Author’s response to reviews

Title: Dual kidney transplantation offers a safe and effective way to use kidneys from deceased donors older than 70 years

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Author’s response to reviews:

The authors would like to express our gratitude to the editor and reviewers for their time and effort in reviewing this manuscript. Each question and comment has improved the quality of this manuscript.

Technical Comments:

Editor Comments:
1. Transplant clarifications
As per our editorial policies, please include a statement declaring that no organs/tissues were obtained from prisoners and must also name the institution(s)/clinic(s)/department(s) via which organs/tissues were obtained.
--&gt; We have inserted those statements in the ‘Ethics’ section.

2. Consent for publication
We note that you have not included a ‘Consent for publication’ section in the Declarations. Consent for publication refers to consent for the publication of identifying images or other
personal or clinical details of participants that compromise anonymity. Seeing as this is not applicable to your manuscript please state “Not Applicable” in this section.

--&gt; We have inserted ‘Consent for publication’ section after the ‘Ethics’ section.

3. Acknowledgments
We note that you have not included an acknowledgements section in the Declarations. If you have no acknowledgements, please put ‘Not Applicable’ in this section.

--&gt; We have inserted ‘Acknowledgement’ section after the ‘Author’s contribution’ section.

4. Authors' contributions
a) remove email addresses
Please remove the email addresses in the authors’ contributions statement - author email addresses should only be provided on the title page.

--&gt; We have modified that.

b) Initials
Please represent authors' names using their full initials, not their full name, in the Authors’ Contributions section. For example, the initials of John Smith would be ‘JS’. If there are any duplicated initials, please differentiate them to make it clear that the initials refer to separate authors, for example, by adding their middle name initial.

--&gt; We have modified that.

c) Authors' approval statement
Please include a statement in the Authors' contributions section to the effect that “all authors have read and approved the manuscript”, and ensure that this is the case.

--&gt; We have inserted that statement at the end of the ‘Author’s contribution’ section.

5. Competing interests
Please include your declaration of no competing interests under a separate heading in the Declarations statement - "Competing interests" and not in the Ethics approval and consent to participate statement.

--&gt; We have modified that.

6. Corresponding author
We have noted that the corresponding authors' email address, provided on the title page, differs to the one on file in the editorial manager system. Please ensure that the corresponding author and their details match in the manuscript file and in the editorial manager system.

--&gt; We have modified that.

7. Conclusions
Please add a separate “Conclusions” section after the “Discussion” section. This should state clearly the main conclusions of the research article and give a clear explanation of their importance and relevance.

--&gt; We have modified that.
BMC Nephrology operates a policy of open peer review, which means that you will be able to see the names of the reviewers who provided the reports via the online peer review system. We encourage you to also view the reports there, via the action links on the left-hand side of the page, to see the names of the reviewers.

Reviewer reports:

Bhavna Chopra (Reviewer 1): This is an interesting study where the authors in an interest to minimize discard have used very marginal dual kidney transplants (DKT) from older donors (> 70 yr) and compared the outcomes to ECD and SCD kidneys. This is a single center retrospective data review.

1. One major limitation of this study is that their very small number of recipients in the study group. Only 15 recipients received a dual kidney transplant. It will be hard to draw any conclusions with such small numbers.

   -- The authors accept it as a major limitation, but do believe that their study is worthy for publication. I believe most retrospective single center studies would have similar numbers.

2. I was also interested in finding out if the hospital stay post transplant much longer for dual kidney transplant recipients, compared to SCD and ECD kidney transplant recipients' given the complexity of the surgery, and potential for urological complications.

   Overall all the other comments were addressed satisfactorily. The idea of DKT has been evaluated in multiple prior studies with conflicting results. This study adds some more to the existing literature, with adding more details such as-- time to nadir serum creatinine, risk of DGF, post operative complication rate etc. But given the small numbers, and short follow up, I am not sure if we can draw definite conclusions from this study. I do believe this study is worthy of publication.

   --&gt; Thank you for you sincere comments. We hope that the evidence of DKT can be empowered with our study.

Research Square (Reviewer 3): STATISTICAL REVIEWER ASSESSMENT:

Is the study design appropriate for the research question (considering whether the analyzed population accurately reflects the design and whether you see any problems with control/comparison groups, e.g., likely confounders)?

   No - there are minor issues

Are methodologies adequate and well implemented (considering whether assumptions are addressed and whether analyses are robust)?

   No - there are minor issues

Are the analyses adequately communicated (considering whether reporting details are adequate and whether figures and tables are well labeled and described)?

   Yes - important reporting details are present, analyses are adequately communicated, figures and tables are well labeled and described
Does the interpretation accurately reflect the analyses without overstatement (considering whether limitations/bias are acknowledged and whether accurate descriptors, e.g., 'significant', are used? Yes - interpretation accurately reflects analyses, limitations/bias are acknowledged, accurate descriptors are used

Could an appropriately REVISED version of this work represent a statistically sound contribution? Probably - with minor revisions

STATISTICAL REVIEWER COMMENTS:

The authors have responded to some of the comments provided but not to all. They have not responded to queries about study design satisfactorily. They have not responded to queries about sample size calculation, basis for waiver of the written informed consent, statistical analysis, citation asked in Discussion section, and other. The authors are requested to address those comments.

The authors have applied Kruskal Wallis test, Wilcoxon rank sum test, Fisher's exact test, Kaplan-Meier analysis, Cox proportional-hazards regression, and Generalized Estimating Equation (GEE) for their continuous and categorical variables. These are the areas they have done well in terms of statistics to strengthen the trustworthiness of their findings.

The authors have not clarified the issues of the application of Kruskal Wallis test and posthoc analysis with Wilcoxon rank sum test and the application of Fisher's exact test specifically. Statistical tests without sample size calculation have decreased credibility of the findings.

REQUESTED REVISIONS:

ADDITIONAL REQUESTS/SUGGESTIONS:

Materials and methods:
Study design: The authors have responded that "This study was a retrospective single center study and analyzed Samsung Medical Center electronic medical record and kidney transplantation database" under 'Study design' heading. The retrospective nature depicts its direction of enquiry and does not indicate the study design as such because retrospective studies may be cross-sectional, case-control, cohort and any other. It seems that it was historical cohort study. Clarify the exact study design.
--&gt; We have modified that the “retrospective single center study” to “retrospective single center historical cohort study”.

Sample size calculation: The authors have not responded to this query.
--&gt; Despite the power limitation due to the small number of DKT recipients, we conducted this analysis because it could be valuable to explore DKT outcomes in an Asian population for the first time. We found some significant results that suggest superiority of DKT against ECD KT. For examples, nadir sCr level, time to nadir sCr and post-operative complication rate. The
superiority of DKT against ECD KT in the rate of DGF (20% vs 33.8%, corresponding OR = 0.49) may suggestive, but was not significantly confirmed with low power of 23.5%. To show significance of this OR of 0.49, 163 recipients will be needed in each group.

Basis for waiver of the requirement of the written informed consent: The authors have not responded to this query.

--&gt; SMC IRB waivered participant’s consent because acquiring participant’s consent (1) seems to be realistically impossible and does not influence integrity of research (2) there would be no reasons that participant would deny providing his or her consent.

Even though consent is waivered, research involves no more than minimal risk to the participants.

Discussion:

* Citation to support the statement "Although we did not utilize this approach, use of mTOR inhibitor to lower doses of calcineurin inhibitors represents a potential way to improve outcomes" is still missing.

--&gt; We have added the reference for that statement.