Abstract: P2662

Factors associated with in-hospital and long-term mortality in STEMI patients: does primary ventricular fibrillation matter?

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Introduction: There are still contrary data about causes and long-term prognosis in patients (pts) with primary ventricular fibrillation (PVF) as a complication of ST-elevation myocardial infarction (STEMI).

Purpose: The aim was to analyze characteristics of STEMI patients associated with PVF occurrence and mortality.

Methods: Our study included 755 pts hospitalised due to STEMI between January 2016 and December 2016. One year follow up was done. Study compared pts with cardiac arrest due to PVF and those without PVF. Only pts treated with urgent coronarography and primary percutaneous coronary intervention (PPCI) in whom TIMI 3 in infarct-related artery was acheived were included. Pts with Killip class 4 as well as pts with mechanical complications or complications due to procedure were excluded.

Results: We found 56/755 (7.42%) STEMI pts had PVF. Compared to pts without PVF (n=699), those with PVF (n=56) were younger (57.8±12.9 vs. 61.8±11.9 years, p 0.02) and more frequently had diabetes mellitus (DM) (52.3% vs. 33.4%, p 0.01) alone or DM with abnormal glucoregulation (AGR) (77.3% vs. 58.4%, p 0.01). Pts with STEMI and PVF had more frequently Killip class 2 (32.7% vs. 21.2%, p 0.02) and class 3 (7.3% vs. 3%, p 0.08), most frequently left anterior descending coronary artery affected (51.8% vs. 36.9%, p 0.03) and proximal occlusion of coronary arteries (44.6% vs. 23%, p 0.000), lower left ventricle ejection fraction (LVEF) (45.4±9.8% vs. 48.7±7.5%, p 0.02), longer duration of hospitalisation (7.3±5.7 vs. 5.7±3.2 days, p 0.001) and higher in-hospital mortality (12.5% vs. 4.9%, p 0.02), but with no difference in long-term mortality (14.3% vs. 11.6%, p 0.40). After multivariable logistic regression analysis (MVLR), model with the differences in proximal coronary artery occlusions (OR 2.4 [95% CI: 1.3-4.7], p 0.008) and DM presence (OR 1.9 [95% CI: 1-3.6], p 0.05) persisted. After one year patients who died compared to those still alive were older (70.8±12.8 vs. 61±11.8 years, p 0.000), more frequently male (52% vs. 32.2%, p 0.01), had higher appearance of anterior wall STEMI (46.7% vs. 24.5%, p 0.001), more frequently Killip class 2 and class 3 (50% vs. 20.9% and 23.5 vs. 2.4% respectively, both p 0.000), lower EF (38.6±10.5 vs. 48.8±7.3%) and higher prevalence of DM (75.8% vs. 32.4%) or DM with AGR (87.9% vs. 57.9%) (both p 0.000). After MVLR model with differences in Killip class 3 (OR 4.2 [95% CI: 1.1-84.6], p 0.000), EF (OR 0.93 [95% CI: 0.87-0.99], p 0.04) and DM presence (OR 3.3 [95% CI: 1.1-10.2], p 0.04), all persisted.

Conclusions: Proximal coronary occlusions and DM presence as indicators of coronary artery disease severity and ischaemic area size are strongly associated with PVF in STEMI patients. Only in-hospital mortality is higher in patients with STEMI and PVF. Long-term mortality in STEMI patients is strongly associated with heart failure (lower EF and higher Killip class) and again DM presence.