METHODS This was a prospective, randomized controlled pilot trial. A total of 84 patients with acute ST segment elevation myocardial infarction were enrolled into this study, and then patients were randomly divided to control group and Bivalirudin intracoronary injection group(Biv.ic group)at the ratio of 1:1(40 cases in control group and 44 cases in Biv.ic group). All patients were given intravenous maintaining does-bivalirudin by body weight. After restoring coronary blood flow(TIMI>=1) via guide wire or micro catheter, intracoronary bivalirudin was pushed via guide wire or micro catheter for half-does group; However, intracoronary bivalirudin was not given for control group then following the normal operation. The primary endpoint was defined as no reflow or slow flow (TIMI<=2) at the end of PPCI.

RESULTS (1) There were similar clinical baseline characters between the two groups except for the total dose of intracoronary bivalirudin (0.00±0.00ml vs 5.29±1.86ml, P<0.001) and ACT (269.64±43.55s vs 328.52±40.35s, P<0.001) because intracoronary bivalirudin was not given in control group. Besides, target vessel diameters between half-dose group and control group (2.81±0.18mm vs 2.72±0.20mm, P=0.039) was significant difference. (2) No statistical difference was observed on no flow or slow flow (TIMI<=2) [15%(6/40) vs 13.6%(6/44), P=0.428] between the two groups at the end of PPCI. (3) No independent risk factors for no re-flow and slow blood flow (TIMI<=2) were found during this pilot study.

CONCLUSIONS (1) Compared with control group, there were not significantly statistical differences on no-reflow or slow flow for intracoronary bivalirudin group; (2) Large scale randomized clinical trials are needed to further verify the effect of intracoronary administration of different dose bivalirudin on the protection of no-reflow during primary percutaneous coronary intervention.

GW28-e1173

Excimer laser in Acute myocardial infarction: Three Cases Report

Quanming Jing,[1] Han Yaling,[1] Xu Kai,[1] Wang Bin,[1] Wang Geng,[1] Sun Junna,[1] Ban Lei,[1] Han Yuan,[1] Wang Shuang[1]
[1]Department of Cardiology, Institute of Cardiovascular Research of People's Liberation Army, Shenyang Northern Hospital, Shenyang, Liaoning, China

OBJECTIVES Pulsed-wave ultraviolet excimer laser light at 308 nm can vaporize thrombus, suppress platelet aggregation and ablates the underlying plaque. Here we present the first initial experience in china with three cases of acute myocardial infarction treated by excimer laser instrument.

METHODS Three cases, aged 48 to 68 years, the target lesion in LAD for two cases and one in RCA. All of the lesion were total occluded with TIMI 0 grade flow before PCI. The Excimer laser catheter with 0.9 mm were started with energy density 30 mj/mm2 and delivery rate of 30 Hz, and was increased if necessary. During lasering the saline flush technique was applied to facilitate laser-transmitted pressure wave. One case with LAD big thrombus was used second 1.4mm laser catheter with 60/60 energy and rate. The laser catheter moved slowly at 0.5-1 mm/s.

RESULTS All patients was succeed by Excimer laser. No death or heart failure. But two cases were Timi 2 grade flow after procedure. The last case with RCA large thrombus, we get Timi 3 grade flow with a very slow move forward of laser catheter at 0.2-0.5 mm/s, and two 3.5/36mm stent implanted last.

CONCLUSIONS Excimer laser angioplasty is feasible, safe and effective for the challenging treatment of patients with AMI, Especially for thrombus-burden lesion. The move forward speed of excimer laser catheter is very important.

GW28-e1174

Percutaneous coronary intervention to left anterior descending artery guided by intravascular ultrasound

Bin Wang,[1] Han Yaling,[1] Jing Quanmin,[1] Wang Xiaozeng,[1] Ma Yingyan,[1] Liang Zhenyang,[1] Wang Geng,[1] Xu Kai,[1] Guan Shaoyi,[1] Fang Yi,[1] Wang Shuang[1]
[1]Department of Cardiology, Institute of Cardiovascular Research of People's Liberation Army, Shenyang Northern Hospital, Shenyang, Liaoning, China

OBJECTIVES To study the efficacy of percutaneous coronary intervention(PCI) to left anterior descending artery(LAD) guided by intravascular ultrasound(IVUS).

