

## Impact of Acute Kidney Injury on Clinical Outcomes after ST Elevation Acute Myocardial Infarction

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**Purpose:** This study aimed to compare the incidence and clinical significance of transient versus persistent acute kidney injury (AKI) on acute ST elevation myocardial infarction (STEMI).

**Materials and Methods:** The study was a retrospective cohort of 855 patients with STEMI. AKI was defined as an increase of  $\geq 0.3$  mg/dL in creatinine level at any point during hospital stay. The study population was classified into 5 groups: 1) patients without AKI; 2) patients with mild AKI that resolved by discharge (peak Cr  $\geq 0.3$ – $0.49$  mg/dL higher than admission creatinine, transient mild AKI); 3) patients with mild AKI that did not resolve by discharge (persistent mild AKI); 4) patients with moderate/severe AKI that resolved by discharge (peak Cr  $\geq 0.5$  mg/dL higher than admission creatinine, transient moderate/severe AKI); 5) patients with moderate/severe AKI that did not resolve by discharge (persistent moderate/severe AKI). The primary end point of the study was 1-year all-cause mortality after hospital discharge. The relation between AKI and 1-year mortality after STEMI was analyzed.

**Results:** AKI was occurred in 74 (8.7%) patients during hospital stay. Adjusted hazard ratio for mortality was 3.139 (95% CI 0.764 to 12.897,  $p=0.113$ ) in patients with transient, mild AKI and 8.885(95% CI 2.710 to 29.128,  $p<0.001$ ) in patients with transient, moderate/severe AKI compared to patients without AKI. Persistent moderate/severe AKI was also independent predictor of 1 year mortality (hazard ratio, 5.885; 95% CI 1.079 to 32.101,  $p=0.041$ ).

**Conclusion:** Transient and persistent moderate/severe AKI during acute myocardial infarction is strongly related to 1-year all cause mortality after STEMI.

**Key Words:** Acute kidney injury, Myocardial infarction, Mortality