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CKD-EPI eqaution과 MDRD study equation에 따른 급성 심근 경색 환자의 임상 예후 : Results from the Korea Acute Myocardial Infarction Registry

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Predicting Outcome after Myocardial Infarction by the Chronic Kidney Disease Epidemiology Collaboration Equation in Comparison with the Modification of Diet in Renal Disease Study Equation

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Background: The presence of renal insufficiency is an independent prognostic factor in patients with myocardial infarction (MI). We applied the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation and the Modification of Diet in Renal Disease (MDRD) study equations to estimate glomerular filtration rate (eGFR) in a cohort of MI populations, and compared clinical outcomes to access its prognostic values.

Methods: This study analyzed a retrospective cohort of 11,050 consecutive patients who had myocardial infarction and were enrolled in the Korea Acute Myocardial Infarction Registry (KAMIR) from November 2005 to August 2008.

Results: The mean eGFRCKD-EPI was slightly higher than eGFRMDRD (73.16 versus 72.23 ml/min/1.73m^2, $p<0.001$). The prevalence of eGFRCKD-EPI <60ml/min/1.73m^2 was 26.9%, whereas eGFRMDRD was 28.5%. Area of the receiver operator characteristic curve was significantly larger for predicting 1-year major cardiovascular event (MACE) and 1-year death with eGFRCKD-EPI (0.648 versus 0.641, 0.768 vs 0.753; $p<0.001$, respectively). Patients who reclassified to higher eGFR categories by eGFRCKD-EPI had a favor clinical outcomes compared with those reclassified to lower eGFR categories (1-year MACE, 8.9% versuss 12.7%, $p=0.007$; 1-year death, 9.9% versus 2.4%, $p<0.001$). The net reclassification index for improvement in risk of 1-year MACE and 1-year death were 4.09% ($p<0.001$) and 9.25% ($p<0.001$), respectively.

Conclusion: The application of the eGFRCKD-EPI demonstrated better predictive values for clinical outcomes than eGFRMDRD in a cohort of MI populations.

Key Words: 임상 예후, CKD-EPI equation ,심근경색
Clinical outcome, CKD-EPI equation, Glomerular filtration rate