METHODS 28 patients with coronary heart disease admitted from November, 2015 to July, 2016 were enrolled. PCI was done to LAD guided by IVUS. The parameters about the length and the diameter of stents were determined by angiography and IVUS respectively and compared. The parameters from IVUS were the parameters of implanted stents.

RESULTS The stent length from angiography was 30.5±11.6mm, which had no difference compared with the stent length from IVUS (29.2±11.4mm) (p=0.127). The stent diameter from IVUS was 3.14±0.39mm, which was different with it from angiography (2.93±0.36mm) (p=0.000). After two patients whose relatively normal vessel segment was different from angiography and IVUS were excluded, the stent length from angiography was 29.5±11.2mm, which had no difference with the stent length from IVUS(29.3±11.5mm) (p=0.548). The stent diameter from IVUS was 3.13±0.40mm, which was different with it from angiography (2.91±0.35mm) (p=0.000).

CONCLUSIONS The stent diameter from IVUS is bigger than it from angiography. The stent length from IVUS is similar to it from angiography. The relatively normal vessel segment is different from angiography and IVUS in some rare settings.

GW28-e1175

Recanalization of stumpless chronic total occlusion with guidance by intravascular ultrasound in the side branch

Bin Wang,[1] Han Yaling,[1] Jing Quanmin,[1] Xu Kai,[1] Wang Xiaozeng,[1] Ma Yingyan,[1] Liang Zhenyang,[1] Wang Geng,[1] Liu Haiwei,[1] Guan Shaoyi,[1] Wang Shuang[1]
[1]Department of Cardiology, Institute of Cardiovascular Research of People's Liberation Army, Shenyang Northern Hospital, Shenyang, Liaoning, China

OBJECTIVES To investigate the possibility and efficacy of opening the stumpless chronic total occlusion (CTO) of coronary artery with guidance by intravascular ultrasound(IVUS) in the side branch.

METHODS Fourteen patients with coronary artery disease were enrolled from April, 2010 to September, 2016. The stumpless CTOs in main artery with a side branch at the location of CTO were found in these patients by coronary angiography. The IVUS catheter was sent to the side branch by the wire in it. The wire in the main artery was manipulated into the proximal edge in true lumen of CTO.

RESULTS Percentage of trying to find the proximal edge of CTO in middle segment of left anterior descending artery by IVUS in diagonal branch is highest of 71.4%. Twelve CTOs got a successful penetration in proximal edge by the guidance of IVUS in the branch artery. Nine CTOs were crossed by the wire in true lumen. Twelve CTOs were tried with Fielder XT firstly, one of which got success. Eleven CTOs were penetrated by the stiffer CTO wire.

CONCLUSIONS It is feasible that the stumpless CTO is opened with the guidance by IVUS in the side branch. The first choice for wire should be the stiffer CTO wire, not the taped soft wire in this situation.

GW28-e1176

Efficacy and safety of domestic biodegradable polymer sirolimus-eluting stents and durable polymer sirolimus-eluting stents in the treatment of coronary artery disease

Yi Fang,[1] Wang Bin,[1] Li Jing,[1] Qiu Miaohan,[1] Han Yaling,[1] Wang Shuang[1]
[1]Department of Cardiology, Institute of Cardiovascular Research of People's Liberation Army, Shenyang Northern Hospital, Shenyang, Liaoning, China

OBJECTIVES To compare the effect and safety of domestic biodegradable polymer sirolimus-eluting stents and durable polymer sirolimus-eluting stents in interventional therapeutic of patients with coronary heart disease.

METHODS A cohort of 2950 consecutive patients with coronary arterial disease who underwent drug eluting stents implantation was carried out. The patients were divided into the biodegradable polymer

group (n=1520), durable polymer group (n=1430). Gender data was matched for correction by using propensity score matching method. The incidence of main adverse cardiac event (MACE) (including cardiac death, myocardial infarction and target vessel revascularization) and stent thrombosis (ST) were followed up within one year.

