

Differences in chronic heart failure treatment between patients with and without obesity in a large real-world heart failure population

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Funding Acknowledgement: Type of funding sources: None.

Background: Obesity is a well-established risk factor for the development of heart failure (HF). Numerous studies have demonstrated that HF patients with obesity have better prognosis and clinical outcomes compared to non-obese HF patients, a phenomenon commonly known as the obesity paradox. One of the proposed reasons for this paradox is that HF patients with obesity use more cardioprotective medication for the treatment of HF compared to HF patients without obesity. However, studies investigating treatment differences between HF patients with and without obesity are lacking.

Purpose: The aim of this study was to assess differences in HF treatment between patients with and without obesity in a large contemporary real-world cohort.

Methods: Patients with chronic HF with a left ventricular ejection fraction (LVEF) <50% and available information on body mass index (BMI) were selected from the CHECK-HF registry, which included chronic heart failure patients between 2013 and 2016 in 34 Dutch outpatient HF clinics. Patients were divided into those with BMI ≥ 30 kg/m² and those with BMI <30 kg/m². Detailed information on heart failure therapy prescription and dosage were recorded.

Results: A total of 7671 patients, of whom 1899 were obese (24.8%), were included in this analysis. Patients with obesity were younger, more often female and in NYHA class III/IV, and hypertension and diabetes were more prevalent in the obesity group. HF patients with obesity more often received beta-blockers (83.1% vs. 79.6%, $p=0.001$), renin-angiotensin system (RAS) inhibitors (84.8% vs. 80.8%, $p<0.001$), mineralocorticoid receptor antagonists (MRAs) (56.9% vs. 51.5%, $p<0.001$), and diuretics (87.4% vs. 82.8%, $p<0.001$) compared to HF patients without obesity. Furthermore, guideline-recommended doses of beta-blockers (23.5% vs. 16.4%, $p<0.001$), RAS-inhibitors (51.5% vs. 40.9%, $p<0.001$), and MRAs (57.9% vs. 49.2%, $p<0.001$) were significantly more often prescribed in patients with obesity (Figure 1). In multivariable logistic regression analysis, obesity was significantly associated with a higher likelihood to receive beta-blockers (OR 1.18 (1.02–1.38)), RAS-inhibitors (OR 1.25 (1.06–1.47)), MRAs (OR 1.15 (1.02–1.29)), and diuretics (OR 1.59 (1.34–1.89)).

Conclusion: In this large real-world HF registry, guideline recommended HF drugs were more frequently prescribed and at higher dose in patients with obesity as compared to HF patients without obesity.

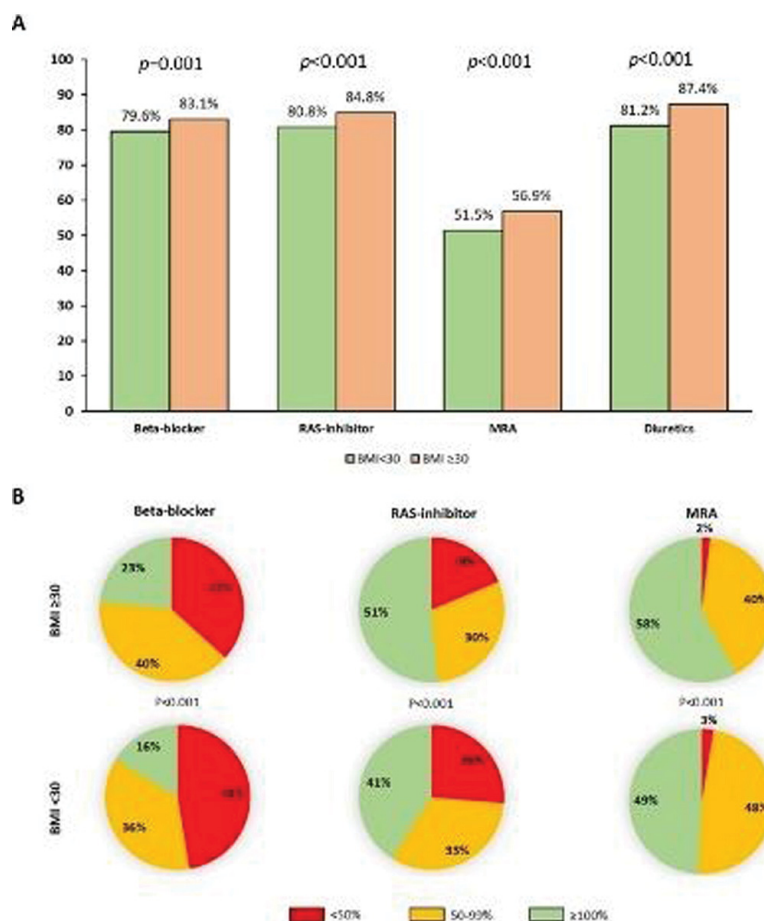


Figure 1