

receive either an intracoronary bolus of 150 µg of DA (DA group) or normal saline (control group) at the onset of reflow obtained by primary percutaneous coronary intervention (PCI). IS was assessed both by measuring serum creatine kinase (CK) release and by performing cardiac magnetic resonance (CMR).

**Results:** There was no difference between the two groups with regard to the duration of ischemia, the TIMI flow grade at admission and after PCI, the size of the area at risk, and the extent of the collateral circulation that are the main determinants of IS. The release of CK after reperfusion was not significantly different in the DA group as compared with the control group even when the data were adjusted to the size of the area at risk. Between 3 and 7 days and at 3 months, the area of hyperenhancement on CMR expressed as percentage of the left ventricular myocardium was not significantly reduced in the DA group as compared with the control group even when the data were adjusted to the size of the area at risk.

**Conclusions:** The intracoronary administration of DA in patients with acute MI at the time of reperfusion does not significantly reduce IS.

Trial Registration [clinicaltrials.gov](http://clinicaltrials.gov) Identifier: NCT01043991

### P909 2h post load glucose but not fasting or random blood glucose predicts adverse outcome following myocardial infarction



A. George, G.L. Buchanan, A. Whiteside, R.S. Moisey, S.F. Beer, J. John, S. Chattopadhyay. *Scunthorpe General Hospital, Scunthorpe, United Kingdom*

**Background:** We compare the relative value of random admission (RPG), fasting (FPG) and 2-hour post load (2h PG) plasma glucose to predict prognosis after an MI as this has never been compared.

**Method:** 674 non-diabetic post-MI patients with RPG, FPG and 2h PG were categorised into quartiles (Q) of 2h PG. The primary end-point was the first occurrence of major cardiovascular adverse events (MACE) including cardiovascular (CVS) death, non-fatal MI, severe heart failure (HF) or non-haemorrhagic stroke. Secondary end-points were all cause mortality, cardiovascular mortality, non-fatal MI, severe HF or stroke.

**Results:** Patients in the higher quartiles were older, had higher prevalence of hypertension and IHD. By conventional definitions all patients in Q1 and 77% in Q2 had normal glucose tolerance (NGT); 21% of Q2, all in Q3 and 23% in Q4 had impaired glucose tolerance (IGT) and rest of Q4 had new diabetes mellitus (NDM). 150 MACEs (38 CVS deaths, 87 non-fatal MI, 9 strokes, 16 HF admissions) occurred during 47.2±9.4 months of follow up. MACE (p=0.000) and non-fatal MIs (p=0.021) were higher the upper glucose quartiles. Survival free of all cause mortality (p=0.0352), CVS mortality (p=0.0382), MACE (p=0.0002) and non-fatal MI (p=0.0112) were lower in Q3 and Q4. Including RPG, FPG and 2h PG in the same Cox proportional hazard regression model, 2h PG but not RPG nor FPG predicted MACE (HR 1.13, 95% CI: 1.06 - 1.21, p=0.0002), all cause mortality (HR 1.17, 95% CI: 1.06-1.30, p=0.0029), CVS mortality (HR 1.18, 95% CI: 1.04-1.34, p=0.0134) and non-fatal MI (HR 1.11, 95% CI: 1.02-1.21, p=0.0161). The odds of MACE (OR 1.15, 95% CI: 1.07-1.25, p=0.000), all cause mortality (OR 1.13, 95% CI: 1.01-1.26, p=0.041), non-fatal MI (OR 1.11, 95% CI: 1.02-1.22, p=0.023) and its combination with CVS mortality (OR 1.15, 95% CI: 1.05-1.25, p=0.002) increased with increasing 2h PG but not RPG or FPG on entering RPG, FPG and 2h PG as continuous variables into a logistic regression model with other important covariates. Area under the 2h PG ROC curves predicting MACE was significantly higher than that for RPG (p=0.0017) and FPG (p=0.0013). Comparing nested models showed that including the 2h PG as a continuous variable significantly improved the ability of a model based on relevant covariates and RPG alone ( $\chi^2=28.006$ , df=1, p=0.000), FBG alone ( $\chi^2=27.564$ , df=1, p=0.000) or RPG and FBG ( $\chi^2=27.552$ , df=1, p=0.000) to predict MACE free survival but not vice-versa. A similar pattern was observed with all cause mortality, cardiovascular mortality and non-fatal MI.

**Conclusion:** 2h PG predicts prognosis after MI better than RPG or FPG.

### P910 Reverse correlation between the extent of apoptosis and necrosis in patients with acute myocardial infarction



P. Tousek, E. Teringova, P. Osmancik, P. Paulu, V. Kocka, P. Widimsky. *Charles University Prague, 3rd Faculty of Medicine, 3rd Clinical Dept of Internal Med.-Cardiology, Prague, Czech Republic*

**Introduction:** Ischemia-reperfusion injury in acute myocardial infarction (AMI) results in addition to necrosis to the process of apoptosis of myocytes. The share of the extent of apoptosis and necrosis in patients undergoing percutaneous coronary intervention (PCI) for AMI has not yet been in clinical practice completely defined.

**Goal**

To analyze the serum levels of pro-apoptotic markers Fas and TRAIL in patients in regard to the type of AMI (STEMI versus nonSTEMI) and to determine the correlation between the value of markers of apoptosis and the maximum value of troponin.