RESULTS Two groups were similar in main baseline clinical information and major angiography characteristics after matching. The results showed that the two groups of patients with cardiogenic death (1.75%VS1.75%, P=1.0), myocardial infarction (3.63% VS 3.9%, P=0.7), target vessel revascularization (2.22%VS2.62%, P=0.47) and MACE (6.72% VS 7.26%,P = 0.57); stent thrombosis (1.2% VS 1.01%,P=0.18) were all no significant difference.

CONCLUSIONS The recent efficacy and safety of domestic biodegradable polymer sirolimus-eluting stents and durable polymer sirolimus-eluting stents in the treatment of coronary artery disease are similar, its long-term effect needs further study.

GW28-e1177

Analysis of Effectiveness of Endovascular Repair of Complicated Stanford B Acute Aortic Dissection: A Single-Center Experience

Ruixia He,[1,2] Liu YanJie,[1,2] Jing QuanMin,[1] Wang XiaoZeng,[1] Zhou TieNan,[1,2] Wang Shuang[1]
[1]Department of Cardiology, Institute of Cardiovascular Research, General Hospital of Shenyang Military Region, 110016, China; [2]Jinzhou Medical University, Jinzhou, china

OBJECTIVES To evaluate the security and effectiveness of endovascular repair (EVAR) of complicated Stanford B acute aortic dissection (AAD).

METHODS Retrospectively analysis clinical characteristics, perioperative characteristics and effectiveness of complicated Stanford B AAD patients treated with EVAR from April 2002 to February 2016.

RESULTS 1.Perioperative: 99 patients underwent EVAR treatment, 99.0% (98/99) operations were successful, 104 stents were implanted, the proximal average diameter was (38.9±3.3) mm, the mean length was (145.8±26.5) mm. 7 patients (7.1%) were combined coronary intervention. 7 patients died in hospital (7.1%), including 1 patient died from aortic dissection ruptured during surgery, 5 patients died from aortic dissection ruptured after surgery and 1 patients died from multiple organ failure. 2.Follow-up: The median follow-up time was 24 months. 9 patients (11.7%) died, including 4 cases cardiac death (5.2%). 1 cases recurrent dissection treated with EVAR (1.3%).

CONCLUSIONS Perioperative and follow-up results showed that EVAR treatment is safe and effective for complicated Stanford B AAD.

GW28-e1178

Ticagrelor Versus High-Dose (150-mg) Clopidogrel in stable coronary heart disease With High On-Clopidogrel Platelet Reactivity Following Percutaneous Coronary Intervention — A prospective, randomized, single-center, crossover Study

Zhenyang Liang,[1] Haiping Wang,[1] Yi Li,[1] Jing Li,[1] Xiaozeng Wang,[1] Yaling Han,[1] Wang Shuang[1]
[1]Department of Cardiology, Institute of Cardiovascular Research of People's Liberation Army, Shenyang Northern Hospital, Shenyang, Liaoning, China

OBJECTIVES Patients with stable coronary heart disease(CAD) undergoing percutaneous coronary intervention (PCI) frequently exhibit high platelet reactivity (HPR) while on clopidogrel. We aimed to test the hypothesis that HPR after standard treatment with clopidogrel, ticagrelor-standard dose (90 mg, twice one day) could be more effective than high-dose (150 mg/d) clopidogrel.

METHODS Consecutive patients with stable CAD undergoing PCI and loaded with clopidogrel were considered for platelet reactivity (PR) assessment at 24 hours after PCI with the 20μmol/L ADP -induced light transmittance aggregometry (LTA, Helena Laboratories, Beaumont City, USA) and VerifyNow assay (Accumetrics Inc, San Diego, CA), measured in maximum platelet agglutination (MPA) and P2Y12 reaction units (PRU). Of 655 screened patients, 40 (6.1%) were found with HPR (defined as MPA>=60% and PRU>=246, meanwhile) and participated in a prospective, randomized, single-center, crossover study of platelet inhibition by ticagrelor 90 mg twice a day vs clopidogrel 150 mg/d, with a 14-day treatment period.

