

## P1517

**Prognostic value of echocardiographic parameters for RV function in long term follow up of patients presenting with ST elevation myocardial infarction**

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**Funding Acknowledgements:** Funding Acknowledgements : This work was supported by CREDO Project - ID: 49182, financed through the SOP IEC -A2-0.2.2.1-2013-1 cofinanced by theERDF

**Background:** The prognostic value of right ventricular (RV) function assessed by echocardiography in patients with acute ST elevation myocardial infarction ( STEMI ) treated by primary percutaneous coronary intervention (PCI) remains controversial, especially in terms of long term follow up .

**AIMS:** To evaluate the relation between RV function assessed by various echocardiographic parameters in patients presenting with STEMI and the occurrence of major cardiovascular adverse events (MACE) within a long period of follow-up.

**Methods:** We have prospectively analyzed a cohort of 37 patients (mean age: 62.49+/- 1.67 years, 28 males) presenting with a first STEMI treated successfully by PCI. Patients with history of cardiac or pulmonary diseases were excluded. All patients underwent serial conventional 2D echocardiography, tissue Doppler imaging ( TDI ), speckle tracking echocardiography (STE) and 3D echocardiography at 24 hours after the acute event, at discharge, at 6 month, 1 year and 4 years of follow up. We measured in each patient the following RV functional parameters : tricuspid annular plane systolic excursion (TAPSE) , RV free wall systolic velocity (St ) assessed by TDI , RV free wall strain (RVFWS) and RV global longitudinal strain (RVGLS), RV myocardial performance index assessed by pulsed wave Doppler (RV MPI -PW) and right ventricular ejection fraction (RVEF). The mean follow up duration was 36 +/-4 months . The combined end-point of MACE was defined as all cause mortality, recurrent myocardial infarction, need for repeat revascularization or stroke.

**Results:** During the follow-up period 8 patients ( 18.9 % ) reached the combined end-point . In the analyzed group we observed that of all the studied parameters that reflect RV function, only RV MPI -PW and St at discharge were predictors of worse outcomes independent of LVEF or the culprit coronary artery. RV MPI was predictive at a cut-off value greater than 0,56 with a sensitivity of 66,6% and a specificity of 85,7 % ( 95% CI 0.51 to 0.67, p = 0.017, AUC= 0.71), respectively St at a cut -off value lower than 0,13 m/s with a sensitivity of 92 % and a specificity of 41 % ( 95% CI 0.12 to 0.16 p = 0.012, AUC = 0.64 ).

**Conclusions:** In STEMI patients treated by primary PCI, RV global function and RV regional systolic function evaluated at discharge provide prognostic information for long term MACE, independent of infarct size or location. Our results need to be confirmed in larger cohorts of patients.