STUDY PROTOCOL

Title: Predicting Mortality in Patients With Return of Spontaneous Circulation After Cardiac Arrest

ClinicalTrials.gov Identifier: NCT07020091

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Study Design

This study is a retrospective observational cohort study conducted in a tertiary adult intensive care unit.

Study Population

Adult patients (≥18 years) who achieved return of spontaneous circulation (ROSC) after cardiac arrest and were admitted to the intensive care unit (ICU) between January 1, 2024 and May 31, 2025 were included. Patients were retrospectively identified from electronic medical records.

Data Collection

Baseline demographic, clinical, laboratory, and resuscitation-related variables were collected from hospital electronic systems. Data recorded within the first 24 hours of ICU admission were included in the analysis.

Outcome Measures

The primary outcome was 30-day all-cause mortality after ICU admission. Secondary outcomes included in-hospital mortality and 6-month all-cause mortality.

Statistical Analysis Plan

Continuous variables were assessed for normality using the Shapiro–Wilk test and presented as mean ± standard deviation or median (interquartile range), as appropriate. Categorical variables were expressed as counts and percentages.

Comparisons between groups were performed using Student's t-test or Mann–Whitney U test for continuous variables, and chi-square or Fisher's exact test for categorical variables.

Multivariable logistic regression analysis was used to identify independent predictors of mortality. Variables with clinical relevance or statistical significance in univariable analysis were included in the model.

Receiver operating characteristic (ROC) curve analysis was performed to evaluate the discriminative performance of severity scores. The area under the curve (AUC) and 95% confidence intervals were calculated.

A p-value < 0.05 was considered statistically significant. Statistical analyses were performed using SPSS software (IBM Corp., Armonk, NY, USA).

Ethical Considerations

The study was approved by the local ethics committee, and the requirement for informed consent was waived due to the retrospective design of the study.