

## 論 文 要 旨

### Angiotensin-Converting Enzyme Inhibitor Prevents the Worsening of Renal Function in the Late Phase after Percutaneous Coronary Intervention

神田 大輔

**AIM:** The amount of contrast media and renal atheroemboli are risk factors for acute kidney injury after percutaneous coronary intervention (PCI). However, the chronic kidney injury after PCI has not been fully characterized. The purpose of this study was to investigate factors affecting renal function in the late phase after PCI by measuring serum Cystatin C (CysC).

**METHODS:** In 143 consecutive patients who underwent elective PCI, CysC was evaluated at baseline and at 9 months after PCI, and the percent change in CysC (%CysC) was calculated. The association between %CysC and baseline characteristics, including medication use, was assessed.

**RESULTS:** Of 143 patients, 86 had worsening renal function (WRF; %CysC  $\geq 0$ ), and 57 did not (non-WRF; %CysC  $< 0$ ). Only the use of angiotensin-converting enzyme inhibitor (ACEI) and baseline CysC were significantly different between WRF and non-WRF patients (15 vs. 40%,  $p=0.001$  and  $1.02\pm 0.26$  vs.  $1.13\pm 0.26$  mg/L,  $p=0.015$ ). In univariate analysis, the use of ACEI and CysC were negatively associated with WRF [Odds ratio (OR)=0.26, 95% confidence interval (CI)=0.12-0.57,  $p<0.001$  and OR=0.20, 95% CI=0.05-0.73,  $p=0.015$ ]. Furthermore, multivariate analysis revealed that the use of ACEI and CysC significantly correlated with WRF (OR=0.26, 95% CI=0.11-0.57,  $p<0.001$  and OR=0.20, 95% CI=0.05-0.74,  $p=0.016$ ). The %CysC in 36 patients with ACEI was significantly lower than that in 107 patients without ACEI [median:  $-3.8\%$ ; interquartile range (IQR),  $-11.0$  to  $4.2\%$ ; vs. median:  $3.3\%$ ; IQR  $-2.9$  to  $11.0\%$ ,  $p=0.001$ ].

**CONCLUSION:** The use of ACEI was associated with lower CysC after PCI, suggesting that ACEI prevents worsening of renal function in late phase after PCI