Long term clinical outcomes of newly diagnosed diabetes and prediabetes among patients with acute myocardial infarction

[Purpose] Recent studies have demonstrated that newly diagnosed diabetes mellitus and prediabetes is common among patients with acute myocardial infarction. We examined the 5-years clinical outcomes of known diabetes mellitus, newly diagnosed diabetes mellitus and prediabetes among acute myocardial infarction undergoing primary percutaneous coronary intervention.[Method] We retrospectively analyzed a total of 4,748 acute myocardial infarction patients who successfully underwent PCI from January 2004 to December 2009 in COREA-AMI (COnvergent REgistry of cAtholic and chonnAm university for AMI) registry. Patients were stratified into four groups: known diabetes (n=1494[31.5%]; reported on the case report form, newly diagnosed diabetes (n=517[10.9%]; no diabetes history and HbA1c>6.5), prediabetes(n=884[18.6%]; no diabetes history and 5.7<HbA1c<6.4, no diabetes(n=1853[39.0%]). Primary outcomes were all-cause mortality and major adverse cardiovascular and cerebrovascular event (composite of cardiac death, non-fatal MI, stroke, target vessel revascularization). [Result] Newly diagnosed diabetes was associated with greater 5-years mortality (adjusted hazard ratio (HR) 1.421, 95% CI 1.106-1.824 and p=0.006) and greater 5- years MACCE (adjusted HR 1.291, 95% CI 1.022-1.630 and p=0.032). Known diabetes was also associated with greater 5-years mortality (adjusted HR 1.471, 95% CI 1.228-1.762 p<0.001) and greater 5-years MACCE (adjusted HR 1.449, 95% CI 1.225-1.713 and p<0.001). Prediabetes was associated with greater 5-years MACCE (adjusted HR 1.219, 95% CI 1.002-1.484 and p=0.048), but 5-years mortality was similar to those of normal patients. [Conclusion] In addition to known diabetes, newly diagnosed diabetes and prediabetes are also an independent risk factor for long-term MACCE in patients with acute myocardial infarction.