

# The correlation between body mass index, routine clinical and laboratory parameters and in-hospital survival in patients with acutely decompensated heart failure

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**Introduction:** Recent studies have investigated the existence of so-called "obesity paradox" in heart failure (HF) patients, suggesting that obese patients might have a better prognosis than underweight and normal weight patients.<sup>1</sup> It seems that body mass index (BMI) may be an independent prognostic factor in patients with acute and chronic HF.

**Patients and Methods:** We investigated the correlation between BMI, in-hospital survival and routine clinical and laboratory parameters in patients hospitalized for acutely decompensated HF.

**Results:** Total number of 145 patients (mean age 76±10.2 years) were divided in three groups: 37 with normal body weight (20-24.9 kg/m<sup>2</sup>), 64 overweight (25-29.9 kg/m<sup>2</sup>), and 44 obese patients (≥30 kg/m<sup>2</sup>) patients. At the end of approximately 9 days of hospitalization, 24 of all patients died (16.5%). In-hospital mortality was significantly lower in obese patients (7%; p=0.05). Patients with normal body weight were older than obese patients: 80 (75-87) compared to 72 (65-80); p=0.001 and significant negative correlation between BMI and patients age existed (r=-0.383; p<0.001). There was no significant difference in left ventricular ejection fraction between three compared groups of patients. Obese patients had significantly lower NT-proBNP (pmol/l): 319 (182-758) compared to overweight 862 (342-3013) and compared to normal body weight 1209 (616-2378); p=0.001, hs-cTnT (ng/l): 23 (15-57) compared to overweight 38 (27-70) and compared to normal body weight 44 (29-60); p=0.009 and serum urea (mmol/l) concentration: 8.1 (6.2-12.3) compared to overweight 9.7 (6.6-12.3) and compared do normal body weight 11.3 (8.2-14.7); p=0.039. No significant difference in serum creatinine, uric acid and hemoglobin existed, but significant negative correlation between BMI and NT-proBNP was found (r=-0.22; p=0.013).

**Conclusions:** In-hospital mortality was significantly lower in obese HF patients. Obese patients had significantly lower NT-proBNP, hs-cTnT and serum urea concentrations. There was significant negative correlation between BMI and NT-proBNP.

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## LITERATURE

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