RESULTS The primary end point of MPA and PR at the end of the 2 study periods was lower in patients receiving standard-dose ticagrelor than those receiving high-dose clopidogrel (MPA: 26.59±10.79 vs 47.39±15.57, 25.15±11.75 vs 48.26±19.12; PRU: 76.20±52.51 vs 175.65±20.82, 86.55±44.38 vs 126.50±68.09, all p value were <0.001, respectively).

CONCLUSIONS In patients with stable CAD undergoing PCI and exhibiting HPR after standard clopidogrel treatment, standard-dose ticagrelor 90 mg twice a day is significantly more efficacious than clopidogrel 150 mg/d in reducing MPA and PR.

GW28-e1179

CYP2C19 gene polymorphism in 950 patients with acute myocardial infarction : A single-center retrospective study

Zhenyang Liang,[1] Haiwei Liu,[1] Xiaozeng Wang,[1] Yi Li,[1] Jing Li,[1] Yaling Han,[1] Wang Shuang[1]
[1]Department of Cardiology of General Hospital of Shenyang Military Region, Institute of cardiovascular diseases of General Military

OBJECTIVES CYP2C19 gene polymorphism is associated with clopidogrel metabolism in human body. Clopidogrel is often used in patients of acute myocardial infarction as one of dual antiplatelet therapy. The objective was to investigate the distribution of CYP2C19 gene polymorphism and the correlation with platelet function in patients with acute myocardial infarction.

METHODS The retrospective study included the 950 patients with acute myocardial infarction enrolled in the Department of Cardiology of General Hospital of Shenyang Military Region between December 2012 to January 2012 who received CYP2C19 gene detection. All patients received standard dual antiplatelet therapy (Aspirin 100mg, qd+clopidogrel 75mg, qd). CYP2C19 gene chip detector was produced by Beijing BAIAOXIN technology company. The genetic polymorphisms of CYP2C19*2 and *3 were evaluated by 3ml venous blood sample. The study analyzed the distribution of CYP2C19 gene polymorphism the correlation with common clinical characteristics in patients with acute myocardial infarction.

RESULTS In 950 patients with acute myocardial infarction, 643 patients with acute ST segment elevation myocardial infarction, 307 patients with acute non ST segment elevation myocardial infarction.388 Cases (40.8%) were CYP2C19 gene wild type (*1/*1), 483 cases (50.8%) were heterozygous type (*1/*2 or *1/3), 79 case (8.4%) were the homozygous mutation type (*2/*2 or *2/*3 or *3/*3). In clinical data, there were no significant differences in sex, hypertension, diabetes, previous myocardial infarction, the type of myocardial infarction. During the hospitalization period, the proportion of high platelet reactivity (ADP>60%) was 57% (45 cases) in the CYP2C19 gene homozygous mutation type, 41% (198 cases) in the CYP2C19 gene heterozygous type and 34% (132 cases) in the CYP2C19 gene wild type. There was no significant difference in the incidence of high platelet reactivity between heterozygous and wild type (p=0.783) and there was statistically different in homozygous mutation type respectively compared with heterozygous type and wild type (p=0.013, 95% CI:1.78-5.17; P<0.001,95%CI:2.32-5.88).

CONCLUSIONS CYP2C19 gene homozygous mutation (*2/*2 or *2/*3 or *3/*3) may be associated with high platelet reactivity, while the CYP2C19 wild type (*1/*1) and mutant heterozygous (*1/*2 or *1/3) were not found to be associated with high platelet reactivity in the observed 950 patients with acute myocardial infarction treated with dual antiplatelet therapy.

GW28-e1180

Comparison of one-year outcomes in myocardial infarction patients with or without ST-segment elevation caused by unprotected left main coronary artery occlusion treated by emergency PCI: data from two centers registry

Haiwei Liu,[1] Han YaLing,[1] Chen ShaoLiang,[2] Jin QuanMin,[1] Wang XiaoZeng,[1] Ma YingYan,[1] Wang Geng,[1] Wang Bing,[1] Xu Kai,[1] Wang Shuang[1]
[1]Department of Cardiology, Institute of Cardiovascular Research, General Hospital of Shenyang Military Region, 110016; [2]Cardiology Department, Nanjing First Hospital, Nanjing, Jiangsu Province, China