INTRODUCTION AND AIMS: Chronic Kidney Disease (CKD) is associated with worse outcomes after primary percutaneous coronary intervention (PCI). However, whether glomerular filtration rate (GFR) estimated with various equations can equally predict outcomes after ST-Elevation Myocardial Infarction (STEMI) is still debated.

METHODS: We compared the clinical impact of 3 different creatinine-based equations (Cockcroft and Gault (CG), CKD-epidemiology (CKD-EPI) and Full Age Spectrum (FAS)) to predict 1-year mortality in STEMI patients.

RESULTS: Among 1755 consecutive STEMI patients who had undergone primary PCI included between 2006 and 2011, median estimated GFR was 79 [61;96] with the CG, 81 [65;95] with CKD-EPI and 75 [60;91] mL/min/1.73 m² with FAS equation. Reduced GFR values were independently associated with 1-year mortality risk with the 3 equations. Receiver operating curves (ROC) of CG and FAS equations were significantly superior to the CKD-EPI equation, p = 0.03 and p = 0.01, respectively (Figure). Better prediction with FAS and CG equations was confirmed by net reclassification index.

CONCLUSIONS: Our results suggest that in STEMI patients who have undergone primary PCI, 1-year mortality is better predicted by CG or FAS equations compared to CKD-EPI.