Twenty-year trends in treatment at the Cardiac Intensive Care Unit University Hospital Centre „Sestre milosrdnice", Zagreb, Croatia

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Goal: Determination of 20-year trends in demographic characteristics, frequencies of main and other diagnoses, risk factors, type and number of admissions, Cardiac Intensive Care Unit (CICU) and hospital stay, employed therapeutic agents and procedures, as well as outcomes including mortality.

Patient and Methods: Data from medical records and electronic hospital information system on all patients hospitalized in CICU University Hospital Centre „Sestre milosrdnice", Zagreb, Croatia during March 2003, March 2013 and March 2023 were investigated. Descriptive data are presented as medians and interquartile ranges or counts and frequencies. Chi-square test was used for categorical variables, Kruskal-Wallis H test for continuous variables. Two-tailed significance tests were performed, and $p < 0.05$ was considered significant.

Results: In investigated period, a total of 304 patients were hospitalized in CICU, 64.8% were male, median age was 68 years (59-78). Number of admissions (74 vs. 87 vs. 143 per month), especially from referral hospitals (1.4 vs. 28.7 vs. 34.3%, $p < 0.01$) and patients with ST-elevation myocardial infarction (STEMI) (6.8 vs. 31.0 vs. 28.7%, $p < 0.01$) increased over time. Use of echocardiography, mostly bedside, increased (33.9 vs. 56.5 vs. 65.7%, $p < 0.01$), as well as utilization of percutaneous coronary intervention (PCI) (35.6 vs. 61.2 vs. 67.8%, $p < 0.01$). The use of drugs depended on contemporary international guidelines and drug availability (eptifibatide 0.0 vs. 10.6 vs. 7.0%, $p < 0.05$, LWMH 11.9 vs. 69.6 vs. 72.0%, $p < 0.01$). For antibiotics (3.4 vs. 18.8 vs. 22.9%, $p < 0.01$), an increase followed the frequency of infections. Median time CICU (59 vs. 43 vs. 22 hours, $p < 0.01$) and in-hospital stay (10 vs. 7 vs. 3 days, $p < 0.01$) decreased during investigated period (**Figure 1** and **2**), similar to mortality (9.5 vs. 5.7 vs 2.8%, $p < 0.01$).
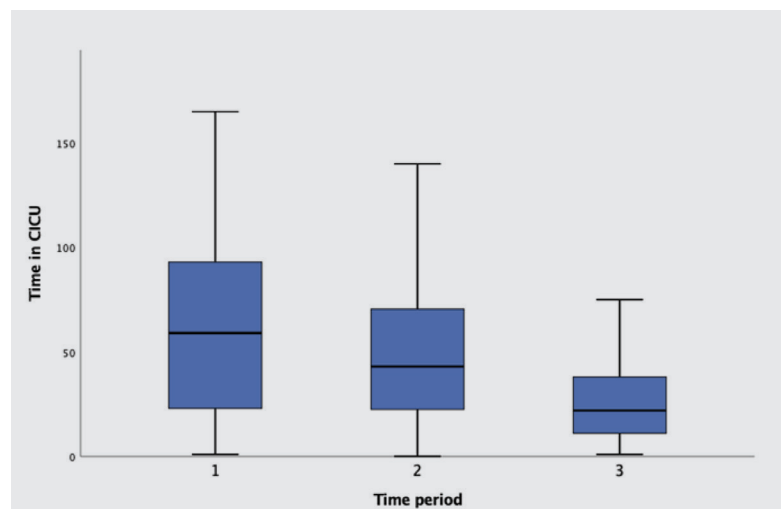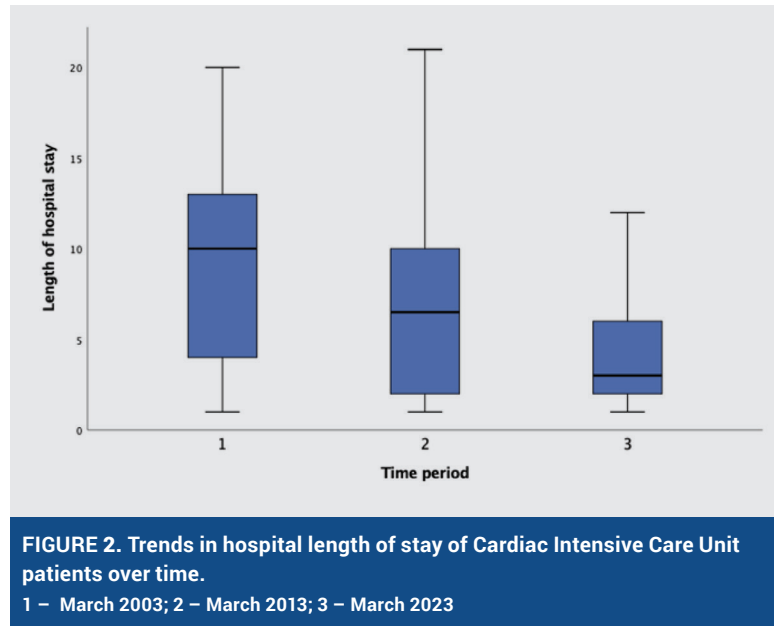
FIGURE 1. Trends in Cardiac Intensive Care Unit length of stay over time.
1 – March 2003; 2 – March 2013; 3 – March 2023; CICU – Cardiac Intensive Care UniT

FIGURE 2. Trends in hospital length of stay of Cardiac Intensive Care Unit patients over time.
1 – March 2003; 2 – March 2013; 3 – March 2023

Conclusion: The results indicate an increasing trend in the number of patients hospitalized in the CICU (especially those with STEMI) with a shortening of stay, and a decrease in mortality. The number of patients who underwent echocardiographic diagnostics and PCI, as well as those treated with antibiotics, increased. As for trends in the use of mechanical circulatory and respiratory support, and continuous renal replacement therapy, a larger number of examined patients is required to reach statistical significance.[1-3]

LITERATURE

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