

Abstract No. **41**

Category: **Non Invasive Imaging**

Title: **Global Longitudinal Strain to Identify Normal Left Ventricle Ejection Fraction in Stable Heart Transplant Patients Using Two Different Echocardiography Vendors**

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Abstract:

Background: Evaluation of global longitudinal strain (GLS) may be different according to the echocardiography vendor used. Nowadays, it is known that no direct relationship exists between left ventricle ejection fraction (LVEF) and GLS. There is lack of data regarding the accuracy of GLS with two different echocardiography vendors for predicting normal LVEF in Heart Transplantation patients (HT-P).

Methods: Stable HT-P, evaluated routinely with echocardiographic follow-up, were subjected to GLS analyses using two different vendors (Philips® and General Electric® -GE-) simultaneously (approximately 20 minutes difference between studies). LVEF assessment was made with volumetric Simpson's method. In order to evaluate the accuracy of the GLS for detecting a normal LVEF (defined as $\geq 55\%$), an analysis by means of receiver operating characteristic (ROC) curves for each of the vendors were performed. Area under the curve (AUC) with 95% confidence intervals (CI) and GLS cut points to predict a normal LVEF were calculated. Absolute value (magnitude) of the GLS measurements were reported.

Results: A total of 66 echocardiographic studies were performed for each vendor. AUC for GLS on GE® was more accurate than GLS on Philips® to predict a normal LVEF (Figure 1). AUC was wider for GE® (0.878; 95% CI: 0.782, 0.974) as compared with Philips® (AUC: 0.671, 95% CI: 0.529, 0.813), both significant different as compared with nullity (AUC=0.5). Visual cutoff of GLS to detect normal LVEF were 15.15% and 13.35%, for GE® and Philips®, respectively.

Conclusion: Although technical issues are of great importance for GLS measurement, these results suggest that GLS measured on GE® predict more accurately than Philips® normal LVEF in HT-P. We suggest that HT-P should be followed on the same echocardiography vendor to avoid under or overestimation of LV systolic function.