

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Stem Cells*

**Manuscript NO:** 75819

**Title:** The role of stem cells-based in facial nerve reanimation: a meta-analysis of histological and neurophysiological outcomes.

**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:** Italy

**Manuscript submission date:** 2022-02-16

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-02-17 06:03

**Reviewer performed review:** 2022-02-17 06:15

**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 Grade E: Do not publish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 type="checkbox"/> Accept (High priority) <input checked="" 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

<b>Peer-reviewer statements</b>	Peer-Review: [ <input type="checkbox"/> ] Anonymous [ <input checked="" type="checkbox"/> ] Onymous Conflicts-of-Interest: [ <input type="checkbox"/> ] Yes [ <input checked="" type="checkbox"/> ] No
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## SPECIFIC COMMENTS TO AUTHORS

this study Aims To investigate the histological, neurophysiological, and functional outcomes in facial reanimation using SC, compared to autograft. Methods: This study is a systematic review of the literature, consistently conducted according to the PRISMA statement guidelines. The review question was: In facial nerve reanimation on rats, has the use of stem cells revealed as effective when compared to autograft, in terms of histological, neurophysiological, and functional outcomes? Random-effect meta-analysis was conducted on histological and neurophysiological data from the included comparative studies. Results: After screening 148 manuscript, five papers were included in our study. 43 subjects were included in the SC group, while 40 in the autograft group. The meta-analysis showed no significative differences between the two groups in terms of myelin thickness [CI -0.10 (-0.20, 0.00); I<sup>2</sup> = 29%; p = 0.06], nerve fibers diameter [CI 0.72 (-0.93, 3.36); I<sup>2</sup> = 72%; p = 0.6], CMAP amplitude [CI 1.59 (0.59, 3.77); I<sup>2</sup> = 89%; p = 0.15] and latency [CI 0.66 (-1.01, 2.32); I<sup>2</sup> = 67%; p = 0.44]. The mean axonal diameter was higher in the autograft group [CI 0.94 (0.60, 1.27); I<sup>2</sup> = 0%; p = <0.001]. Conclusion: the meta-analysis of studies comparing the use of autograft and stem cells for facial nerve reanimation in rats suggests that there appear to be no advantages in favor of stem cells, according to the evaluated histological and neurophysiological outcomes. A higher heterogeneity amongst the included studies, short follow-up periods, and the limitations of our investigation should be carefully considered for a proper data interpretation. Stem cell treatments have proven to be an interesting and viable option in many fields of surgery that have vast supporting scientific and clinically applicable literature. The role of stem cells in facial reanimation is still relatively new and poorly studied due to the



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liming nature and number of studies carried out only in animal models. Future studies based on longer follow-up with homogenous criteria, preferably on human subjects, can pave the way to stem cell therapy in patients with nerve palsy. In General: it's a good paper and the subject of the manuscript is applicable and useful. Title: the title properly explain the purpose and objective of the article Abstract: abstract contains an appropriate summary for the article, language used in the abstract is easy to read and understand, 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, 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). Finally, this was an appealing article, in its current state it adds much new insightful information to the field. Therefore, I accept that paper to be published in your journal

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**Peer-review model:** Single blind

**Reviewer's code:** 02728252

**Position:** Editorial Board

**Academic degree:** PhD

**Professional title:** Professor

**Reviewer's Country/Territory:** Egypt

**Author's Country/Territory:** Italy

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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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No

<b>Peer-reviewer statements</b>	Peer-Review: [ <input checked="" type="radio"/> ] Anonymous [ <input type="radio"/> ] Onymous Conflicts-of-Interest: [ <input type="radio"/> ] Yes [ <input checked="" type="radio"/> ] No
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#### SPECIFIC COMMENTS TO AUTHORS

1. In the back ground section, the paragraph "A current frontier in facial nerve reanimation are potentially represented by stem cells (SC). The role of SC in facilitating and accelerating nerve fibers spreading throughout grafts, ameliorating the myelination, and reducing fibrotic degeneration have been recently reported in animal models" has been repeated at the end of the introduction section, please rephrase. 2. In the abstract, please refer the abbreviation of CAMP to compound muscle action potential. 3. In the search strategy section, could you please change the statement "first round of review round" to the first review round? 4. In the result section what did you mean by "studies and patients selected". 5. In the Myelin thickness ( $\mu\text{m}$ ) section, could you please correct this sentence "meta-analysis analysis".

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**Reviewer's code:** 05532596

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Assistant Professor, Consultant Physician-Scientist, Research Scientist

**Reviewer's Country/Territory:** Mexico

**Author's Country/Territory:** Italy

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**Reviewer performed review:** 2022-02-24 04:09

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Scientific quality	<input checked="" type="radio"/> Grade A: Excellent <input type="radio"/> Grade B: Very good <input type="radio"/> Grade C: Good <input type="radio"/> Grade D: Fair <input type="radio"/> Grade E: Do not publish
Language quality	<input checked="" type="radio"/> Grade A: Priority publishing <input type="radio"/> Grade B: Minor language polishing <input type="radio"/> Grade C: A great deal of language polishing <input type="radio"/> Grade D: Rejection
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<b>Peer-reviewer statements</b>	Peer-Review: [ <input checked="" type="checkbox"/> ] Anonymous [ <input type="checkbox"/> ] Onymous Conflicts-of-Interest: [ <input type="checkbox"/> ] Yes [ <input checked="" type="checkbox"/> ] No
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#### **SPECIFIC COMMENTS TO AUTHORS**

First i would like to compliment the authors, for the time and effort put on to the manuscript. Overall, the manuscript uses adequate statistics, has proper language and manage to communicate the purpose of the manuscript clearly. I recommend this article for publication.

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**Reviewer's code:** 03448879

**Position:** Editorial Board

**Academic degree:** MD

**Professional title:** Chief Doctor, Deputy Director, Professor, Surgeon

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Italy

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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
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### **SPECIFIC COMMENTS TO AUTHORS**

The manuscript focuses on the histological and neurophysiological outcomes of stem-cell based therapy in facial nerve reanimation. It is a thorough review of current studies on an interesting topic, although the lack of analysis on functional outcome is a drawback. Analytical methods are valid. Limitations are summarized and stated. Questions raised: 1. "Three studies included in the final analysis" in Figure 1 is inconsistent with the first paragraph of Results. 2. Authors should provide high resolution images.