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Cilostazol nearly abolishes angiographic restenosis after sirolimus-eluting stenting for complex coronary artery disease

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Background : Cilostazol, a phosphodiesterase III inhibitor, has been reported to reduce restenosis after bare-metal stent implantation. We evaluated the impact of cilostazol after SES implantation for complex coronary artery disease. **Methods** : We compared triple antiplatelet therapy (aspirin, clopidogrel and cilostazol, triple group, n=223) and dual antiplatelet therapy (aspirin and clopidogrel, standard group, n=227) for 6 months in patients with long coronary lesion (length ≥ 25 mm) or diabetes mellitus (DM) undergoing SES implantation. We evaluated the 6-month angiographic restenosis and 9-month clinical outcomes. **Results** : Both groups showed similar baseline clinical and angiographic characteristics. Lesion length (30 ± 12 mm vs. 30 ± 13 mm, $p=0.549$) and stent length (37 ± 14 mm vs. 37 ± 14 mm, $p=0.888$) were also similar in both groups. Follow-up angiography was obtained in 192 patients (86.1%) of triple group and 194 patients (85.5%) of standard group. In-stent (0.04 ± 0.39 mm vs. 0.18 ± 0.39 mm, $p=0.002$) and in-segment (0.19 ± 0.34 mm vs. 0.36 ± 0.41 mm, $p<0.001$) late loss were significantly lower in triple group than in standard group. In-stent (0.5% vs. 5.7%, $p=0.004$) and in-segment restenosis (0.5% vs. 6.7%, $p=0.001$) were significantly reduced in triple group than standard group at 6 month follow-up angiography. Target lesion revascularization (TLR) was required in 1.3% (1 for restenosis, 1 for stent thrombosis, and 1 for IVUS-guided TLR) of triple group and 3.1% of dual group ($p=0.338$) and major adverse cardiac events (1.3% vs. 4.0%, $p=0.141$) including death, myocardial infarction, and target lesion revascularization at 9 months were similar in both group. At 9 months, two groups showed similar rates of stent thrombosis (0.4% vs 0.9%, $p=0.999$), death (0% vs. 0.9%, $p=0.499$), myocardial infarction (0.4% vs. 0.9%, $p=0.999$). There were no differences in adverse drug reactions related to cilostazol in both groups. **Conclusions** : Triple antiplatelet regimen including cilostazol significantly reduces angiographic restenosis and late loss compared to standard antiplatelet regimen after SES implantation without increasing the risk of serious adverse reactions.

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Myocardial Viability and TIMI myocardial perfusion grade After Primary PCI in STEMI

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Background : The TIMI myocardial perfusion grade (TMPG) reflects myocardial perfusion and is associated with long term clinical outcomes. This study was to compare the TMPG as the parameter of reperfusion with the prediction of myocardial viability as determined by fluorine-18 deoxyglucose positron emission tomography (FDG-PET). **Methods** : We collected clinical, biochemical and angiographic information in 47 consecutive patients (40 men and 7 women; age 56 ± 11 years) who underwent primary PCI for ST segment elevation myocardial infarction (STEMI) from May, 2004. After PCI, we assessed coronary flow reserve (CFR), diastolic deceleration time (DDT) by intracoronary Doppler wire. All patients underwent FDG-PET scan on the 7th day after primary PCI. The patients were divided into 3 groups according to the TMPG (TMPG 0/1: n=20, TMPG 2: n=14, TMPG 3: n=13). **Results** : There were no significant differences in reperfusion time (onset to balloon time) and cardiac enzyme among the groups. The patients with the TMPG 3 had the highest CFR, DDT and the most favorable FDG uptake rate (Table). The myocardial wall motion was most improved in the TMPG 3. We also found that there was a significant difference in the incidence of the patients with viable myocardium among the groups (Table). **Conclusions** : The angiographic TMPG might be clinically useful for assessment of myocardial viability in patients with STEMI during primary PCI.

TMPG 0/1 (n=20)	TMPG 2 (n=14)	TMPG 3 (n=13)	P value	
CFR	1.55 ± 0.52	1.79 ± 0.65	2.19 ± 0.52	0.012
DDT (msec)	446 ± 229	843 ± 212	844 ± 301	<0.001
FDG-uptake	41.4 ± 12.2	52.3 ± 11.2	59.4 ± 11.3	0.001
Viable myocardium (%)	22.2 %	57.7%	84.6%	0.001
Δ EF	3.1 ± 6.1	5.5 ± 10.6	6.9 ± 4.4	0.028
Onset to balloon time (min)	398 ± 321	459 ± 300	378 ± 117	0.818
CK-MB (peak)	284.1 ± 182.0	205.4 ± 149.5	184.6 ± 162.3	0.234