

PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 80788

Title: Mesenchymal stem cells in ischemic tissue regeneration

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03372482

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Academic Research, Assistant Professor, Associate Professor

Reviewer's Country/Territory: Egypt

Author's Country/Territory: Poland

Manuscript submission date: 2022-10-14

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-10-15 08:01

Reviewer performed review: 2022-10-15 08:07

Review time: 1 Hour

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input checked="" type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer	Peer-Review: <input type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Diseases caused by ischemia are one of the leading causes of death in the world. Current therapies for treating acute myocardial infarction, ischemic stroke, and critical limb ischemia do not complete recovery. Mesenchymal stem cells, whose immunomodulatory abilities and paracrine activity can ease inflammation and promote regeneration of damaged tissues, seem to be a hope and alternative therapy. This review aims to summarize the current knowledge on the mechanisms of action of MSCs and their therapeutic effects in the treatment of ischemic diseases. In General: it's a good paper and the subject of the manuscript is applicable and useful. Title: the title properly explains the purpose and objective of the article Abstract: abstract contains an appropriate summary for the article, the language used in the abstract is easy to read and understand, and there are no suggestions for improvement. Introduction: authors do provide adequate background on the topic and reason for this article and describe what the authors hoped to achieve. Results: the results are presented clearly, the authors provide accurate research results, and there is sufficient evidence for each result. Conclusion: in general: Good and the research provides sample data for the authors to make their conclusion. Grammar: Need Some revision. (Check The Paper Comments). Please provide and edit the following information in the Paper 1. Conflict of Interest. 2. Source of Funding. 3. Writing references according to the terms of the journal 4. The result and discussion must be in one paragraph. Finally, this was an attractive article. In its current state, it adds much new insightful information to the field.

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Manuscript NO: 80788

Title: Mesenchymal stem cells in ischemic tissue regeneration

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05935626

Position: Peer Reviewer

Academic degree: DDS, Doctor, MD

Professional title: Doctor

Reviewer's Country/Territory: Indonesia

Author's Country/Territory: Poland

Manuscript submission date: 2022-10-14

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-10-18 03:45

Reviewer performed review: 2022-10-18 06:26

Review time: 2 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous



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statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

I would like to congratulate the author for this manuscript. The review is interesting and brings current perspective. I have some comments about the manuscript: Figures (1 and 2): please add some explanations or statements that describe the figures for better understanding and readability (both figure 1 and 2). References: Please do the referencing according to the guide for authors. Some references are old, please replace with the current ones. Accordingly, related published articles in the World Journal of Stem Cells may be considered. There are some 'ahead of print' references from previous years publications, these references should already be published normally, not in 'ahead of print' status, please correct this.

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Name of journal: *World Journal of Stem Cells*

Manuscript NO: 80788

Title: Mesenchymal stem cells in ischemic tissue regeneration

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 04055018

Position: Editorial Board

Academic degree: PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: Italy

Author's Country/Territory: Poland

Manuscript submission date: 2022-10-14

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-10-20 14:30

Reviewer performed review: 2022-11-02 10:52

Review time: 12 Days and 20 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

In the present review, the Author summarizes main results obtained in vitro, in preclinical, and in clinical studies regarding beneficial effects of MSCs in cases of ischemic diseases. Overall, the topic is interesting in the field of regenerative medicine and a large number of experimental findings are described. However, the manuscript needs a further language revision to improve the style of writing and to amend grammar errors/typos. For example: Repetitions at pag. 11: "the concept of (Brychtova et al, 2019)" Repetitions at pag. 12: "Moreover, the exosomes protected protecting myocardial cells from apoptosis ..." Pag.7. "cells cardiac". (cardiac cells?) Pag.7. "markers CMCs". (CMC markers?) Pag.7. "Although in vitro MSCs show potential for differentiation towards CMCs, for differentiation of native MSCs into building cells damaged organ tissue in vivo has a significant impact on many other factors, including their ability to colonize the damaged area of the organ as also the viability of these cells after administration [59]" (explain better!) Pag.8: "MSCs, thanks to their ability to secrete a series of soluble molecules, including interleukins and anti-inflammatory cytokines, which can modulate the immune response [79,80]." (delete: which?) Pag.10: ... has been shown to facilitate (attenuate?) myocarditis by ... Further observations Fig.1. Albeit briefly, Figure 1 should be described in the legend. Pag.12: ... by Musiałek et al. (reference number is missing) Finally, results obtained in recent works deserve to be included: Pag. 8. About MSC neural differentiation Neural differentiation of human adipose-derived mesenchymal stem cells induced by glial cell conditioned media. PMID: 29737535. Autophagy Promoted Neural Differentiation of Human Placenta-derived Mesenchymal Stem Cells. In Vivo. PMID: 34410948. Pag. 8. About MSC immunomodulatory properties Effects of High Glucose Concentration on Pericyte-Like



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Differentiated Human Adipose-Derived Mesenchymal Stem Cells PMID: 33925714.