Trends in Transplantation

Opinion ISSN: 1887-455X

How do we make the best decision to accept a pediatric donor heart?

Bibhuti B Das[1]* and Shriprasad R Deshpande[2]

[1]Department of Pediatric Cardiology, Baylor College of Medicine, Texas Children's Hospital, Austin, Texas, USA

[2]Heart Transplant and Advanced Cardiac Therapies Program, Children's National Hospital, The George Washington University, Washington, USA

The 2020 International Society for Heart and Lung Transplantation (ISHLT) consensus statement on donor organ acceptability and management in pediatric heart transplantation [1] (pHT) will help to improve donor utilization and reduce waitlist mortality. According to this statement, the effect on graft outcome does not seem to be additive when multiple risk factors (e.g. low left ventricular ejection fraction (LVEF<50%) and prolonged ischemic time (IT>4 hours)) in the same donor occur although this is not known due to lack of studies in the literature. The second point that the statement emphasized exclusively on donor LVEF of ≥ 50% as a sole criterion to override all other donor-related factors for accepting a pediatric donor heart.

Previously, studies from both United Network for Organ Sharing [2] (UNOS) and Pediatric Heart Transplant Study [3] have shown that recipient criteria are equally important in determining the outcomes and should be kept in mind before deciding acceptance of a donor heart. The recipient characteristics can substantially modify the donor risk e.g. if a recipient with high-risk characteristics such as previous congenital heart disease (CHD) surgery receives a donor heart with prolonged IT > 4 hours but normal LV EF may mitigate the advantage of the earliest available donor. Recently, a meta-analysis by the sub-group authors of the ISHLT consensus statement could not conclude the risk factors that can interplay within the specific recipient-donor pair to determine outcomes [4]. However, their review is based on the analysis of the impact of donor and recipient characteristics and impact on pHT predominantly from single-center retrospective cohort studies or retrospective database analyses from earlier years. Due to the lack of randomized control trials, and the challenges to better understand the risk criteria predicting outcomes at the time of organ acceptance, programs should continue to evaluate each donor, each organ, and recipient individually especially while dealing with end-stage heart failure due to complex CHD. Congenital defects remained the most common primary cause of pHT, affecting > 50% of recipients on the waitlist, with an increasing number of patients from 45% of total transplant in 2007 to 57.5% in 2017 due to CHD [5]. That is perhaps attributed to several patients with failing single ventricle physiology. Recent changes in UNOS listing criteria in 2017 have prioritized CHD patients for listing as status 1A and increased the number of transplant recipients in this cohort but cardiomyopathy patients are now at a disadvantage of getting a donor heart due to change in urgency listing status. Agencies which forces small transplant centers to prioritize post-transplant survival over waitlist death.

Furthermore, post-transplant mortality is the most scrutinized marker for the regulatory. We call for change in UNOS policy to include nationwide uniform criteria for listing by an exception and waitlist death as a quality metric to judge each program. After the new ISHLT guideline is published while the transplant community still responds to these new guidelines, we want to propose that waitlist metrics as criteria similar to few European countries so that waitlist mortality can be reduced and utilization of donor organs will be improved. In our opinion, the best practice should be the risk assessments of both individual recipients and donors in this highly diverse population to decrease waitlist mortality and improve long-term survival after pediatric transplantation.

Conflict of Interest

None.

References

1. Kirk R, Dipchand AI, Davies R (2020) ISHLT Consensus Statement on Donor Organ Acceptability and Management in Pediatric Heart Transplantation. *J Heart Lung Transplant* 39: 331-341. [Crossref]

2. Choudhry S, Wang Y, Denfield SW (2019) A recipient risk prediction tool for short term mortality after pediatric heart transplantation. *Transplantation* 103: 2434-2439 [Crossref]

3. Schumacher KR, Almond S, Singh TP (2015) Predicting graft loss by 1 year in pediatric heart transplantation candidates: an analysis of the pediatric heart transplant study database. *Circulation* 131: 890-898 [Crossref]

4. Gossett JG, Amdani S, Khulby S (2020) Review of interactions between high-risk pediatric heart transplant recipients and marginal donors including utilization of risk models. *Pediatr Transplant* 24: e13665 [Crossref]

5. Colvin M, Smith JM, Hadley N (2020) OPTN/SRTR 2018 Annual Data Report: Heart. *Am J Transplant* s1: 340-426 [Crossref]

Correspondence to: Bibhuti B Das, Department of Pediatric Cardiology, Baylor College of Medicine, Texas Children's Hospital, Austin, Texas 78759, USA, Tel: 737-220-8328; Fax: 737-220-8180; E-mail: bdas99@hotmail.com

Received: September 16, 2020; **Accepted:** October 09, 2020; **Published:** October 12, 2020