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Association between gender and mortality after cardiac surgery: evidence from a hospital cohort

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INTRODUCTION: Cardiovascular diseases are among the leading causes of morbidity and mortality worldwide. Studies suggest that gender may influence outcomes such as mortality, length of hospital stay, and blood transfusion use in cardiac surgery, although the magnitude and mechanisms of these differences remain incompletely understood. This study assessed the impact of gender on clinical outcomes among patients undergoing cardiac surgery, including mortality, length of stay, and blood-component use. **METHOD:** This was a descriptive observational study with quantitative and qualitative approaches and a cross-sectional cohort design. Data from 1,388 patients who underwent cardiovascular surgery at a state hospital between January 2020 and September 2024 were analyzed. Variables included mortality; length of stay in the intensive care unit (ICU) and ward; cardiopulmonary bypass (CPB) and anoxia times; blood-component use; ejection fraction; and comorbidities. Statistical analyses used a significance level of 5% ($p < 0.05$). **RESULTS:** Women had longer mean stays in both the ICU (5.67 vs 4.80 days; $p = 0.0034$) and ward (5.05 vs 3.26 days; $p = 0.0046$), as well as a greater need for blood-component transfusions (26.57% vs 14.20%; $p < 0.0001$). There were no significant differences in mortality (9.06% vs 6.93%; $p = 0.2102$), CPB time ($p = 0.6298$), or anoxia time ($p = 0.4026$). Ejection fraction was higher among women ($p = 0.0471$), whereas alcohol use was more prevalent among men (22.5% vs 0.7%; $p < 0.0001$). **DISCUSSION:** The findings demonstrate gender differences in postoperative cardiac-surgery outcomes: women had longer hospital stays and greater blood-component use despite better ventricular function. This may reflect greater vulnerability to anemia, lower physiologic reserve, or differences in inflammatory and hemostatic responses. The absence of a mortality difference suggests that the clinical course may nevertheless be more complex for women. **CONCLUSION:** Gender influenced length of stay and transfusion requirements, with a greater impact among women. The absence of differences in mortality, CPB time, and anoxia time reinforces the relevance of personalized perioperative management strategies to optimize outcomes.

KEYWORDS: Cardiovascular surgical procedures; Cardiac surgery; Risk factors.