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Factors Associated with Prolonged ICU Stay After Cardiac Surgery

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Introduction: Cardiac surgery is a complex procedure, and the number of high-risk patients has increased due to the aging population and the higher prevalence of comorbidities. Several risk factors influence the length of stay in the Intensive Care Unit (ICU). This study aimed to evaluate the risk factors associated with prolonged ICU stay (PIS) in patients undergoing cardiac surgery with cardiopulmonary bypass (CPB).

Material and Methods: A retrospective study was conducted from January to December 2017, including adult patients who underwent surgery with CPB. Data related to preoperative, intraoperative, and postoperative variables were collected. A prolonged ICU stay was defined as an ICU stay longer than four days.

Results: Among the 47 patients included, the median age was 47 years; 26 (55.3%) were male. Valve surgery was the most frequent procedure (66%). Nine patients (19.2%) had a prolonged ICU stay. The median age was higher in the group with PIS (33.06 years vs. 21.86; $p = 0.027$). There was a positive correlation between PIS and mechanical ventilation ($r = 0.30$; $p = 0.04$), intubation time ($r = 0.30$; $p = 0.04$), and neutrophil-to-lymphocyte ratio ($r = 0.30$; $p = 0.01$), as well as a negative correlation with absolute lymphocyte count ($r = -0.39$; $p = 0.005$).

Conclusion: Pre- and postoperative variables, including age, mechanical ventilation, intubation time, neutrophil-to-lymphocyte ratio, and lymphocyte count, were associated with prolonged ICU stay after cardiac surgery.

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