**Results** Rapamycin made the expression and activation of KLF2 strongly reduce by 75.6% and 78.2% so as to induce long-term coronary endothelial dysfunction. In HUVECs, rapamycin made basal eNOS and t-PA decrease by 80% and 87.8%, while making basal PAI-1 and TF increase by 2.5 and 1.5-fold. After treatment by statins (especially lovastatin), the expression of KLF2 was increased by 3.8-fold nearly reverting to normal state.

**Conclusions** Taken together, these observations indicate that statin-dependent induction of KLF2 provides a new treatment for stent thrombosis induced by rapamycin releasing from drug-eluting stents.

---

**E0521** **CLINICAL EVALUATION OF STATIN THERAPY IN DIABETIC PATIENTS UNDERGOING PERCUTANEOUS CORONARY INTERVENTION**

doi:10.1136/hrt.2010.208967.521

Liu Yuyang, Zhou Yujie, Hua Shen, Yang Shwei, Gao Fei, Wang Zhijian, Shi Dongmei, Li Yueping, Ge Hailong, Liu Xiaoli, Han Hongya. Department of Cardiology, Beijing Anzhen Hospital, Capital Medical University, Beijing, China

**Objective** The long-term effect of statin therapy in diabetic patients after percutaneous coronary intervention (PCI) is not well established. Accordingly, we sought to determine whether statin therapy initiated at the time of percutaneous coronary intervention reduces total and cardiac mortality among diabetic patients.

**Methods** We collected data from 569 consecutive patients who underwent PCI. We then compared all-cause and cardiac mortality rates in 249 patients with diabetes mellitus of whom 74 (29.7%) were treated with statin at the time of PCI. To adjust the variables that would have been related to the decision regarding statin administration, multivariate Cox regression was carried out.

**Results** During follow-up (4.4±1.3 years), 23 patients died (including 12 who died of cardiac causes). The Multivariate analysis showed statin therapy to be significantly associated with reduced cardiac mortality (HR 0.39, 0.16–0.95, p=0.039), but not with all-cause mortality.

**Conclusion** Statin therapy was associated with a significantly reduced risk of cardiac mortality in patients with diabetes mellitus and coronary artery disease after PCI.

---

**E0522** **DUAL ANTIPATELET PLUS TIROFIBAN THERAPY HAVE A BENEFICIAL EFFECT ON ACUTE CORONARY SYNDROME IN DIABETIC PATIENTS UNDERGOING PERCUTANEOUS CORONARY INTERVENTION**

doi:10.1136/hrt.2010.208967.522

Shen Hua, Zhou Yujie, Liu Yuyang, Yang Shwei, Gao Fei, Wang Zhijian, Shi Dongmei, Han Hongya, Ge Hailong, Liu Xiaoli. Department of Cardiology, Beijing Anzhen Hospital, Capital Medical University, Beijing, China

**Background** Diabetes is strongly associated with clopidogrel resistance, thrombosis and the development of coronary artery disease (CAD). Some trials suggest that inhibition of glycoprotein IIb/IIIa can improve the outcome of clopidogrel resistance in patients undergoing percutaneous coronary interventions (PCIs). However, the efficacy of small-molecule IIb/IIIa receptor inhibitors in acute coronary syndrome (ACS) patients with diabetes undergoing PCI has not been specifically investigated.

**Methods** We randomised consecutive ACS patients with diabetes undergoing PCI, to tirofiban or placebo groups along with double antiplatelet therapy. High-dose bolus (20 mg/kg per 3 min) of tirofiban was administered immediately before PCI followed by 8 h continuous infusion (0.15 mg/kg per min). Postprocedural myocardial necrosis was assessed prospectively by measurement of cardiac troponin I (cTnI) at 6 and 24 h after PCI. The primary end-points were post-PCI coronary flow estimated by corrected TIMI frame count and post-PCI myocardial infarction.

**Result** 138 patients entered the study (66 randomised to placebo and 72 randomised to tirofiban). Post-PCI corrected TIMI frame count was 9.2±5.6 in tirofiban and 13.0±7.6 in placebo groups (p=0.05). The prevalence of post-PCI myocardial infarction was similar in the two groups (17 vs 26%, p=0.167, respectively).

