towards a lower 1-year mortality in ACS women ≥80 in the "late" vs the "early" period.

P2711
Place of residence and its impact on time to invasive treatment and outcomes of patients with STEMI - analysis from the PL-ACS and AMI-PL registries

M. Gierlotka[1], B. Wojtyniak[2], D. Dudek[3], P. Buszman[4], J. Legutko[3], A. Witkowski[5], D. Kawecki[6], P. Hoffman[5], T. Zdrojewski[7], K. Chlebus[7], G. Opolski[8], L. Polonski[9], M. Gasior[9]. *[1]University of Opole and Silesian Center for Heart Diseases in Zabrze, Department of Cardiology, Opole and Zabrze, Poland; [2]National Institute of Public Health - National Institute of Hygiene, Warsaw, Poland; [3]Jagiellonian University Medical College, Krakow, Poland; [4]American Heart of Poland, Katowice, Poland; [5]Institute of Cardiology, Warsaw, Poland; [6]Medical University of Silesia, Zabrze, Poland; [7]Medical University of Gdansk, Gdansk, Poland; [8]Medical University of Warsaw, Warsaw, Poland; [9]Medical University of Silesia, Silesian Center for Heart Diseases, 3rd Department of Cardiology, Zabrze, Poland*. On behalf of PL-ACS and AMI-PL Investigators

The prognosis of patients with ST-segment elevation myocardial infarction (STEMI) is significantly influenced by ischemic time. In Poland, in recent years, there has been an extensive development of interventional cardiology centres, which theoretically allows efficient transport of patients from virtually all places to the hemodynamic laboratory. ECG transmission systems are also increasingly used. So far, however, it has not been tested how it works in practice and whether the delay time for invasive treatment depends on the place of residence. The early and late outcomes of patients with STEMI who live in rural areas and smaller or larger cities is also unknown. Therefore, the aim was to analyse the delay times for invasive treatment and early and long-term prognosis in STEMI in Poland, depending on the place of residence.

Methods: For the purpose of this analysis, the data of the PL-ACS (clinical) and AMI-PL registers (administrative reporting data, deaths and place of residence) were combined for 62616 patients with STEMI treated invasively from 2009–2013 and available information on the time of delays to invasive treatment.

Results: The percentage of patients admitted after 12 hours from the onset of symptoms of STEMI was the highest among the residents of the largest cities (23%) and the lowest among residents of large cities (16%). Median time to admission to the invasive cardiology centre was higher in inhabiting villages (210 minutes) than cities (the lowest in big cities (172 min). The total ischemic time (onset-of-pain to PCI) was the shortest among residents of medium and large cities (238–240 minutes.) After coronary angiography, PCI was performed in more than 90%, the least often in the largest cities, where CABG was most often performed (1.3%). The impaired ejection fraction in the course of STEMI was less frequently reported among middle cities residents. In-hospital mortality ranged from 7.0% in medium to 8.1% in largest cities. The higher incidence of reinfarctions after discharge was in large cities. Of note is also higher rates of rehospitalizations due to heart failure with lower rates of ICD/CRT-D implantations among the residents of the villages and small towns. A poorer access to cardiology ambulatory care was in rural areas. There were no significant differences in 1-year mortality, both total and after discharge.

Patients with STEMI and invasive strategy N=62616, years 2009-2013	Villages (rural areas)	Cities, towns (urban areas) by population in thousands of inhabitants				
		Small < 50	Medium 50-100	Large 100-500	Largest > 500	P for trend
Mean age, years	65.0	64.4	63.9	63.9	64.8	<0.001
Women, %	32	34	33	33	32	0.076
Onset-of-symptoms to admission time > 12 hours, %	20	20	18	16	23	<0.001
Onset-of-symptoms to coronary angio > 24 hours, %	13	13	13	12	16	0.016
Onset-of-symptoms to coronary angio < 24 hours, %	87	87	87	88	84	0.016
Median onset-of-symptoms to admission time, min	210	200	180	172	190	<0.001
Median onset-of-symptoms to PCI time, min	265	252	238	240	255	<0.001
PCI, %	94	93	94	94	91	<0.001
CABG, %	0.9	1.2	1.2	1.2	1.3	0.004
LVEF <= 40%, %	29	29	27	31	30	0.049
LVEF <= 35%, %	16	16	15	17	16	0.066
LVEF <= 25%, %	4.8	4.7	4.5	4.8	4.9	0.89
In-hospital mortality, %	7.3	7.5	7.0	7.6	8.1	0.086
12-monts FU data after discharge, %						
Recurrent MI, %	4.1	4.3	4.4	5.2	4.3	<0.001
Stroke, %	1.5	1.4	1.2	1.4	1.3	0.22
Hospitalization due to heart failure, %	7.7	7.6	6.7	6.2	7.1	<0.001
Coronary angiography, %	28	29	29	29	29	0.009
PCI, %	22	23	23	22	23	0.047
CABG, %	4.4	4.8	5.2	6.5	3.9	<0.001
ICD/CRT-D implantation, %	1.5	1.7	1.6	1.6	2.3	0.015
Cardiac rehabilitation, %	29	30	28	30	26	0.043
Mean cardiology ambulatory visits, %	1.5	1.7	1.8	2.1	2.2	<0.001
12-months mortality after discharge, %	6.4	5.9	5.8	6.1	6.2	0.25
12-months mortality (in-hospital mortality incl.), %	13	13	12	13	14	0.85

Table 1

Conclusion: The place of residence influences invasive treatment delays and selected outcomes during and after STEMI, however does not affect significantly 1-year mortality.

