

Acute Kidney Injury in the Intensive Care Units: Risk Factors and Mortality

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Purpose: Acute kidney injury (AKI) is a common and serious complication in critically ill patients. This study aimed to describe the clinical characteristics and to define factors associated with AKI and in-hospital mortality on the basis of their RIFLE classification.

Methods: We performed a retrospective study of 321 patients presented with AKI in intensive care unit (ICU), from October 2008 to September 2010. AKI was defined by RIFLE classification and we analyzed the reason for ICU admission, in-hospital mortality, the duration of hospitalization, the severity of AKI, and maximum Sequential Organ Failure Assessment (SOFA) score (SOFAMax).

Results: The mean age of the patients was 69.6 ± 14.7 , the number of male was 180 (55.1%). The mean length of hospital stay was 19.0 ± 25.2 days, and the overall in-hospital mortality rate of the ICU patients with AKI was 32.7% (105 patients in 321). Some reasons for ICU admission such as pulmonary disease, malignancy were significantly higher mortality than the other. The mortality rate according to RIFLE classification was 14.7% for risk patients (15/102), 35.2% for injury patients (31/88), 43.2% for failure patients (51/118), which of the severity of AKI was higher than in the risk and failure patients ($p=0.000$, and 0.002). And there was a progressive and significant increase in mortality rate with increasing RIFLE classification among all patients ($p<0.001$). Also the patients had higher SOFAMax, significantly higher mortality rate ($p<0.001$).

Conclusion: The severity of AKI according to RIFLE classification was associated with increased in-hospital mortality, and some reasons for ICU admissions such as pulmonary disease, malignancy increased mortality. In addition, both RIFLE classification and SOFAMax are useful tools to predict the clinical outcome of AKI in critically ill patients.

Key Words: 급성 신손상, 중환자실, 위험인자

Acute kidney injury, Intensive care unit, Risk factor