**RELATION BETWEEN CLOPIDOGREL RESISTANCE AND INFLAMMATION FACTOR IN PATIENTS AFTER CORONARY STENTING**

doi:10.1136/hrt.2010.208967.510

Ge Hailong, Zhou Yujie, Zhao Yunxion, Shi Dongmei, Liu Yuyang, Guo Yonghe, Yang Qing, Cheng Wanjun. Department of Cardiology, Anzhen Hospital, Capital Medical University, China

**Objective**

To observe the serum levels of inflammatory cytokines in patients with clopidogrel resistance underwent PCI.

**Methods**

Platelet aggregation (PAG) induced with ADP were detected in 593 patients with unstable angina pectoris and had received coronary stenting. All patients were divided into clopidogrel resistance (CLR) group (n=333) and normal response group (n=260) according to PAG. At the same time, peripheral blood sample of all the patients were taken before, 24 h, 1 week and 1 month after implanting stents. The levels of C-reactive protein (CRP), P-selection and soluble fragment of CD40 ligand (sCD40L) in these patients were detected by enzyme linked immunosorbent assay.

**Results**

The incidence of clopidogrel resistance in 24 h, 1 week and 1 month after PCI was 35.5%, 26.9% and 19.3%. The levels of CRP (8.8±2.5 mg/dl at 24 h, 5.3±2.5 mg/dl at 1 week), P-selection (73.8±34 ng/ml at 24 h, 70.5±31.6 ng/ml at 1 week and 66.4±22.3 ng/ml at 1 month) and sCD40L (7.7±2.5 ng/ml at 24 h) had significant difference compared with the levels before and normal group (p<0.05). The CLR at 30 days after stent implanting was significantly correlated with the level of P-selection (r=1.534) and smoking (r=1.053).

**Conclusion**

The levels of CRP, P-selection and sCD40L of in some patient after undergoing coronary stenting increased and may correlated with clopidogrel resistance. The levels of P-selection and smoking were the predictor for clopidogrel resistance.

---

**IMPACT OF SMOKING-CESSATION ON PLATELET INHIBITION OF CLOPIDOGREL IN PATIENTS UNDERGOING ELECTIVE CORONARY DRUG-ELUTING STENT IMPLANTATION**

doi:10.1136/hrt.2010.208967.512

Liu Xiaoli, Zhou Yujie, Yang Qing, Yang Shiwei, Gao Fei. Department of Cardiology, Beijing Anzhen Hospital, Capital Medical University, Beijing, China

**Objective**

Cigarette smoking, as an inducer of CYP1A2 and increase the CYP1A2 activity, might enhance the generation of the active metabolite of clopidogrel. The study aimed to examine the impact of smoking cessation on platelet inhibition of clopidogrel.

**Method**

Current smoking patients undergoing elective coronary stent implantation were enrolled. Every patient was aggressively advised to quit smoking at admission. All the patients were given loading dose of 300 mg clopidogrel and 300 mg aspirin and daily maintenance dose of 75 mg clopidogrel in addition to 100 mg aspirin. Blood samples were collected before and 24 h after clopidogrel loading and pre-discharge. Platelet aggregation was determined by conventional light transmittance aggregometry after stimulation with 5 mmol/L ADP.

**Results**

224 male smoking patients were enrolled in our study. During staying in hospital, 157 patients gave up smoking and 67 still kept smoking. Before loading, the maximal platelet aggregation (MPA) was not significantly different between two groups. MPA after clopidogrel loading (42.8±11.5% and 38.6±14.3%, p=0.038) and pre-discharge (40.2±10.5% and 36.5±12.2%, p=0.041) showed significant difference between two groups.

**Conclusion**

Smoking cessation might weaken inhibition effect of clopidogrel on platelet aggregation for smokers.

---

**PLASMA NGAL COULD EARLY PREDICT CONTRAST-INDEUCED ACUTE KIDNEY INJURY AFTER PERCUTANEOUS CORONARY INTERVENTIONS**

doi:10.1136/hrt.2010.208967.513

Liu Xiaoli, Zhou Yujie, Wang Zhijian, Nie Bin. Department of Cardiology, Beijing Anzhen Hospital, Capital Medical University, Beijing, China

**Objective**

To examine the changing trend of plasma Neutrophil gelatinase-associated lipocalin (NGAL) after contrast exposure and to elucidate whether NGAL was good early biomarker for diagnosis of contrast induced acute kidney injury (CIAKI).

**Method**

251 patients undergoing percutaneous coronary intervention were enrolled. Blood samples were collected before and 2, 4, 8, 24, and 48 h after procedure. NGAL was measured with ELISA kit. CIAKI was defined as an increase in the serum creatinine values of ≥25% or ≥44.2 μmol/L. Receiver-operating characteristic (ROC)
curves were generated and the area under the curve (AUC) calculated.

**Results** At baseline, the plasma NGAL (69.4 ± 29.8 ng/ml) was correlated positively with creatinine (90.9 ± 20.4 μmol/L) (r² = 0.341, p < 0.001). The plasma NGAL increased at 2 h and reached peak at 8 h and decreased at 24 h after procedures. Among all the patients, 29 patients (12.6%) developed CIAKI. The sensitivity, specificity, and ROC curve for prediction of CIN were excellent for the 2 h plasma NGAL (75%, 89%, and 0.90, respectively).