Funding Acknowledgements: Ministry of Health of Poland

BIOMARKERS IN ACUTE CORONARY SYNDROMES

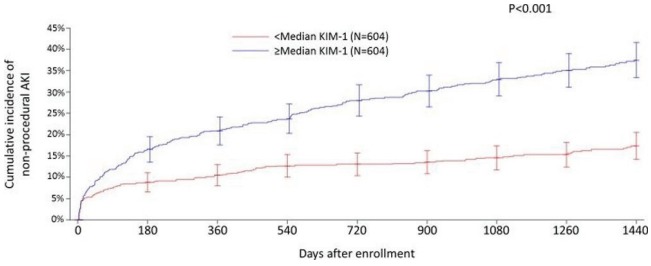
P2712
Blood kidney injury molecule-1 predicts short and longer-term kidney outcomes in patients undergoing diagnostic coronary and/or peripheral angiography - results from the CASABLANCA study

N. Ibrahim[1], C. McCarthy[1], S. Shrestha[1], A. Lyass[2], Y. Li[2], H. Gaggin[1], M. Simon[1], J. Massaro[3], R. D'Agostino[2], J. Garasic[1], R.R.J. Van Kimmenade[4], J. Januzzi[1]. *[1]Massachusetts General Hospital, Cardiology, Boston, United States of America; [2]Baim Institute for Clinical Research, Boston, United States of America; [3]Boston University, Department of Biostatistics, Boston, United States of America; [4]Radboud University Medical Centre, Cardiology, Nijmegen, Netherlands*

Background: Kidney injury is common in patients with cardiovascular disease and has substantial impact on patient management and prognosis, including progression to chronic kidney disease (CKD). Tools to accurately predict kidney injury prior to their incidence are lacking. We determined whether blood measurement of kidney injury molecule-1 (KIM-1), would predict kidney outcomes in patients undergoing angiography.

Methods: 1251 patients undergoing coronary and/or peripheral angiography with or without intervention between 2008 and 2011 were prospectively enrolled at the Massachusetts General Hospital in Boston, Massachusetts, USA; 1208 had peri-procedural blood samples available for KIM-1 measurement. Peri-procedural acute kidney injury (AKI) was defined as AKI within 48 hours of contrast exposure. Non-procedural AKI was defined as AKI beyond 48 hours to study conclusion. Development of CKD was defined as progression to an estimated glomerular filtration rate (eGFR) <60 mL/min/1.73m^2 by the end of follow up. Univariate and multivariate Cox proportional hazards analysis with clinical and laboratory variables were used to identify predictors of non-procedural AKI, while univariate and multivariate logistic regression analysis was used to evaluate peri-procedural AKI and predictors of progression to CKD; for the latter analysis, logistic regression was used because the reason for eGFR measurement at various timepoints is unknown to us.

Results: Peri-procedural AKI occurred in 5.0%. During mean follow up of 4 years, non-procedural AKI in 27.4%, and 12.4% developed new reduction in eGFR <60 mL/min/1.73m^2. KIM-1 concentrations above median (140.5 pg/mL) were associated with cardiovascular comorbidities and worse left ventricular function at baseline. In adjusted logistic regression analyses (the variables included: age, history of CKD, diabetes, peripheral artery disease, and heart failure, and creatinine), elevated post-procedural KIM-1 concentrations strongly predicted not only peri-procedural AKI (odds ratio [OR] 1.54, 95% confidence interval [CI] 1.10–2.15, p=0.01) but also progression to CKD (OR 2.05, CI 1.31–3.22, p=0.002). Additionally, in the adjusted Cox regression analysis, elevated post-procedural KIM-1 concentrations strongly predicted first non-procedural AKI (hazard ratio 1.46, 95% CI 1.23–1.74, p<0.001, also see Figure)



Conclusions: In a typical at-risk population undergoing coronary and/or peripheral angiography for various acute and non-acute indications, blood concentrations of KIM-1 predicted incident peri-procedural and non-procedural AKI, as well as progression to CKD. Subsequent studies should consider how patients with elevated concentrations of biomarkers such as KIM-1 might benefit from interventions to mitigate future risk.

Funding Acknowledgements: Funding for this study was provided by Singulex, Inc, Alameda, CA, USA

P2713
Impact of routine implementation of high sensitivity troponin in a state-wide health service

E. Khan[1], A. Chuang[1], A. Halabi[1], K. Tiver[1], M. Horsfall[1], T. Briffa[2], B. Sun[3], L. Cullen[4], J. French[5], D. Chew[1]. *[1]Flinders Medical Centre and Flinders University, Cardiology, Adelaide, Australia; [2]The University of Western Australia, Perth, Australia; [3]Oregon Health & Science University, Portland, United States of America; [4]University of Queensland, Brisbane, Australia; [5]Liverpool Hospital, Sydney, Australia*

Background: High-sensitivity troponin (hs-TnT) assays improve the diagnostic accuracy of acute myocardial infarction (MI). Whether routinely implementing hs-TnT improves care and outcome remains contentious since reduced specificity for MI may lead to increased investigations and hospitalizations.

Purpose: To evaluate the implementation of a single hs-TnT assay across a