

\* TRS 2°P risk-factors: CHF, hypertension, age>75y, diabetes mellitus, prior stroke, prior CABG, PAD, eGFR<60ml/min, smoking.  
Low-risk= 0-1 risk-factors; Intermediate-risk= 2 risk-factors; High-risk= ≥3 risk-factors

tients, they are still undertreated with guideline-recommended therapies. Nevertheless, the outcome of high-risk ACS patients has significantly improved in the last decade, thus they should not be denied these therapies.

**4060**  
**The effect of optimal medical therapy on hospital discharge on 3-year mortality after acute myocardial infarction in patients undergoing primary percutaneous intervention**

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**Background:** Five drug classes have been shown to improve the prognosis of acute myocardial infarction each having class 1 recommendation for secondary prevention: aspirin, β-blockers, statins, renin angiotensin system blockers (RAS-b) and P2Y12 inhibitors. Published data constantly show under treatment despite proven benefit.

**Purpose:** We aimed to assess whether the benefits of combining these drugs (termed optimal medical therapy, OMT) at discharge, does result in a reduction of long-term mortality.

**Method:** For a period 2009–2014, from a prospective, electronic registry of a high-volume PCI center, we identified 4648 patients who survived index hospitalization and in whom Discharge Medication Score (DMS) was calculated by giving single point for each of five drug classes to a maximum score of 5 (OMT group). Patients missing prescription to at least one class were classified as Sub-OMT (DMS range 0–4). Kaplan-Meier analysis was used to investigate survival benefit of OMT and logistic regression model was used to investigate effect of DMS on 3-year mortality of discharged patients.

**Results:** Overall, OMT (DMS=5) was observed in 65.5%, while frequencies of sub-OMT in decreasing DMS order were observed in 25.3, 6.3, 2.0, 0.5 and 0.4% of pts. Most frequently prescribed drug was aspirin 97.7%, then P2Y12 inhibitors 94.6%, followed by statins 92.1%, β-blockers 85.6% and finally, 86.8% were discharged with RAS-b prescription. Patients with sub-OMT were more likely to be female (33 vs. 29%; p=0.005), to have worse renal function (glomerular filtration rate (GFR) <60 ml/min: median 88.8 vs. 95.5 ml/min; p<0.000) more frequently had anemia (10 vs. 8%; p<0.05) and less likely to undergo percutaneous coronary intervention during ad hoc angiography (83 vs. 96%; p<0.001). Survival of patients, for a period from discharge up to 3 years, was significantly lower in Sub-OMT group compared to OMT (Figure 1, Panel A). After adjusting for relevant mortality predictors, age, gender, left ventricle ejection fraction, hemoglobin level

and GFR, for each single unit increase in DMS there was 26.4% increase in 3-year survival (OR 0.736; 95% CI 0.657–0.825; p<0.000) (Figure 1, Panel B). **Conclusion:** Prescription of OMT on discharge was associated with a significantly lower mortality of patients with acute myocardial infarction over 3 years. Efforts to increase physician's adherence to current guidelines needs to be reinforced, especially among females and patients with comorbidities.

**4061**  
**One year survival benefit of angiotensin-converting enzyme inhibitors or angiotensin receptor blockers in acute coronary syndrome undergoing PCI according to left ventricular ejection fraction**

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**Purpose:** There is still little data on the prognostic benefit of angiotensin-converting enzyme Inhibitors/angiotensin receptor blockers (ACEI/ARB) use in acute coronary syndrome with preserved left ventricular ejection fraction (LVEF) treated with percutaneous coronary intervention (PCI). We aimed to determine the relationship between ACEI/ARB II usage and post-discharge mortality in ACS patients who underwent in-hospital PCI and had either reduced or preserved LVEF.

**Methods:** We used data from 15,401 patients who survived the hospitalization stage of an ACS, and were treated with in-hospital PCI between November/2003 and June/2014, in the BleeMACS registry. For assessing the primary end-point in this study (1-year post-discharge mortality) we performed the following analyses: Robust cox regression analyses, propensity score (PS) matching analyses, survival-time inverse probability weighting (IPW) PS analyses, and instrumental variable analyses.

