

Peer Review File

Article information: <https://dx.doi.org/10.21037/hbsn-23-503>

Reviewer A:

In this manuscript, the authors review and suggest DCD practice in organ transplantation. The pursuit of more utilization of DCD donors for transplantation is a debated topic. However, there is a basic overlap between this manuscript and the previous guideline and suggestions. Furthermore, even though transplant surgeon perception can be a major factor for low utilization of DCD donors, the conclusion did not mention about it. Given that the final decision of DCD donor acceptance is up to transplant centers and surgeons, standardization of acceptance practice in DCD donors is fundamental.

Due to these factors, even if better utilization of DCD donors is important and this is a debated theme, the manuscript does not add much information.

Major

Several references do not match with the sentences.

1) “There is evidence that single organ donors, specifically kidney donors, are not routinely pursued,(27) specifically if donors are located in remote areas.”

Reference 27 is not a study to evaluate the utilization from single organ donors.

Thank you for your comment. We changed the reference 27 with the correct one.

Changes in the text in page 25: Lin Y, Teixeira-Pinto A, Opdam H, Chapman JR, Craig JC, Rogers N, Pleass H, Davies C, McDonald S, Yang J, Lim W, Wong G. Nonutilization of Kidneys From Donors After Circulatory Determinant of Death. *Transplant Direct.* 2022 doi: 10.1097/TXD.0000000000001331.

2) “but there is still a lower overall 1-year graft survival between DCD and DBD liver grafts. This difference in graft survival is mainly due to the incidence of IC that affects between 10% and 30% of DCD liver transplant recipients.(50, 51)”

Reference 51 do not demonstrate the difference in graft survival between DCD and DBD donors is mainly due to the incidence of ischemic cholangiopathy.

Thank you for your comment. We changed the reference 51 with the correct one.

Changes in the text in page 29: Kalisvaart M, de Haan JE, Polak WG, Metselaar HJ, Wijnhoven BPL, IJzermans JNM, de Jonge J. Comparison of Postoperative Outcomes Between Donation After Circulatory Death and Donation After Brain Death Liver Transplantation Using the Comprehensive Complication Index. *Ann Surg.* 2017 Nov;266(5):772-778. doi: 10.1097/SLA.0000000000002419. PMID: 28742700.

Authors suggest 5 barriers (or solutions) in DCD donor utilization: 1) the standardization of DCD recovery policies and procedures, 2) OPO practices, 3) cost-effective, 4) risk assessment models for donor-recipient matching, and 5) utilization of ex situ machine perfusion and normothermic regional perfusion. Although those factors can affect DCD donor utilization, perception of transplant centers

and surgeons is the most important determinant for graft utilization. Since there are significant variations among transplant centers, standardization of acceptance practice in DCD donors is essential. Given that each transplant center, OPO, and region can have different background for low utilization of DCD donors, future efforts targeting specific reasons for non-utilization will clarify the true barriers.

Dear reviewer, thank you for your feedback. We have addressed your comments and added a section in the conclusion regarding the perception of transplant centers and surgeons. The key to altering the view of DCD donation within the transplant and non-transplant communities is identifying the primary obstacles and recommending potential solutions to improve DCD usage. We must work towards mitigating the common concerns associated with the potential use of DCD donors.

Changes in the text in page 20: ... Fifth, the wider utilization of technologies like ex situ MP and NRP to expand the donor pool, decrease the risk of poorer recipient outcomes, and increase overall graft and patient survival should be encouraged.

Further efforts are necessary to decrease the risk perception concerning DCD grafts in particular settings, as the attitudes of transplant centers, surgeons, OPOs, and regions can have an impact on the utilization of DCD donors.

Minor

Figure 1: Heart and brain is crossed in DCD and DBD, respectively in kidney transplant, but not in lung, heart nor liver transplant. What is the difference in the picture?

Thank you for your comment. The cross on the kidney transplant slide was a mistake, and we have fixed it accordingly.

Changes in the text in Figure 1

Authors “divide the barriers into three main categories, identified in the meeting: (A) policy and process variation; (B) logistical and transportation challenges; and (C) higher risk perceptions related to DCD outcomes.”

1) Authors suggest that “Overcoming these barriers will require a variety of solutions, including the utilization of in situ and ex situ machine perfusion (MP).” In situ and ex situ machine perfusion accounted for which barriers (A – C)?

Dear reviewer, thank you for your feedback. In situ and ex situ machine perfusion are not seen as a limitation. Instead, we view these methods as an opportunity for increasing DCD utilization, as outlined in the section "Opportunities for increasing DCD utilization". Even if further studies are needed, these methods can be used to increase the number of DCD donors.

2) Figure 2 includes 6 variables, and Table 1 includes 5 factors. Those variables and factors can be divided into the three main categories (A-C)?

Dear reviewer, as suggested, we have categorized the variables into the three main categories in Table 1.

Changes in the text in Table 1

“NRP”, “in situ NRP”, “in situ perfusion utilizing NRP”, and “in situ machine perfusion” are used interchangeably. Terminology should be unified.

Dear reviewer, as suggested, we have unified the terminology based on the meaning of the text.

Changes in the text in page 12, 16 and 20.

Reviewer B:

I was honoured to have the possibility to be involved in the revision process of this manuscript. This is the report of the Dallas summit on DCD transplantation and donation, where barriers to transplantation using organs from DCD donors in the US, as well as potential actions needed to overcome them, were discussed. This manuscript provides a comprehensive picture of the most relevant issues in DCD transplantation and discusses relevant innovations in the field of organ procurement and preservation that could help increase the number and results of this practice. Relevantly, while the paper refers to the US setting, most concepts could apply also to other countries. The paper is well written and enjoyable and I found it very informative. I have no specific comments and I congratulate the Authors for their effort in pushing the field forward and for this brilliant initiative.

Reviewer C:

Excellent outline of the discussion points and recommendations of the DCD Transplant Summit. Congrats to the contributors.