

Glomerular Filtration Rate and Cardiovascular Outcomes after Acute Myocardial Infarction: Results from Korea Acute Myocardial Infarction Registry

Eun Hui Bae¹, Sang Yup Lim², Kyung Hoon Cho¹, Eun Seon Yoo¹
Sun Ju Cho¹, Seong Kwon Ma¹, Myung Ho Jeong¹, Soo Wan Kim¹

Department of Internal Medicine¹ Chonnam National University Medical School
Department of Internal Medicine² Korea University

Background: Renal dysfunction is associated with one of the highest risks, but relation between chronic kidney disease (CKD) stage and cardiovascular outcomes after acute myocardial infarction (AMI) is not well defined.

Methods: As a part of the Korea Acute Myocardial Infarction Registry (KAMIR), we identified 12,636 patients with acute Myocardial infarction between November 2005 and July 2008. The glomerular filtration rate (GFR) was estimated by means of the four-component Modification of Diet in Renal Disease equation, and the patients were grouped according to GFR. Primary end points were death and complication in hospital courses. Secondary end points were major adverse cardiac event (MACE) during follow-up.

Results: The median follow-up was 404 ± 61 days, the mean age was 64 ± 13 years, and 70.4 percent of the group were men. A graded association was observed between GFR and clinical outcomes. The group IV and V independently predicted in-hospital death and MACE (hazard ratio, 2.004, 6.106; $p < 0.001$; 1.869, 4.789; $p < 0.001$). Diabetes mellitus (DM) was not associated with in-hospital MACE, while an independent risk factor for MACE during follow up (hazard ratio, 1.183; 95% CI, 0.978 to 1.431, $p = \text{NS}$ vs. 1.191; 95% CI, 1.051 to 1.351, $p = 0.006$). Use of beta blocker, angiotensin converting enzyme inhibitors (ACEi) or angiotensin receptor blockers (ARB) and statin was associated with reduced risk for MACE.

Conclusion: Severe renal dysfunction and DM were an independent risk factor for the mortality and complications of AMI, while use of beta-blockers, ACEIs or ARB and statin reduced risk for MACE.

Key Words: 심근경색증, 사구체여과율, 사망율

Myocardial infarction, Glomerular filtration rate, Mortality