**Conclusion** Up-stream use of tirofiban in ACS patients with diabetes undergoing PCI, along with double antiplatelet therapy, was associated with a decreased risk of distal embolisation.
Methods A total of 228 acute coronary syndrome (ACS) patients were randomly divided into standard statin group (SSG, n=115) and intensive statin group (ISG, n=113). Patients in SSG received 20 mg simvastatin and patients in ISG received 80 mg simvastatin for 7 days before PCI. TIMI grade flow (TGF), corrected TIMI frame count (CTFC) and TIMI myocardial perfusion grade (TMPG) of the intervened vessel were recorded before and after stent deployment. Plasma level of CK-MB and cTnI were measured before and 24 h after the procedure.

Results The TGF after stent deployment was significantly improved with less TIMI 0–1 patients and more TIMI 3 blood flow in ISG than in SSG (all p<0.05). Patients with no reflow phenomenon were less in ISG (p=0.001). The CTFC was lower in ISG than SSG (p<0.001). TMPG was also improved in ISG than SSG (p=0.001). 24 h after the procedure, although PCI caused significantly increase in CK-MB, the elevated CK-MB value was lower in ISG than SSG (18.74±8.41 vs 21.78±10.64 p=0.018). Similar changes were also found with regard to Troponin I (0.99±1.07 vs 1.47±1.54, p=0.006). No myocardial infarction was found. Among them, myocardial necrosis was detected in 13% of the patients in SSG, while 4.4% in ISG (p=0.021). Myocardial infarction was found in 4.4% in the patients in SSG and 0.9% in ISG (p=0.215).

Conclusion Intensive statin pretreatment for 7 days before PCI can further improve myocardial blood perfusion, protect myocardium from ischaemic injury.

e0526 PROTECTIVE EFFECTS OF INTENSIVE STATIN PRETREATMENT ON RENAL FUNCTION IN PATIENTS WITH ACUTE CORONARY SYNDROME UNDERGOING PERCUTANEOUS INTERVENTION

doi:10.1136/hrt.2010.208967.526

Fu Xianghua, Jia Xinwei, Wang Yanbo, Wang Xuechao, Zhang Jing, Fan Weize, Hao Guozhen, Jiang Yunfa. The Second Hospital of Hebei Medical University, Shijiazhuang, Hebei, China

Objectives To evaluate the protective effects of higher dose statin on renal function and the incidence of CIN.

Methods 228 patients with acute coronary syndrome undergoing delayed percutaneous coronary intervention were randomly divided into standard statin group (SSG n=115) and intensive statin group (ISG n=113). Patients in SSG were given simvastatin 20 mg/day and patients in ISG were given simvastatin 80 mg/day for at least 7 days before PCI. Serum creatinine was measured at admission, 24 h and 48 h after PCI, and the Creatinine clearance was calculated. The levels of hs-CRP, ICAM-1 and P-selectin were also measured.

Results Serum creatinine underwent significant increase after PCI, the peak value occurred at 24 h, and then began to decrease. At 48 h after PCI, the creatinine level significantly decreased (p<0.001) to baseline level in ISG, whereas in SSG the creatinine level failed to decrease significantly. Serum creatinine at admission was not significantly different between the two groups, but at 24th and 48th hour after PCI, it were lower in ISG than SSG (p<0.05 at 24th hour and p<0.001 at 48th hour). The creatinine clearance significantly decreased after PCI, the lowest value occurred at 24 h, and then it began to increase. In SSG, the creatinine clearance increased significantly (p=0.03) at 48 h, but still significantly lower than baseline level. In ISG, the creatinine clearance increased significantly (p<0.001) at 48 h and recovered to the level at baseline. Creatinine clearance improved much more in ISG at 24 and 48 h than that in SSG (p<0.001 at 24th hour and at 48th hour). Although procedure caused significant increase in hs-CRP, P-selectin and ICAM-1 (p<0.001), the increase in ISG was smaller than SSG (p<0.001).

Conclusion Pretreatment with intensive statin dosage before PCI can further decrease the occurrence of CIN. This benefit may be associated with the lowering of hs-CRP, P-selectin and ICAM levels.

e0527 INTRAVASCULAR ULTRASOUND CRITERIA FOR THE ASSESSMENT OF THE FUNCTIONAL SIGNIFICANCE OF INTERMEDIATE CORONARY ARTERY STENOSIS

doi:10.1136/hrt.2010.208967.527

Cheng Xunmin, Jiang Shisen. Cardiology Department, Nanjing General Hospital of Nanjing Military Command of Pusa, Nanjing

Introduction In recent years, intravascular ultrasound (IVUS) has evolved as a valuable adjunct to angiography. IVUS allows precise tomographic measurement of lumen area and plaque size, distribution and, to some extent, composition. It is essential in clinic decision