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eGFR is Associated with the Clinical Prognosis in Patients with Coronary Artery Disease Treated by PCI

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Background: Although mortality of coronary artery disease (CAD) has declined, CAD is leading cause of mortality in Japan. It is important to identify the predictors of the prognosis in patients with CAD. The objective of this study was to identify the predictors for clinical prognosis in patients with CAD treated by percutaneous coronary intervention (PCI). Methods and Results: We retrospectively analyzed 311 consecutive patients who received PCI during January 2007 to December 2008. Mean follow-up period was 969 days. The frequency of major adverse cardiovascular events (MACE) including death, myocardial infarction, restenosis, target lesion and vessel revascularization and stent thrombosis was 20.3% (63/311). In the MACE group, the frequency of diabetes mellitus (60.3% vs. 43.4%; p=0.0147), hemodialysis (9.5% vs. 2.4%; p=0.0089) and acute coronary syndrome (42.9% vs. 29.8%; p=0.0488) and the use of angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs) (25.4% vs. 44.4%; p=0.0062) were significantly higher than those in the non-MACE group. Moreover, in the MACE group, plasma glucose level was higher (159 vs. 133 mg/dl; p=0.0005) and estimated glomerular filtration rate (eGFR) was lower (52.8 vs. 59.7 ml/min/1.73m2; p=0.0205) than that in the non-MACE group. In multiple regression analysis, eGFR (β=-0.152, p=0.0151) and the use of ACE-inhibitors or ARBs (β=-0.160, p=0.0074) are independent significant predictors for MACE. Conclusion: eGFR and the non-use of ACE-inhibitors or ARBs are independent significant predictors for MACE in patients with CAD treated by PCI.