

## **Abstract**

### **Introduction and Objectives:**

Acute kidney injury (AKI) represents a common and severe complication in critically ill patients, being associated with higher mortality rates, longer length of stay in the intensive care unit (ICU), and hemodialysis requirements. Information on predictors and outcomes of AKI with standardized KDIGO criteria is lacking in ICUs of Sri Lanka. This analysis had twin purpose of identifying clinical, biochemical and demographic predictors for severe AKI and to assess the outcomes among ICU patients in National Hospital, Galle.

### **Materials and Methods:**

A prospective observational study of adult patients admitted in an ICU > 24 hours who developed AKI as per KDIGO criteria. A standardized data collection form was used to collect demographic, clinical and laboratory variables. The severity of AKI was defined as KDIGO stage 1 or stage 2–3. Outcomes included ICU mortality, length of stay in the ICU and need for RRT. Descriptive statistics were employed and a multivariable logistic regression model was used to determine independent predictors of severe AKI, ICU mortality, and RRT.

### **Results:**

A total of 92 AKI patients were included, and the median age was 58 (IQR:46-68) years, and male gender accounted for 62.9%. KDIGO stage 2–3 AKI occurred in 52.8% of patients. The incidence of hypotension or shock and vasopressin was significantly higher in those with severe AKI. ICU mortality was 32.6% and KDIGO stage 2–3 AKI had significantly higher mortality in comparison to KDIGO stage 1 (48.9% vs 14.3%,  $p < 0.001$ ). Potassium derangements were also independently associated with higher mortality (adjusted OR 5.80; 95% CI, 1.70–19.74). High blood urea was an independent predictor for the need of RRT (adjusted OR 4.95; 95% CI 1.44–17.05).

### **Conclusions:**

Among ICU patients, severe AKI is a strong predictor of mortality and RRT. Basic biochemical abnormalities, as serum urea and potassium derangements, represent important prognostic indicators in the resource-constrained setting. Early recognition and specific triage of patients at risk may prevent intensive care unit deaths.

**Keywords:** Acute kidney injury; KDIGO criteria; ICU mortality

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