

Peer Review File

Article information: <https://dx.doi.org/10.21037/aob-23-11>

Reviewer A

Accept.

Reviewer B

Well written.

Reviewer C

The authors have conducted a thorough review of blood transfusion management in ECMO, which holds significant guidance value for clinical blood transfusion practices. To further elevate the manuscript's quality and increase its impact, the following recommendations are offered for the authors' consideration.

Major concerns:

Comment 1: The abstract and more than half of the body are focused on discussing the current recommendations and views in the academic community on blood transfusion management, which may not completely align with the "Future Challenges and Perspectives" as indicated in the title. We suggest that the author modify the title to encapsulate the content of the entire review, such as "Current Practice Optimization Suggestions and Future Perspectives" (just as a reference).

Reply 1: I appreciate and accept the suggestion regarding the article title, which has been changed to "Current Practice Optimization Suggestions and Future Perspectives on transfusion in patients supported by ECMO: a narrative review"

Comment 2. Since the author mentions challenges in the title, it might be beneficial to list and discuss potential solutions under specific subheadings in the text, which could possibly make the article's theme more explicit.

Reply 2: Potential solutions concerning the enhancement of patient blood management in ECMO patients are enumerated under specific subheadings within section 3.3.

Comment 3. We kindly suggest refining the structure of the section "3.3 Optimizing oxygen delivery to obviate transfusion of RBCs"? Currently, all the information is combined into a single paragraph, which lacks hierarchy and organization, potentially increasing the complexity for readers to comprehend.

Reply 3: We have divided the paragraph into sub-sections as suggested.

Comment 4. The essence of a literature review lies in the timeliness and comprehensiveness of the included literature. Given that the author's aim is to discuss the future challenges and perspectives in this field, it should encompass the latest technological advances and breakthroughs as much as possible. There are only seven references from the past three years in the reference list, accounting for less than a tenth, which may be somewhat scarce for this topic. We hope the author can further optimize the search and screening results, focusing on the latest discussions and viewpoints.

Reply 4: We have expanded section 3.3.3 with new concepts on potential methods for blood conservation in ECMO patients.

Minor concerns:

Comment 5. Please specify in the abstract's methods section what research subject the literature search covered.

Reply 5: Done, thank you

Comment 6. Please specify the timeframe of the literature search. The abstract indicates "published between 1990 and 2022", yet the "Timeframe" in Table 1 is "2003-2023".

Reply 6: Thank you for the clarification. We have made the correction to the date in the "methods" section of the abstract.

Comment 7. "In a recent Cochrane review, this transfusion threshold was shown to not increase mortality risk compared with higher thresholds[12]." Reference #12 was published in 2012, which is somewhat outdated. The latest review on Cochrane Database Syst Rev is PIMD: 34932836.

Reply 7: we updated the reference. Thank you for the suggestion.

Comment 8. There are some points that lack evidence support. For example:

(1) 1.2 Rationale and knowledge gap, para 2: "The most recent recommendations from the Extracorporeal Life Support Organization (ELSO) suggest ...".

(2) "A retrospective study investigated the relationship between transfusion practice and changes in perfusion markers, such as mixed venous saturation (SVO2) and cerebral tissue oxygenation measured by near infrared spectroscopy (NIRS)".

Please check the entire manuscript to address similar concerns.

Reply 8: We have added the relevant references. Thank you.

Comment 9. The statement "The ECMO population ... with a reported rate of up to 100%" does not seem to be supported by Reference #3. This study is a mono-center observational research and is not capable of deriving such an absolute and universal conclusion as 100%.

Reply 9: thank you for the clarification. We modified the text and delete the reference.

Comment 10. Subtitle - "2.3 Optimizing oxygen delivery to obviate transfusion of RBCs", should be "3.3".V

Reply 10: Done, thank you

Comment 11. There are two "Table 1".

Reply 11: We modified the table numbering. Thank you

Comment 12. ALL abbreviations should be defined upon their first use in both the abstract and main text, such as VV and VA. All abbreviations in the tables should also be explained in the table notes, such as "R.obs", "Prosp.obs". (Given that they are all observational studies, it's suggested to omit "obs" and directly specify whether it's prospective or retrospective).

Reply 12: we modified the table as you suggested. Thank you