

P5445

## PCSK9 and 6-month Left Ventricular Ejection Fraction after ST-segment Elevation Myocardial Infarction. A Pilot Study

J. Nunez Villota<sup>1</sup>, G. Minana<sup>1</sup>, A. Bayes-Genis<sup>2</sup>, E. Nunez<sup>1</sup>, E. Revuelta-Lopez<sup>2</sup>, J. Sanchis<sup>2</sup>, C. Rios-Navarro<sup>1</sup>, M. Lopez-Lereu<sup>3</sup>, J.V. Monmeneu<sup>3</sup>, F.J. Chorro<sup>1</sup>, J. Lupon<sup>2</sup>, V. Bodi<sup>1</sup>

<sup>1</sup>University Hospital Clinic, Department of Cardiology, Valencia, Spain; <sup>2</sup>Germans Trias i Pujol Hospital, Cardiology, Badalona (Barcelona), Spain; <sup>3</sup>ERESA, Valencia, Spain

**Background:** Proprotein convertase subtilisin/kexin type 9 (PCSK9) has emerged as a therapeutic target for reducing plasma LDL. Beyond lipid control, recent findings suggest a deleterious effect of this protein in the pathogenesis of post-myocardial infarction left ventricle remodeling and heart failure-related complications. The aim of this work was to assess the relationship between circulating PCSK9 and 6-month cardiac magnetic resonance (CMR) imaging-derived left ventricle ejection fraction (LVEF) after a first ST-segment elevation myocardial infarction (STEMI).

**Methods:** We prospectively evaluated 40 patients with a first STEMI treated with primary percutaneous coronary intervention (PPCI) and LVEF <50% in which PCSK9 was measured 24h post-reperfusion. All patients underwent CMR imaging 1 week and 6 months after STEMI. The association between serum PCSK9 and 6-month LVEF was evaluated by ANCOVA. The following covariates were included in the final model; 1-

week CMR-derived LVEF, age, gender, 1-week CMR-infarct size, plasma suppression of tumorigenicity-2 (ST2), low density lipoprotein-cholesterol, ante treatment with statins.

**Results:** The mean age of the sample was 60±12 years and 33 patients (82.5%) were male. Mean 1-week and 6-month LVEF were 41±7% and 48±10%, respectively. The mean±SD of PCSK9 was 1.93±0.38 U/mL. PCSK9 values were inversely related with 6-month LVEF ( $r=-0.35$ ,  $p=0.028$ ). The mean values of PCSK9 were significantly higher in patients with LVEF <50% at 6 months ( $2.06±0.29$  vs.  $1.80±0.41$  U/mL,  $p=0.028$ ). After a multivariate adjustment, circulating PCSK9 remained significant and inversely associated with 6-month LVEF ( $p=0.001$ ).

**Conclusions:** In patients with a first STEMI treated with PPCI and reduced ejection fraction, circulating PCSK9 was associated with lower LVEF at 6 months.

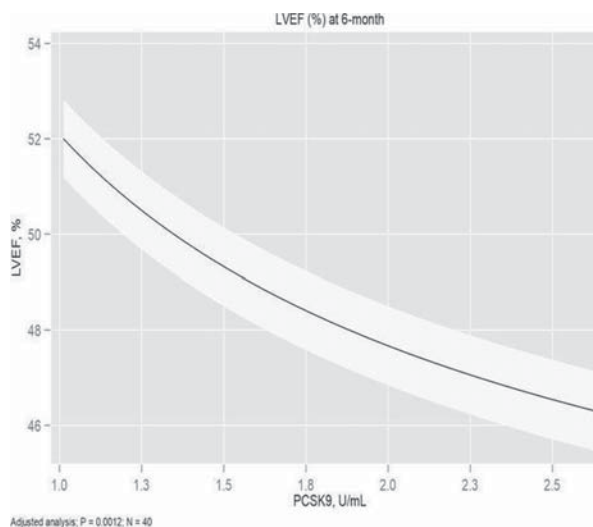


Figure 1