**Results:** ACEI/ARB were prescribed in 75.2% (n=11,581). There were 569 deaths (3.7%) during the first year after hospital discharge. Unadjusted 1-year mortality was significantly lower for patients who received ACEI/ARB compared with those who did not (3.2% vs 5.1%, p<0.001). After multivariate adjustment, ACEI/ARB use was associated with lower 1-year mortality (Table 1), but only in patients with LVEF ≤40% (Figure 1). In patients with LVEF >40% (n=13,085), a multivariate specific robust Cox analysis showed a lower 1-year mortality in STEMI patients treated versus untreated with ACEI/ARB (HR 0.44; 95% CI 0.21–0.93; p=0.031), that was not observed in patients with NST-ACS (HR 0.95; 95% CI 0.49–1.86; p=0.894). In NST-ACS patients, ACEI/ARB have also showed a trend to be associated with lower 1-year mortality in those with concomitant heart failure, renal failure, diabetes or hypertension (HR 0.76; 95% CI 0.55–1.05; p=0.092). In NST-ACS patients without those high-risk conditions, we have not found an association of ACEI/ARB with lower death rate (HR 0.73; 95% CI 0.37–1.42; p=0.352).

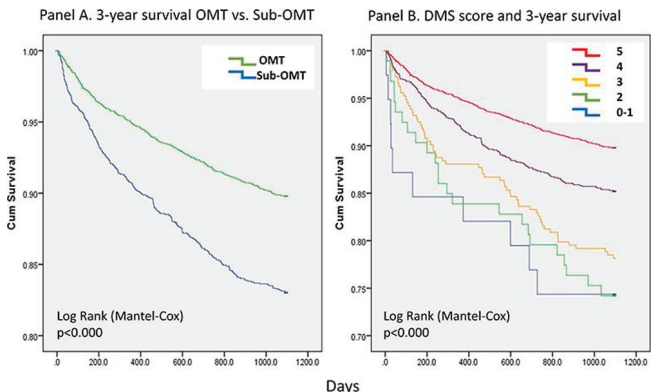
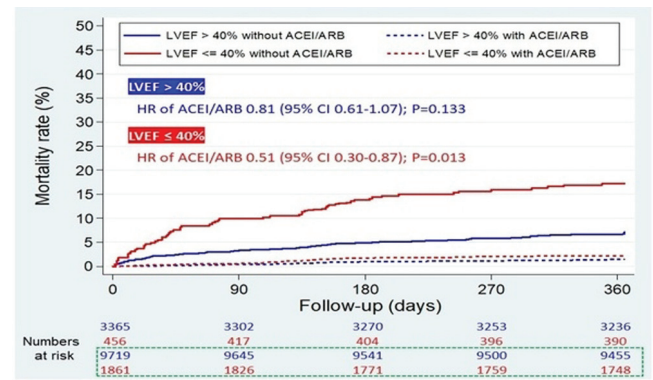


Figure 1. Kaplan-Meier survival analysis.

Analyses	Total population			Subgroups by LVEF					
	HR	95% CI	P-value	LVEF >40%			LVEF ≤40%		
Cox Regression				HR	95% CI	P-value	HR	95% CI	P-value
Univariate	0,617	0,518-0,734	<0,001	0,397	0,284-0,555	<0,001	0,677	0,549-0,833	<0,001
Multivariate	0,762	0,633-0,917	0,004	0,620	0,478-0,899	0,012	0,809	0,650-1,007	0,058
Adjusted by IPW	0,777	0,645-0,935	0,008	0,523	0,357-0,765	0,001	0,876	0,703-1,092	0,239
After PS matching	0,713	0,572-0,888	0,004	0,417	0,262-0,665	0,001	0,838	0,652-1,077	0,174
IPW	Coeff.	95% CI	P-value	Coeff.	95% CI	P-value	Coeff.	95% CI	P-value
ATE (risk difference)	-0,008	-0,015 to -0,001	0,034	-0,026	-0,055 to 0,005	0,076	-0,005	-0,012 to 0,001	0,121
Instrumental variable	Coeff.	95% CI	P-value	Coeff.	95% CI	P-value	Coeff.	95% CI	P-value
Relative Risk reduction	-0,234	-0,328 to -0,132	0,001	-0,461	-0,663 to -0,259	<0,001	-0,157	-0,264 to -0,049	0,004

**Conclusion:** The prognostic benefit of ACEI/ARB use in ACS patients seems to be clear in those with LVEF ≤40% and STEMI. In NSTEMI patients with LVEF >40%, further contemporary studies are necessary to assess the long-term impact of ACEI or ARB in the modern PCI era in addition to other guideline-recommended cardiovascular drugs.