**Conclusion** NGAL seems to be a potential early biomarker for CIAKI.

e0514 THE SAFETY AND FEASIBILITY OF REPEATED PERCUTANEOUS TRANSRADIAL CORONARY INTERVENTION IN THE SAME ROUTE

doi:10.1136/hrt.2010.208967.514
Nie Bin, Zhou Yujie, Yang Qiong, Cheng Wan-Jun, Wang Zhi-Jian, Wang Jian-Long. Department of Cardiology, Beijing Anzhen Hospital, Capital Medical University, Beijing, China

**Background** The radial approach has been increasingly used as an alternative to femoral access. And more procedures of repeated transradial coronary intervention (r-TRI) are performed. Few data about r-TRI has been obtained. Therefore, we tried to investigate the safety and feasibility of repeated transradial coronary intervention (r-TRI) in the same route.

**Methods** A total of 423 consecutive eligible patients undergoing repeated TRI were enrolled in r-TRI group, and 346 patients with initial TRI were assigned to i-TRI group in a 2-to-1 ratio matched by ages and gender. The primary endpoint included the success rate of procedure and incidence of vascular related complications.

**Results** The baseline clinical characteristics in two groups were comparable. The success rate of procedure in r-TRI and i-TRI was similar (98.0% vs 97.2%, p = 0.130). The patients in i-TRI group had more comfortable feeling than r-TRI group (p < 0.001).

**Conclusions** Repeated TRI produces an equal success rate and a lower vascular complication when compared to initial TRI. It should be considered as an acceptable and safe procedure.

e0515 THE VALUE OF EXAMINATION OF FOREARM ARTERY USING DOPPLER ULTRASOUND BEFORE TRANS

doi:10.1136/hrt.2010.208967.515
Nie Bin, Zhou Yujie, Yang Qiong, Cheng Wan-Jun, Wang Zhi-Jian. Department of Cardiology, Beijing Anzhen Hospital, Capital Medical University, Beijing, China

**Objective** To explore the value of examination of fore arm artery using Doppler ultrasound before transradial coronary intervention (TRI).

**Methods** Consecutive patients undergoing elective TRI were screened. Including criteria were as follows: positive Allen’s test result of right radial artery (RRA). The primary endpoints included the procedural success rate and incidence of vascular related complications. The secondary endpoints were: the average diameter of fore arm diameter and anatomic variations of approach.

**Results** A total of 1863 patients were eligible and assigned to ultrasound group (931 cases) and convention group without ultrasound examination (932 cases). The baseline clinic characteristics in two groups were comparable. 181 cases of anatomic variation in RRA approach were detected before procedure. Among these, 13 cases changed to other routes from RRA. The procedural success rate in ultrasound group and convention group was similar (98.0% vs 97.2%, p = 0.292). The incidence of vascular complications in ultrasound group was significantly lower than convention group (5.7% vs 11.6%, p = 0.039). Regarding artery perforation and radial artery occlusion, the incidences of those in ultrasound group occurred less frequently (p = 0.025 and 0.028, respectively).

**Conclusions** Examination of fore arm artery using Doppler ultrasound could not only detect anatomic variations and reduce vascular complication effectively, but also be helpful to selective suitable approach and instruments.

e0516 SAFETY AND EFFICACY OF TRANSULNAR APPROACH FOR CORONARY ANGIOGRAPHY AND INTERVENTION

doi:10.1136/hrt.2010.208967.516
Li Yunzhi, Zhou Yujie. Department of Cardiology, Beijing Anzhen Hospital, Capital Medical University, Beijing, China

**Background** Transradial approach, which is now widely used in coronary angiography and intervention may be advantageous with respect to the femoral access due to the lower incidence of vascular complications. Transulnar approach has been proposed for elective procedures in patients not suitable for transradial approach.

**Objective** The objective of this study was to evaluate the safety and efficacy of the transulnar approach vs the transradial approach for coronary angiography and intervention.

**Methods** 240 patients undergoing coronary angiography, followed or not by intervention, were randomised to transulnar (TUA) or transradial approach (TRA). Doppler ultrasound assessments of the forearm vessels were scheduled for all patients before procedures, 1 day and 30 days after procedures. The primary end point was access site vascular complications during hospitalisation and 30 day follow-up. MACE as secondary end point was recorded till 30 day follow-up.

**Results** Successful puncture was achieved in 98.3% (118/120) of patients in the TUA group, and in 100% (120/120) of patients in the TRA group. Coronary angiographies were performed in 40 and 39 patients in TUA and TRA group, respectively. The incidence of artery stenosis 1 day and 30 day after procedures was 11% vs 12.3% and 5.1% vs 6.6% in TUA and TRA group, respectively. The incidence of artery stenosis 1 day and 30 day after transradial angioplasty, and in 6.6% vs 4.9% of patients 1 day and 30 day after transulnar angioplasty. Minor bleeding was still observed at the moment of the ultrasound assessment in 5.9% and 5.7% of patients in TUA and TRA group, respectively (p = 0.949). No big forearm haematoma, and A-V fistula were observed in both groups. Freedom from MACE at 30 day follow-up was observed in all patients.

**Conclusion** The transulnar approach is as safe and effective as the transradial approach for coronary angiography and intervention. It is an attractive option for experienced operators who are skilled in this technique, particularly in cases of anatomic variations of the radial artery, radial artery small-calibre or thin radial pulse.