Abstract No. **28**
Category: **Heart Failure and Cardiomyopathies**
Title: **Cardiovascular Imaging Parameters as Predictors of Short-Term Mortality in Chronic Chagas Cardiomyopathy**
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Abstract:

Background: Chronic Chagas Cardiomyopathy (CCM) represent a pathology with unique characteristics and higher mortality when compared with other etiologies of heart failure. Today, clinical features are the main tool used to predict mortality risk and no many studies have explored other methods to evaluate outcomes in CCM. Echocardiography is widely available and, at the same time, a powerful tool to evaluate structure and function in heart conditions. The objective of this study was to find echocardiographic predictors of mortality in CCM.

Methods: A prospective cohort study was performed in the Fundación Cardiovascular de Colombia during the period 2015-2018. Adults with serological diagnosis of Chagas disease and echocardiographic and/or electrocardiographic abnormality consistent with CCM were included. A transthoracic echocardiography was performed using a GE Vivid S6 ultrasound system with an M4S matrix-array transducer of 1.6 - 4.3 MHz. Acquisitions were performed by a single certified and experienced cardiac sonographer blinded to the patient data. The primary outcomes studied were two-years mortality and a composite outcome (CO) of mortality, heart transplantation and left ventricular assistant device implantation.

Results: After a two-years follow-up, mortality was 12%, while the CO was observed in 16% of the patients (3 patients needed a heart transplant and 1 a LVAD). Multiple echocardiographic features (Left ventricular ejection fraction, end-systolic volume, left ventricle telesystolic diameter, and global longitudinal strain) were significantly associated with the CO, however, moderate to severe tricuspid regurgitation (TR) and the indexed volume of the left atrium (IVLA) over 54 cm3 had the highest AUC´s for the CO (0.87 and 0.86 respectively). The combination of these two measures over their calculated optimal cut-off values significantly increased the risk of the CO (HR 30.91 [95% CI, 8.710-109.743]) and predicted the outcome with high precision (AUC=0.92). In patients with both measures above the cut point, the CO was observed in 68% of the cases while in the opposite case there were no events. Moreover, the multivariable Cox proportional hazards model for echocardiographic variables showed a good performance in predicting the CO (AUC=0.94).

Conclusion: In this prospective cohort study multiple echocardiographic parameters were associated with poor outcomes at the short-term in CCM patients, highlighting the TV regurgitation and IVLA. The use of echocardiography for evaluating prognosis in this population represents an important step when considering its low cost, wide availability and non-invasive nature.