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Three Decades of Heart Transplantation: Survival Trends and Clinical Outcomes in the University Hospital Dubrava Cardiology Cohort

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Introduction: Heart transplantation (HTx) at Dubrava University Hospital (DUH) commenced on 30 May 1995. Since then, patients referred by three cardiology services in Zagreb have undergone transplantation at DUH. We assessed temporal trends in survival and prognostic factors among recipients followed by the DUH Department of Cardiology.

Patients and Methods: Of the 280 patients who underwent transplantation at DUH, 174 recipients in the DUH cardiology follow-up cohort were included in this retrospective analysis. Three eras were defined according to the date of heart transplantation (HTx) and organizational changes: 1995–2010 (n = 42; historical period), 2011–2018 (n = 66), and 2019–2026 (n = 66). Survival was analyzed using Kaplan–Meier estimates, log-rank tests, and Cox regression.

Results: Thirty-day survival improved across successive eras (80.5%, 90.9%, and 93.9%; p=0.038 for trend), with a significant difference between the first and third eras (unadjusted pairwise p=0.030). One-year survival was 75.6%, 81.8%, and 84.7%, while five-year survival was 68.3%, 74.2%, and 80.3%, respectively. Differences between the first and third eras were not statistically significant at one year (p=0.196) or five years (p=0.162). Median recipient age increased from 55.6 to 57.7 years, and the proportion of women increased from 11.9% to 27.3%. Previous cardiac surgery (ReDo; n=43, 24.7%) was associated with lower one-year (72.1% vs. 84.6%) and five-year survival (60.3% vs. 79.3%; log-rank p=0.025). This association persisted after adjustment for age, sex, and transplantation year (HR 1.64, 95% CI 1.02–2.62; p=0.040). Postoperative renal insufficiency was more frequent following ReDo surgery (35.7% vs. 13.9%; p=0.0055). Women constituted 19.0% of recipients, with no statistically significant difference in overall survival by sex (p=0.841). Pretransplant mechanical circulatory support was documented more frequently among women than men (19.4% vs. 3.8%; p=0.0069).

Conclusion: Early survival improved across transplant eras, consistent with international registry trends, whereas improvements in long-term survival did not reach statistical significance. A history of cardiac surgery was associated with poorer survival and a higher incidence of renal complications, while recipient sex was not associated with survival. These findings underscore the importance of optimizing perioperative management and ensuring lifelong cardiology follow-up.[1]

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LITERATURE

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