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## Control of blood pressure and related factors in heart failure in a heart failure program with a predominantly black and Hispanic population

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**Objectives:** To determine how blood pressure, according to the JNC 8 guideline, affected heart failure outcomes in our population.

**Background:** The JNC 8 hypertension guidelines were released in 2014 targeting higher blood pressure goals and in attempt to decrease the use antihypertensive medications. Metabolic syndrome was reported to increase cardiovascular complication and mortality in heart failure.

**Method:** 732 patients enrolled in our heart failure program were analyzed retrospectively. And 344 patients who had been followed since Jan 1<sup>st</sup> 2013 were included. We applied a blood pressure goal of less than 150/90 mmHg for patients 60 years of age or older who did not have diabetes or chronic kidney disease. Patients 18 to 59 years of age without major comorbidities, and those 60 years of age or older who had diabetes, chronic kidney disease, or both conditions, the new blood pressure goal is less than 140/90 mmHg. Based on ACC/AHA guidelines, heart failure is classified as a reduced ejection fraction(HFrEF, EF <40), preserved ejection fraction (HFpEF, EF>50) and heart failure with an improved ejection fraction(HFpEF(i),EF≥40). Metabolic syndrome was defined according to NCEP-ATP III. The data were analyzed using SAS Ver. 9.4.

**Results:** 95.9% (330/344) patients were controlled based on the new guidelines. Mean systolic blood pressure was 128.9±18mmHg in HFrEF and 125.1±17 mmHg in HFpEF. Metabolic syndrome [Odds ratio (OR): 0.119,95% Confidence Interval(CI): 0.048-0.284] ACE inhibitor [OR: 2.659,95% CI: 1.500-0.415] and lasix [OR: 1.904,95%CI: 1.068-3.394] were noted to significantly differentiate the controlled versus the uncontrolled BP group in reduced ejection fraction group of our cohort. And metabolic syndrome was associated with blood pressure control in preserved ejection fraction group [OR: 0.340, 95% CI: 0.140-0.827].

**Conclusion:** According to JNC 8, it appears our patients may be having their B.P. too tightly controlled. Also, this suggests that patients who enrolled in our heart failure program may need less intensive B.P. management. In addition, patients with metabolic syndrome might have association with blood pressure control, which means that metabolic derangement in HFrEF suggests paradoxical effect of metabolic syndrome on blood pressure control.

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