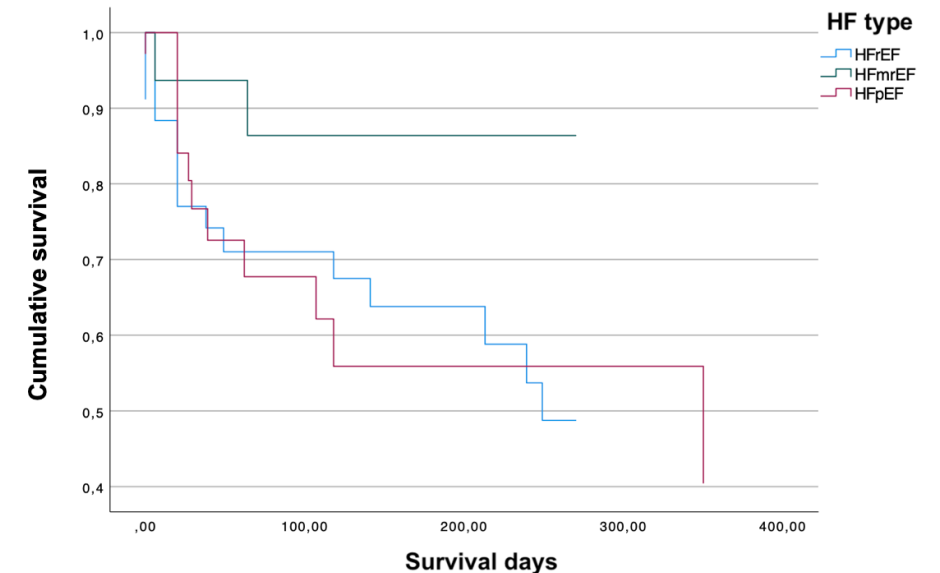


Figure 1. Survival function at mean of covariates. HF: heart failure; HFmrEF: heart failure with mildly reduced ejection fraction; HFpEF: heart failure with preserved ejection fraction; HFrEF: heart failure with reduced ejection fraction.