



Pretransplant Cardiac Dysfunction and Outcomes of Liver Transplant

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Letter to the Editor

Mohammadi et al. [1] reported the association of pretransplant cardiac dysfunction with both waitlist and post liver transplant morbidity, but not survival. We congratulate the authors on these important findings, and would like to highlight several points. First, for the purpose of this study the authors defined pretransplant morbidity by three or more unplanned hospital admissions (see METHODS section). Since some candidates were waitlisted for ≥ 10 years [1], this definition resulted in considering three unplanned hospital admissions occurring over ten waitlist years as pretransplant morbidity, but excluded two unplanned hospital admissions over a waitlist period of six months or shorter. This clinical oddity likely skewed some of the results and could have been averted by a definition predicated on number of admissions per waitlist-year.

Second, the authors explored predictors of cardiac dysfunction and waitlist-, peri-, and post-transplant morbidity and mortality. Yet their analysis omitted important risk factors for these outcomes such as: Weight (obesity and frailty); smoking; QT interval; pretransplant ICU admission, renal replacement therapy, mechanical ventilation, and use of vasopressors; presence of portal vein thrombosis, transjugular intrahepatic portosystemic shunt, hepatopulmonary syndrome, and portopulmonary hypertension; and germane donor information such as donor risk index, donation after circulatory death, donor age and BMI [2-4]. All these clinical factors are pertinent to or predictive of the investigated outcomes, and their exclusion is a drawback.

Lastly, peri- and post-operative morbidity occurred in 64% and 41% of recipients, respectively, and included: Heart failure, transplant admission ≥ 14 days, a need for cardiology specialist input, ischemic heart disease, severe arrhythmia, perioperative hypotension, and stroke (see RESULT section). Reportedly, new-onset heart failure was the single most common perioperative event. Hence, seemingly cardiovascular morbidity constituted the lion share of transplant-related morbidity. In addition, 14% of all post-transplant mortality was attributed to a cardiovascular etiology. Unfortunately, the preoperative cardiac workup is not delineated and critical factors for post-transplant cardiovascular morbidity are absent. The latter includes intraoperative parameters such as: Crystalloids and transfusion requirements, arrhythmias, vasopressors use, and post-reperfusion syndrome. These intraoperative factors play a critical role in supply-demand ischemia, stress-induced cardiomyopathy, and new-onset heart failure [5]. The explored association of pretransplant cardiac dysfunction with both waitlist and post liver transplant morbidity is very important. Addressing these points would further strengthen the authors' findings.

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