

# Prognostic importance of body mass index in heart failure with preserved ejection fraction at mid-term follow-up

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**Aim:** To assess the prognostic importance of the body mass index (BMI) in heart failure with preserved ejection fraction (HFPEF) in a prospective study compared to heart failure with reduced ejection fraction (HFREF).

**Patients and Methods:** The study included a total of 109 patients (69 male, mean age 71±11 years) admitted to Medical wards for heart failure within one year's period (2010-2011). The follow-up was 24 months. The patients were divided into two groups based on left ventricular ejection fraction (LVEF); HFPEF with LVEF more than 40% (n=64) and HFREF with LVEF less than 40% (n=45). We analyzed cut-off points 18.5, 25, 30, 35 for BMI according to BMI classification (underweight, normal, overweight, moderately obese, severely obese). Cumulative endpoint was all-cause mortality or acute myocardial infarction or stroke. Data were analyzed using the JMP9 statistical program. Unless otherwise specified, the data are presented as means.

Received: 18<sup>th</sup> Apr 2014

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**Results:** BMI was significantly higher in HFPEF vs. HFREF (30.2 vs. 27.7, p<0.05). Severely obese patients were significantly more prevalent in HFPEF vs. HFREF (21% vs. 2%, p<0.01). The patients with HFPEF and BMI ≥35 had significantly higher cardiovascular (CV) mortality (39% vs. 12%, p<0.05), hospital mortality (31% vs. 8%, p<0.05) and higher prevalence of cumulative endpoint (54% vs. 24%, p<0.05) compared to patients with HFPEF and BMI <35. There was no significant difference in all-cause mortality. A multivariate logistic regression identified BMI as the only independent predictor of hospital mortality (OR 1.16 per unit, CI 1.03-1.35, p<0.05) in HFPEF but not in HFREF.

**Conclusions:** Patients with HFPEF have significantly higher BMI and higher prevalence of severe obesity (BMI >35). The patients with HFPEF and BMI ≥35 had significantly higher CV mortality, hospital mortality and higher prevalence of cumulative endpoint compared to patients with BMI <35. BMI was the only independent predictor of hospital mortality, but not of two-year CV and all-cause mortality, in HFPEF.

**KEYWORDS:** heart failure with preserved ejection fraction, body mass index, prognosis.

**CITATION:** *Cardiol Croat.* 2014;9(5-6):229.