MYOCARDIAL ISCHEMIA AND INFARCTION

THE RISK FACTORS AND CHARACTERS FOR PROGRESSING NEW LESIONS IN THE PATIENTS UNDERGOING PCI

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Background: In the patients undergoing percutaneous coronary intervention (PCI), new lesion formation as well as restenosis after PCI occurs frequently and necessitates revascularization. However, there are limited studies about the progression of new lesions.

Purpose: To examine the risk factors for development of new lesions after PCI.

Methods: We investigated the risk factors related to new lesions, which are defined as the significant lesions in the portion other than the PCI-treated lesions at the follow-up coronary angiography (CAG), not identified as significant at the time of PCI. We enrolled 1532 consecutive patients with total 3067 lesions undergoing successful PCI from 2005 to 2009 and follow-up CAG with a time interval>3 months. The 1089 patients were followed up and divided into the new-lesion group (n=307) and the non new-lesion group (n=782).

Results: Male gender, diabetes, elevated hsCRP level and elevated creatinine level at baseline were found to be statistically significant risk factors for new lesion formation (p=0.005, 0.007, 0.026, and 0.015, respectively). Low HDL-cholesterol level at the followed-up CAG was related to new lesion formation (p=0.003). Systolic BP (SBP) at baseline was not different between two groups. But at the follow-up CAG, SBP was significantly lower in non new-lesion group compared with new-lesion group (p=0.005). According to an analysis about PCI information and morphology of new lesions, PCI of ostial lesions and rotablator technique were significantly related to the new lesion formation (P=0.003, P=0.010). Further interesting result was that paclitaxel-eluting stent (PES) was the risk factor of the new lesion development (P=0.008), even though bare metal stent and sirolimus-eluting stent were not.

Conclusions: Male gender and diabetes are risk factors of new lesion formation after PCI and lowering of SBP might reduce the risk for new lesion development. Furthermore, new lesions occurred more frequently after PCI with PES.