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### Relationship between Coronary Microvascular Indices and Chronic Hyperglycemic State (HbA1c) in Acute Myocardial Infarction

아주대의료원 순환기내과

*우성일 · 탁승제 · 윤명호 · 최소연 · 최병주 · 임홍석 · 황교승
신준한 · 강수진 · 최운정 · 황정원 · 양형모 · 서경우 · 박진선 · 김진우

**Purpose** : Chronic hyperglycemic state might be related with degree of microvascular damage, regardless of the glucose level at the early stage of acute myocardial infarction (AMI). However, there are few data about effect of chronic hyperglycemia on the microvascular damage in AMI patients with diabetes mellitus (DM). This study was to evaluate the relationship between chronic hyperglycemic state and degree of microvascular damage in AMI patients with DM. **Methods** : We collected clinical, biochemical and angiographic information in 55 consecutive patients ( 44 male; age 56±11 years) treated with percutaneous coronary intervention (PCI) for AMI. We measured glycosylated hemoglobin (HbA1c) and glucose level on the admission day. After PCI, we assessed coronary flow reserve (CFR), microvascular resistance index (MVRI) defined as the mean coronary arterial pressure divided by the hyperemic average peak velocity with intracoronary Doppler wire. Also, we assessed TIMI myocardial perfusion grade (TMPG) and the patients were divided into 3 groups according to the TMPG (TMPG 0/1; n = 6, TMPG 2; n = 22, TMPG 3; n = 27). **Results** : There was a significant correlation between CFR and HbA1c level (r = −0.30, p = 0.033). MVRI had a good correlation with HbA1c level (r = 0.41, p = 0.006) and glucose level (r = 0.34, p = 0.03), respectively. There was also significant correlation between TMPG and HbA1c level (r = −0.464, p = 0.001) and the patients with high TMPG had low HbA1c level (TMPG 0/1; 9.50±2.26 % vs TMPG 2; 7.96±1.36 % vs TMPG 3; 7.22±0.99 %, p = 0.002, respectively). **Conclusions** : At the early stage of AMI, chronic hyperglycemic state assessed by HbA1c level was associated with severe microvascular damage in AMI patient with DM. Therefore, intensive glucose control might be required to preserve microvascular integrity of infarct related myocardium in AMI patients.

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### Impact of Cilostazol on Performance of Drug-Eluting Stent according to Stent Type subgroup analysis of DECLARE trial

울산의대 서울아산병원 심장내과

*정인현 · 김정훈 · 서존 · 김상현 · 박덕우 · 이승환 · 김영학 · 이철환 · 홍명기 · 김재중 · 박성욱 · 박승정

**Background** : Cilostazol, a phosphodiesterase III inhibitors, has been reported to reduce neointimal hyperplasia and restenosis after bare-metal stent implantation. Recently cilostazol has been reported to reduce neointimal hyperplasia. We evaluated the impact of cilostazol after sirolimus-eluting stent (SES) or paclitazel eluting stent (PES) 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 receiving SES (223 patients of triple group vs. 227 of dual group) or PES (223 patients of triple group vs. 227 of dual group) for long coronary lesion (length ≥25mm) or diabetic patients. We evaluated the 6-month angiographic outcomes and 9-month clinical outcomes. **Results** : The SES or PES patients had similar baseline clinical and angiographic characteristics in respective triple versus dual groups. Follow-up angiography was obtained in 85.8% of SES patients and 79.8% of PES patients. In-stent (SES; 0.04±0.39 mm vs. 0.18±0.39 mm, p=0.002, PES; 0.42±0.54 mm vs. 0.53±0.57 mm, p=0.06) and in-segment (SES; 0.19±0.34 mm vs. 0.36±0.41 mm, p<0.001, PES; 0.57±0.55 mm vs. 0.69±0.51 mm, p=0.026) late loss were lower in triple group than in standard group. Absolute reduction of degree of in-stent and in-segment late loss was (0.13±0.04mm and 0.17±0.04 of SES patients, 0.11±0.06 mm and 0.13±0.06 of PES patients). Triple group has more pronounced effect on in-stent restenosis in SES (0.5% vs. 5.7%, p=0.004; absolute risk reduction: 5.2%) than PES (13.3% vs. 15.7%, p=0.506; absolute risk reduction: 2.4%) patients. However, absolute risk reduction of in-segment restenosis were similar between SES (0.5% vs. 6.7%, p=0.001, absolute risk reduction: 6.2%) and PES (14.4% vs. 20.2%, p=0.142, absolute risk reduction: 5.8%) in triple versus dual group at 6 month follow-up angiography. **Conclusions** : Cilostazol showed significant reduction of late luminal loss and in-segment restenosis regardless of stent type. But reduction of in-stent restenosis was more prominent in SES than PES patients using cilostazol.