

Abstract No. **30**

Category: **Heart Failure and Cardiomyopathies**

Title: **Heart Failure as a Factor Associated to Insulin Resistance in Patients with Chronic Chagas Cardiomyopathy: A non-metabolic model**

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**Abstract:**

Background: Heart failure (HF) and type 2 Diabetes Mellitus (T2DM) represent two chronic interrelated conditions accounting for significant morbidity and mortality worldwide. Insulin resistance (IR) has been clearly identified as a significant risk factor for HF, however, the risk of IR that HF confers has not been well elucidated. The present study aims to analyze the association between HF in Chronic Chagas Cardiomyopathy (CCM) patients and IR, taking advantage of the non-metabolic model this infectious disease represents.

Methods: Cross-sectional study performed in the Fundación Cardiovascular de Colombia during the period 2015-2016. Adults with serological diagnosis of Chagas disease were included, being divided in two groups: HF and no HF. IR was determined by HOMA-IR index. A bivariate analysis and a logistic multivariate regression adjusted by the main confounding factors were performed to determine the association between HF and IR.

Results: 200 patients were included in the study, finding a mean age of 54.7 years and a female predominance (53.5%). 74 (37%) patients were found to have IR, with a median HOMA-IR index of 3.9 (3.1-5.1). The body mass index, hip-waist index (HWI), mean arterial pressure, C-reactive protein, triglycerides, total cholesterol, and HDL were significantly associated with IR. HF was associated to IR (OR 6.5; 95% CI 1.91-22.07,  $p=0.003$ ).

Conclusion: In our study, HF was significantly associated to IR, this finding could be explained by changes in cardiac metabolism including a switch from glucose metabolism toward fatty acid metabolism. The presence of this association in a non-metabolic model of HF supports the evidence of a direct correlation between this last and IR.