Commentary: Rethinking Heart Transplants in Septuagenarians - Is Age Just a Number?

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Central Message: Despite changes in heart allocation policies, septuagenarians face increased mortality risks, underlining the need for nuanced candidate selection

Central Picture Legend: Left to Right – Drs. Ahmed Alnajar, Sameer Hirji and Joao Breda
The scarcity of donor hearts for transplantation makes it paramount for more nuanced and ethical allocation policies that reflect an intersection between medical urgency and equity. The 2018 heart allocation policy significantly improved survival outcomes for critically ill patients across various demographics, marking an important evolution in this complex medical dilemma.\(^1\)

As we observe long-term outcomes of this policy revision, we must ask how changes affected trends in mortality among transplant patients, including septuagenarian patients—a group previously considered high-risk. Sollie et al.’s analysis of OPTN data underscores the necessity for targeted strategies to improve outcomes for the elderly, urging a collaborative effort among clinicians and policymakers.\(^2\)

From a cohort of 27,403 patients, including 1,059 septuagenarians, the policy changes appeared to result in an increased proportion of heart transplants for septuagenarians, from 3.7% to 4.5%. However, increased allocation was not accompanied by a discernible improvement in observed survival rates. In fact, the septuagenarian survival rates suffered a mortality penalty in relation to those of younger recipients, which decreased after the policy change. This underscores a critical need for reassessment of transplant eligibility and outcome optimization amidst contemporary evolving allocation policies.

The authors’ adept handling of statistical complexities—navigating beyond traditional Cox models to parametric analysis—reveals a critical insight: the role of age in mortality risk, although significant, is not simple as previously thought. Age must be considered with other prognostic determinants post-transplant. Additional statistical models, such as a phased parametric analysis, could dissect event intervals into early, constant, and late phases, enabling a detailed examination of risk factors at different stages post-transplant, providing a richer understanding of their impact over time. Finding this risk factors may provide the ability to
refine risk assessment and inform phase-specific interventions, potentially improving outcomes and care for elderly transplant recipients.\textsuperscript{3}

Interestingly, the authors also found an increase in the number of elderly patients who began to be referred for LVAD implantation, probably due to the favorable results for patients aged $\geq$65 years obtained in the Momentum 3 trial of the HeartMate3 (HM3). The integration of HM3 and other advanced mechanical support systems could significantly impact the outcomes for end-stage heart failure patients.\textsuperscript{4}

We agree with the authors’ assertion that the key result is the careful selection of patients, especially considering the insufficient number of viable donor hearts.\textsuperscript{5,6} Equally important is the selection of the donors for this specific population of elderly recipients. After the changes in the allocation policy, authors found statistically significant but small changes in the selection of donors by age (mean of 34 to 36 years). However, the change was not correlated to an increase in comparative mortality.

The data compellingly illuminate the intricacies of post-policy modification, which should serve as a catalyst for further investigation for further, nuanced recalibrations of transplant policies and practices. As policies continue to evolve, so too must our strategies for ensuring that these life-saving transplants are allocated to maximize both equity and efficacy for all, including elderly patients.
References


