

Peer Review File

Article information: <https://dx.doi.org/10.21037/jtd-23-1184>

Reviewer A

Comment 1: The figures were very interesting and well represented, overall well written paper. Discussion could be expanded to discuss implications of using this approach in terms of relevance to the scientific community.

Response: In the discussion of the manuscript, we elaborate in great detail on the status and practical value of literature visualization analysis in the scientific community, with gratitude to the reviewers for their meticulous examination and guidance.

Reviewer B

The topic is quite interesting and the paper well written. The methodology described is useful to provide a "visual" view of research on ECMO. It seems that specific fields within ECMO support were not analyzed, in primis the use of echocardiography in ECMO management and implantation. This should be described as a potential and important limitation. The Authors should be better described why the "visual approach" may not be complete and how this limit can be overcome.

Response: As the reviewers have noted, bedside real-time ultrasound is an indispensable auxiliary tool in the ECMO support procedure. Clinicians can offer patients' conditions guidance and predictability through the adept utilization of ultrasound technology. Concurrently, the application of bedside real-time ultrasound in extracorporeal membrane oxygenation (ECMO) is an area of intense research interest. As per the reviewers' feedback, we have appended this particular section to the ninth paragraph of the manuscript's discussion.

Reviewer C

This is a topic of great interest, and I was eager to examine the data. However, while the data is valuable, the presentation needs improvement. I have the following comments:

1. Figure 7 displays co-cited words. Given that many articles cite 'bypass' and 'CS,' I believe the search terms may lack specificity for analyzing 'ECMO-assisted support for respiratory failure.' Therefore, the manuscript's scope is unclear and should be refined.

Response: We express our gratitude to the reviewers for their careful evaluation of this manuscript, and we would like to provide the following responses to their query. The primary purpose of extracorporeal membrane oxygenation (ECMO) is to offer cardiopulmonary assistance for conditions such as acute respiratory distress syndrome (ARDS) or cardiogenic shock. This aligns with the primary themes identified in our research findings. Additionally, the retrieval strategy employed in this study involved the utilization of specific search terms. The search query was constructed as follows: #1 ((TI= (Extracorporeal Membrane Oxygenation)) OR TI= (ECMO)) AND TS= (respiratory failure)) AND PY= (2003-2023). This adheres entirely to the principles of inclusion and exclusion in bibliometrics. Hence, we posit that the inclusion of keywords such as 'bypass' and 'CS' in the manuscript serves to enhance its thematic coherence. In the event that it is deemed necessary, we are able to furnish comprehensive raw data for the purpose of review by the designated reviewers.

2. Please carefully proofread for typos and have a native speaker review the manuscript. In its current form, the language quality is insufficient for publication. For instance, in Line 137, 'Brodie, daniel' should be 'Brodie, Daniel.' The same applies to 'Combes' and 'Fan.' Additionally, a space should be included after commas (e.g., 'Schmidt, matthieu'). In Line 210, 'oxygenation for severe' should be 'Oxygenation for Severe.'

Response: We express our gratitude to the reviewers for their thorough examination of this manuscript. The errors present in the article will be systematically rectified. Additionally, this research will be subjected to further refinement by proficient English-language specialists to guarantee its overall quality.

3. This publication presents a wide range of examinations in the ECMO science field. With the amount of data presented, readers may struggle to distinguish between more relevant and less relevant information. I strongly recommend moving some figures to the supplemental material to enhance the manuscript's focus.

Response: We concur with the reviewers' assessment that the inclusion of visual elements enhances the manuscript's appeal and improves its readability for readers. The present study aims to structure the article and prioritize the analysis of analogous visual representations in order to augment the central theme of the manuscript.

4. The publication would greatly benefit from presenting data in tables, possibly in the supplementary section. While the current presentation is suitable for a first impression, it hinders in-depth analysis.

Response: We intend to compile a selection of the tables and include them as supplementary materials for submission.

5. Some figures, especially Figure 6, are challenging to read and should be redrawn.

Response: In our manuscript, we generated visual representations in accordance with the guidelines provided by CiteSpace and VOSviewer. Simultaneously, the illustrations within the manuscript adhere entirely to the article submission guidelines stipulated by this scholarly journal. It is posited that the intended message conveyed in the image possesses a discernible level of legibility.

6. The scope of the discussion is unclear to the reader. For example, why do the authors discuss the outcome of the EOLIA trial? Additionally, several statements appear speculative, such as 'The global spread of COVID-19 in late 2019, during which the publication of ECMO-related guidelines and the surge in reported cases of respiratory failure due to ECMO-assisted support for COVID-19 [39, 40], not only led to more standardized clinical application of ECMO and improved physicians' clinical experience but also saved the lives of many patients with new coronary pneumonia.' The discussion should primarily focus on the essence of the current research: the research literature on ECMO.

Response: We express our gratitude for the feedback provided and the valuable remarks. They assist us in enhancing the caliber of our manuscript. The elucidation for this issue is as follows:

1. The EOLIA trial investigates the application of extracellular membrane oxygenation in the treatment of severe acute respiratory distress syndrome. This study serves as a reputable source for ECMO-related research, demonstrating

that the literature in this field has garnered a substantial number of citations as evidenced by bibliometric analysis. The inclusion of this study in the manuscript is primarily motivated by its significant academic value and esteemed status in the field of bibliometrics. By citing this study, we aim to enhance the credibility and scholarly impact of the manuscript, thereby offering ECMO researchers more robust and influential academic references. Upon conducting a thorough reevaluation of the manuscript, we have undertaken the task of refining the chapters in order to enhance the relevance and utility of the information presented to the reader.

2. The timeliness of articles is considered a significant criterion for assessing their worth. Based on the findings of this study, it is evident that the utilization of CiteSpace and VOSviewer analysis has revealed the prominence of the keyword "COVID-19" in the context of ECMO-related research spanning the period from 2019 to 2023. This particular timeframe has been identified as a pivotal stage for research in this field. The articles published in this particular stage exhibit a high degree of specificity with regard to the COVID-19 pandemic. In the manuscript, we intend to enhance the quality of the discussion section based on the feedback provided by the reviewers. This endeavor aims to facilitate a more comprehensible reading experience for the readers.

We tried our best to improve the manuscript and made some changes in the revised manuscript. These changes will not influence the framework of the paper. We appreciate for Editors/Reviewers' warm work earnestly, and hope that the correction will meet with approval.

Once again, thanks very much for your comments and suggestions.

Corresponding author: Han Lin, MD, Chief Doctor, Research Center of Communicable and Severe Diseases, Guangxi Academy of Medical Sciences & Department of Intensive Care Unit, The Peoples Hospital of Guangxi Zhuang Autonomous Region, Nanning, Guangxi, China; Guangxi Health Commission Key Laboratory of Diagnosis and Treatment of Acute Respiratory Distress Syndrome, Nanning, Guangxi, China; Guangxi Clinical Research Center Construction

**Project for Critical Treatment of Major Communicable Diseases, Nanning,
Guangxi, China. Email: Xhan0507@sina.com**