Acute heart failure: 24 hours blood pressure pattern correlates with left ventricular ejection fraction depression severity

Authors:
AM Gonzalez-Gonzalez¹, AM Garcia-Bellon¹, D Gaitan-Roman¹, R Vivancos-Delgado¹, ¹Regional University Hospital Carlos Haya, Clinical Management Unit (U.G.C.) Heart - Malaga - Spain

Topic(s):
Clinical

Introduction

Ambulatory blood pressure monitoring (ABPM) is routinely used in hypertension patients. However, its importance in acute heart failure (AHF) patients has been scarcely mentioned.

Purpose

To analyze possible differences in 24 h BP pattern in patients with AHF and Moderate (VEF 45-30%) or Severe (VEF <30%) Ventricular Ejection Fraction

Methods:

In 154 patients with AHF, an echocardiogram and a 24-hour Ambulatory Blood Pressure Measurement were performed. We comparatively study patients with moderate and severe left ventricular dysfunction (LVD)

Results:

154 patients (p) included in the study. The baseline characteristics of patients according to ventricular dysfunction: moderate: (82p 23.4% women, mean age 67.9, BMI 29.7 Kg / m2) versus Severe (72 p, 16.6% women, mean age 62 and BMI 30.6 Kg/m2). Prevalence (%) of hypertension (66 vs 56 (*)), diabetes (38.8 vs 34.1 (**)), and dyslipidemia (55.5 vs 31.7 (*)),. Regarding the etiology : hypertensive (36.1 vs 31.7 (**)), ischemic (30.5 vs 21.9 (*)), and enolic (11.1 vs 7.3 (**)) were significantly higher ( * = p <.001) (** = p <.05) among patients with severe ventricular dysfunction. Despite the fact that patients with severe ventricular dysfunction received a higher percentage of drugs (p <0.001): RAS blockers, beta-blockers, loop diuretics, and antialdosteronics. The comparative results between patients with moderate and severe ventricular dysfunction: 24h BP (mmHg). Systolic (S): (114.4 (*) 110.8) and Diastolic (D): (64.7 (ns) 64.8); Daytime: PAS (116 (**)) 108, and PAD (66 (ns) 66); Nocturnal SBP (111 (*) 108, and DBP (61 (NS) 61.5 mmHg) 24 h Pulse pressure (mmHg) (50 *) 46

Variability BP systolic (mmHg): (15.3 (*) 12.9) Non-Dipper Patterns (%): 58.1 vs 50 (*); Riser: 19.4 vs. 27 (ns). (*) = P <0.05; (**) = p < 0.001

In the logistic regression analysis, increased risk for severe left ventricular dysfunction were found for: Mean BP < 80 mmHg (OR 2.82; CI 95% 1,104- 7,392) and male gender (OR :3,62, CI 1,130 – 9,447. After correction for confounding variables, such as number antihypertensive agents)

Conclusions:

Patients with severe LVD showed lower 24 hours BP levels. Despite the use of greater number of antihypertensive agents, lower BP levels in these patients seem to be related mainly to functional left ventricular depression. In patients with AHF male gender and lower BP levels could be considered as a marker for severe left ventricular dysfunction.