**Methods and results:** Serum concentration of Fas and TRAIL using ELISA method was determined in 226 consecutive patients (average age 67±12 years) undergoing PCI for AMI. Differences were compared between the group of patients with STEMI and with non-STEMI and statistical analysis was performed

to find out the correlation between the value of pro-apoptotic markers and the maximum value of troponin as an indicator of necrosis. Between the two groups that differed in clinical characteristics of age, gender, DM representation, arterial hypertension and creatinine clearance (STEMI vs non-STEMI: age 63±12 vs 70±11, p <0.001; gender - male 75% vs 63%; p <0.01, DM 19% vs 31%, p <0.02; hypertension 42% vs. 69%, p <0.001; creatinine clearance 1.7±0.7 vs 1.5±0.7, p <0.005) difference was detected in serum levels of the markers Fas (STEMI 6515±2271 vs nonSTEMI 7720±2889 pg/ml, p<0.001) and TRAIL (51±26 vs 65±42 pg/ml, p<0.002). Ejection fraction of patients with STEMI and nonSTEMI during hospitalization was 48±12 vs 49±13%, p=NS, respectively. There was found a reverse correlation between the maximum value of troponin and the serum concentrations of Fas (r -0.304, p <0.001) and TRAIL (r -0.334, p <0.001).

**Conclusion:** In patients after PCI for acute myocardial infarction a reverse correlation between the markers of apoptosis and the maximum values of troponin was found. Patients with nonSTEMI have a greater extent of apoptosis compared to the patients with STEMI.

### P911 Incidence and prognostic value of infections during an acute coronary syndrome



B. Alvarez-Alvarez, S. Raposeiras Roubin, E. Abu Assi, C. Cambeiro Gonzalez, N. Bouzas, A. Grandá, M. Castineira, P. Cabanas-Grandio, C. Pena Gil, J.R. Gonzalez-Juanatey. *University Clinical Hospital of Santiago de Compostela, Santiago de Compostela, Spain*

**Introduction:** A growing amount of clinical and experimental evidence suggests a link between infection and atherosclerotic diseases. On the one hand it is known that during the acute phase of myocardial infarction there is a proinflammatory state. On the other hand several studies have demonstrated that infection causes a hypercoagulable state which increases the risk of thrombosis. The aim of our research is to evaluate the incidence of infections during the admission by acute coronary syndromes (ACS) and its influence in the risk of in-hospital mortality.

**Methods:** Using data from 4,497 consecutive patients with ACS (32.1% STEMI, 19.2% unstable angina) from our hospital (2003-2010), we analyzed the incidence of bacterial and viral acute infections and associated it with in-hospital mortality. Further a multivariate analysis was performed to show the prognostic value of infections during ACS regardless of the GRACE risk score.

**Results:** There were 534 infections during ACS hospitalization (11.9%) and 265 in-hospital deaths (5.9%). The mortality in the group with infections was 17.6%, increasing in-hospital mortality 3.8-fold in comparison with not-infection group (mortality 4.6%, p<0.001). In multivariate analysis, infections during ACS resulted as a predictor of in-hospital death independently of GRACE risk score (OR: 1.584, 95% CI: 1.141-2.198, p=0.006 for acute infections; OR: 1.035, 95% CI: 1.032-1.039, p<0.001 for GRACE RS).

**Conclusions:** Infections are a frequent complication during the ACS hospitalization increasing the risk of in-hospital mortality independently of GRACE risk score.

### P912 Impact of smoking on six-month angiographic and 2-year clinical outcomes in patients undergoing elective percutaneous coronary intervention with drug eluting stents



B.G. Choi, S.W. Rha, A. Elnagar, S.I. Im, S.W. Kim, C.U. Choi, J.W. Kim, C.G. Park, H.S. Seo, D.J. Oh. *Korea University Guro Hospital, Seoul, Korea, Republic of*

**Background:** "Smoker's Paradox" in patients undergoing percutaneous coronary intervention (PCI) in the drug-eluting stent (DES) era has been controversial. In a recent study, enhanced clopidogrel response in smokers with cytochrome P450 CYP 1A2(-163C>A) A-allele carriers was reported. This study was to evaluate whether smokers paradox exists in real world clinical practice in a series of Asian population.

**Methods:** The study population consisted of 1093 consecutive patients (pts) who had received clopidogrel and underwent elective PCI with DESs between January 2004 and April 2009. Non-Smoker (NS) was defined as inexperience

Table. Six month Angiographic and 2 years Clinical Outcomes

	NS group	CS group	IS group	P-value		
	(N=556 pts)	(N=266 pts)	(N=152 pts)	CS vs. NS	CS vs. IS	NS vs. IS
<b>6 to 9 Month Angiographic FU (Lesions)</b>						
Binary restenosis(>50%)	62 (9.6)	24 (7.5)	26 (13.5)	0.272	0.026	0.123
Diameter stenosis%	22.89±19.8	21.52±18.8	25.04±21.7	0.305	0.055	0.221
<b>2-Year Clinical outcomes (Patients)</b>						
Revascularization	57 (10.3)	19 (7.1)	21 (13.8)	0.150	0.026	0.214
TLR	24 (4.3)	10 (3.8)	16 (10.6)	0.707	0.006	0.003
TVR	33 (5.9)	11 (4.1)	17 (11.2)	0.283	0.006	0.025
TLR MACE	30 (5.4)	12 (4.5)	18 (11.8)	0.059	0.005	0.005
TVR MACE	32 (9.4)	14 (5.3)	23 (15.1)	0.044	0.001	0.040

\* NS, non-smoker, CS, current smoker, IS, ex-smoker