IMPACT OF RENAL INSUFFICIENCY ON 30-DAY OUTCOMES IN PATIENTS UNDERGOING PRIMARY PERCUTANEOUS CORONARY INTERVENTION FOR ACUTE MYOCARDIAL INFARCTION

ACC Poster Contributions
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Background: The prognostic importance of renal insufficiency (RI) in patients undergoing primary percutaneous coronary intervention (PCI) for acute myocardial infarction has not been well characterized.

Methods: To evaluate this group, we reviewed 1024 consecutive patients treated with primary PCI for ST-segment elevation myocardial infarction between January 2003 and December 2007: 318 (31%) with RI and 706 (69%) without RI. RI was defined as an estimated glomerular filtration rate <60 ml/min/1.73m².

Results: Compared to patients without RI, patients with RI were older (75 VS 64 years, p<0.0001) and were more likely to be female (34% VS 23%, p<0.001); to have prior myocardial infarction (17% VS 9.8%, p<0.001), prior stroke (8.5% VS 4.0%, p<0.01), cardiogenic shock (18% VS 3.4%, p<0.0001), multivessel coronary disease (44% VS 33%, p<0.001), 30-day mortality rate (10% VS 2.1%, p<0.0001), and cardiac mortality rate (9.7% VS 1.8%, p<0.0001). Successful reperfusion in patients with RI was significantly less achieved (89% VS 93%, p<0.05), compared to those without RI. Successful compared to unsuccessful PCI decreased 30-day mortality rates in patients with RI (7.4% VS 31%, p<0.0001), and in those without RI (1.5% VS 10%, p<0.0001).

When patients did not present with cardiogenic shock, patients with RI were more likely to have 30-day mortality rate (4.6% VS 1.5%, p<0.01) and cardiac mortality rate (4.2% VS 1.2%, p<0.01), compared to those without RI; however, successful reperfusion was achieved in both patients with and without RI at a similarly high rate (91% and 94%, p=NS). Successful compared to unsuccessful PCI decreased 30-day mortality rates in stable patients with RI (3.4% VS 17%, p<0.01), and in those without RI (0.9% VS 9.1%, p<0.0001).

By multivariate analysis in all 1024 patients, unsuccessful reperfusion (odds ratio 4.46, 95% confidence interval 1.96 to 10.1, p<0.001) and RI (odds ratio 2.41, 95% confidence interval 1.12 to 5.22, p<0.05) independently predicted 30-day mortality.

Conclusion: Patients with RI have more baseline cardiovascular risk factors and a markedly increase in 30-day and cardiac mortality rates. Aggressive PCI in patients with RI improves prognosis.