Objectives To investigate the Clinical significance of plasma sCD40L and grades of ischaemia on admission electrocardiogram in acute myocardial infarction patients.

Methods Through analysing 60 STEMI patients who underwent primary percutaneous coronary intervention (pPCI) and compared grade 1, 2 ischaemia (those with tall symmetric T waves and ST elevation without terminal QRS distortion, n=44) to grade 3 ischaemia (ST elevation with terminal QRS distortion, n=16) on admission for baseline characteristics, in-hospital course, ST resolution (STR) and The plasma levels of sCD40L.

Results There were no differences between groups in the prevalence of previous hypertension, current smoking, previous diabetes mellitus, left ventricular ejection fraction (LVEF), time from onset of symptoms to therapy and the plasma levels of sCD40L (337.75±135.60 vs 334.06±122.31; p=0.924). The grade 3 ischaemic group had less complete STR immediately after pPCI (65.9% vs 31.3% [p=0.017] and 95.5% vs 68.8% [p=0.017] 24h after pPCI), and a trend toward higher hospital mortality and higher MACE. However, the difference was not statistically significant.

Conclusions The plasma levels of sCD40L can’t be used to predict the severity of ischaemia grades on admission electrocardiogram in acute myocardial infarction patients. Compared to grade 1, 2 ischaemia, grade 3 ischemia on presentation of STEMI is associated with a higher hospital mortality rate and less complete STR after pPCI.