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PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 89203

Title: Effects of exosomes from mesenchymal stem cells on functional recovery of total radial nerve injury: A pilot study

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 02941583
Position: Peer Reviewer
Academic degree: DSc, MD, PhD
Professional title: Associate Professor, Chief Doctor
Reviewer's Country/Territory: Hungary
Author's Country/Territory: Turkey

Manuscript submission date: 2023-10-23

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-10-24 17:02

Reviewer performed review: 2023-10-25 17:05

Review time: 1 Day

Scientific quality	[Y] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No creativity or innovation

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Scientific significance of the conclusion in this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No scientific significance
Language quality	[Y] Grade A: Priority publishing [ ] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The pilot study authors show that a sural nerve graft and a mesenchymal stem cell-derived exosome can be used to treat a left radial nerve injury caused by a sharp cut with very good results. The patient's nerve injury recovered almost perfectly in terms of both motor and sensory functions. The results speak for themselves. The pictures, figures, and tables are adequate. Although the authors of the article indicate three videos in the article, only one, the first video, has been uploaded. The two other videos should be replaced before the article is accepted. I suggest a minor revision.

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Peer-review model: Single blind

Reviewer's code: 06286468
Position: Peer Reviewer
Academic degree: PhD
Professional title: Associate Professor
Reviewer's Country/Territory: China
Author's Country/Territory: Turkey

Manuscript submission date: 2023-10-23

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-10-23 16:16

Reviewer performed review: 2023-11-06 07:01

Review time: 13 Days and 14 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [Y] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No

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Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

This study investigated the effects of exosomes on the functional recovery of total radial nerve injury. They treated a patient with sural autograft and applied mesenchymal stem cell-derived exosomes to the nerve stumps. The patient showed significant improvement in motor and sensory functions after 6 months of follow-up. The study suggests that exosomes could be a promising treatment for peripheral nerve injuries. My comments are as follows: 1. Various types of cells can secrete exosomes, and exosomes derived from different cell sources may have different effects and mechanisms of action. In this study, the authors chose to experiment with exosomes derived from MSCs. The authors should explain why they selected exosomes derived from MSCs for their experiments and discuss the potential outcomes if exosomes from other cell sources were used. 2. Please provide the characterization and identification data of the exosomes in the article. 3. In the article, the authors mentioned that "1 ml MSC-derived exosome (containing 5 billion microvesicles) was divided into four equal amounts (0.25 ml) and applied microsurgically to both sides of the proximal and distal stumps by subepineural route." The basis for the amount of exosomes used in the experiment is not explicitly stated in the information provided. It is possible that the specific dosage was determined based on previous studies or preliminary experiments, where this particular amount of exosomes has shown desired effects or optimal results in promoting nerve regeneration. However, without further information, we cannot make a definitive conclusion regarding the exact reasoning behind the chosen dosage. 4. Extracellular vesicles contain a variety of substances, including proteins, nucleic acids, and small molecules. The composition of the vesicle membrane itself also varies.

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The author should describe or propose possible mechanisms for this. More references about the mechanism of exosomes should be cited, “Exosomes as mediators of intercellular crosstalk in metabolism”, “Exosomes Regulate the Epithelial-Mesenchymal Transition in Cancer” , for example, or any other similar references.

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RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 89203

Title: Effects of exosomes from mesenchymal stem cells on functional recovery of total radial nerve injury: A pilot study

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06286468
Position: Peer Reviewer
Academic degree: PhD
Professional title: Associate Professor
Reviewer's Country/Territory: China
Author's Country/Territory: Turkey

Manuscript submission date: 2023-10-23

Reviewer chosen by: Jing-Jie Wang

Reviewer accepted review: 2023-12-01 12:54

Reviewer performed review: 2023-12-01 13:07

Review time: 1 Hour

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [Y] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Peer-reviewer	Peer-Review: [Y] Anonymous [ ] Onymous

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

SPECIFIC COMMENTS TO AUTHORS

I have no more comments.