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REVIEWER'S REPORT

Manuscript No.: IJAR-54433 Date: 21/10/2025

Title: "Cardioneural Aging in the Context of Cardiomyocyte Aging"

Recommendation:
✓ Accept as it is .....
Accept after minor revision.....
Accept after major revision .....
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance	✓			

Reviewer Name: Dr. S. K. Nath Date: 22/10/2025

Reviewer's Comment for Publication:
The manuscript offers a valuable review of the molecular mechanisms of cardiomyocyte aging, highlighting oxidative stress and inflammatory pathways. It underscores the importance of understanding cardiac aging in the broader context of systemic health, including neural implications. With improved organization, expanded discussion on certain topics, and enhanced visual elements, it has strong potential for publication.

Reviewer's Comment / Report

Strengths:
- **Comprehensive Overview:** The paper provides a thorough discussion of the mechanisms underlying cardiomyocyte aging, especially emphasizing oxidative stress and related pathways such as ROS production, inflammation, and mitochondrial dysfunction.
- **Integration of Molecular Pathways:** It effectively integrates recent findings on molecular regulators like KLF9, angiotensin II, and interleukins, demonstrating the multifactorial nature of cardiac aging.
- **Relevance and Novelty:** The focus on how cardiac aging influences neural functions and overall organ health adds value, emphasizing interdisciplinary relevance.
- **Use of Recent References:** The inclusion of recent studies (2021–2023) enhances the credibility and timeliness of the review.

Weaknesses:
- **Organization and Clarity:** Some sections, particularly the introduction and mechanistic explanations, could be reorganized for better logical flow. For example, grouping all ROS-related pathways into a dedicated subsection might improve readability.
- **Depth of Analysis:** While the paper covers multiple mechanisms, certain areas such as the impact of cardiomyocyte aging on brain function are discussed briefly and could benefit from more detailed analysis or recent evidence.
- **Figures and Tables:** The inclusion of visual aids like schematic diagrams or tables summarizing pathways would greatly enhance understanding.
- **Citation Consistency:** Some references are cited without complete bibliographic details (e.g., Yan et al., 2019 is mentioned but not fully detailed). Ensuring consistency and completeness in references enhances scholarly rigor.

Recommendations:
- Reorganize sections for clearer logical flow.
- Incorporate schematic diagrams summarizing major pathways.

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- Provide detailed explanations on how cardiac aging impacts neurological functions.
- Correct minor typographical and grammatical errors throughout the manuscript, such as punctuation and sentence structure issues.
- Complete and standardize references according to journal style.