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11.8 Addition of Canrenone to Optimal Therapy Improves Cardiac Geometry and Function in Patients with Systolic Heart Failure and Metabolic Syndrome: the AREA-IN-CHF Study

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Introduction. Metabolic Syndrome (MetS), negatively influences cardiac phenotype and cardiovascular outcome. Antialdosterone drugs have been suggested to reduce mortality in patients with heart failure (HF). There is no information on whether addition of antialdosterone therapy improves LV geometry and function in CHF patients with MetS already on optimal pharmacological treatment.

Methods. The AREA-IN-CHF (AntiRemodeling Effect of Aldosterone receptors blockade with canrenone IN mild Chronic Heart Failure) is a prospective, randomized, double-blind, placebo-controlled study on antialdosterone treatment in patients with class 2 NYHA chronic HF and systolic dysfunction, on optimal treatment. At baseline, 467 patients (age 62±10 years, 18% women) had available data for assessment of MetS. ATPIII definition of MetS was used, substituting waist girth with BMI>30 kg/m2.

Results. At baseline, among the 116 patients with MetS (25%; 62±9 years, 20 women), no differences were found comparing the canrenone (50%) to the placebo-group in anthropometrics (age, gender, BMI, heart rate and blood pressure), metabolic profile (creatinine, fasting glucose, HDL-C, triglycerides, BNP) and echocardiographic parameters (left ventricular [LV] mass index, left atrial diameter, relative wall thickness, LV ejection fraction, stroke volume, mitral E/A ratio, E deceleration time and IVRT; for all p=NS). After one year follow-up, the placebo group exhibited no significant variation in systolic blood pressure and heart rate. However a significant increase was found in LV mass (+4.01±1.07g/m2.7; p<0.01), without significant variation in other echocardiographic parameters. In contrast in the canrenone-group, while no significant variation in systolic blood pressure and heart rate were observed, significant reduction was found in LV mass (-5.82± 1.47g/m2.7), left atrial diameter (-0.28±0.09mm), B-type natriuretic peptide (-46.6±15.9pg/mL) paired with a and significant increase in LV ejection fraction (+3.0 5±1.04%; p for all <0. 005).

Conclusions. In class 2 NYHA chronic HF patients with MetS, canrenone significantly reduces B-type natriuretic peptide, LV mass and left atrial diameter and significantly increases LV ejection fraction, independently of blood pressure variation.