Abstract No. **60**
Category: **Acute Coronary Syndromes**
Title: **Right Ventricular Remodeling After Anthracycline Therapy**
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Abstract:

Background: Anthracycline therapy may induce left ventricle (LV) dysfunction. However, few studies investigated how it may affect the right ventricle (RV). Purpose: The goal of this study was to assess RV systolic function and biomarkers that may predict early dysfunction in breast cancer patients treated with anthracyclines.

Methods: Twenty-seven women with breast cancer (51.8±8.9 years), underwent CMR prior, and up to 3-times after doxorubicin with matching measurements of biomarkers: high-sensitive troponin T (TnT), creatinine-kinase MB isoenzyme (CKMB) and C reactive protein (CRP).

Results: Before anthracyclines, all subjects had normal LVEF (69.4±3.6%) and RVEF (55.1±9%) and they correlated significantly (?=0.42; p=0.031). At 351-700 days after anthracycline, LVEF and LV mass index declined to 58±6% (P<0.001) and 36±6 g/m2 (P<0.001) (table). RVEF also decreased, reaching 46±8% at 231,4 days after (P<0.001), but lost the correlation with LVEF seen at baseline (r= 0.23; P=0.068) and did not correlate with LV ECV (r= 0.12; P=0.335). On the other hand RVEF correlated better with LV intracellular lifetime of water (?ic) (r= 0.30; P=0.031), a measure of cardiomyocyte size by CMR. RVEF showed strong negative association with serum CK-MB (r=-0.38, p=0.004) and no significant correlation with TnT (r= -0.15, p= 0.28) or CRP (r= 0.01, p= 0.932) (figure). In patients with a peak TnT of > 10 pg/ml the change of RVEF overtime was significant (Regression Splines coefficients for RVEF: 1.0, p= 0.731—peak TnT ? 10pg/ml; 2.51, p< 0.001—peak TnT > 10 pg/ml). LVEF was not associated with CK-MB (p=ns).

Conclusions: RVEF reduction does not follow LVEF changes after anthracyclines, it rather correlates with LV ?ic, and CK-MB may be a more sensitive biomarker to assess RV dysfunction. However, a high peak cTnT could predict a greater change in RVEF during follow-up.