Interactions between ß 1 and ß 2 adrenergic receptor polymorphisms as risk factors for chronic heart failure Interacción entre los polimorfismos del receptor ß 1 y ß 2 adrenérgico como predictor de riesgo de insuficiencia cardiaca crónica

Moraga, Francisco

Troncoso, Rodrigo

Mellado, Rosemarie

Díaz-Araya, Guillermo

Vukasovic, José Luis

Greig, Douglas

Pérez, Osvaldo

García, Lorena

Roldán, Juan

Ocaranza, María Paz

Jalil, Jorge

Chiong, Mario

Castro, Pablo

Background: ß adrenergic receptors (AR) are highly polymorphic and important regulators of cardiovascular homeostasis. Among these, ß1 and ß2 AR regulate cardiac contractility and frequency and are important pharmacological targets. Aim: To evaluate genotype and gene-gene interaction between ß1-AR Arg389Gly and ß2-AR Arg16Gly, Gln27Glu and Thr164Ile polymorphisms, as risk factors for HF. Material and methods: Eighty chronic HF patients and eighty-eight controls matched by age and sex were genotyped for ß1-AR Arg389Gly, ß2-AR Arg16Gly, Gln27Glu and Thr164Ile polymorphisms. Results: The presence of ß2-AR Glu allele was a risk predictor for HF (odds ratio (OR) =2.81; 95% confidence intervals (CI) =1.49-5.31). Interactions that increased the risk for HF were found in patients carrying at least one of the ß2-AR Glu and ß2-AR Gly allele (OR =3.81; 95% CI =1.50-0.70) and ß2-AR Glu and ß1-AR Gly allele

combination (OR =5.51; 95% CI =2.19-13.86). Furthermore, the frequency of ß2-AR Glu allele w