PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 82196

Title: Clinical application prospects and transformation value of dental follicle stem cells in oral and neurological diseases

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06308792

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: China

Manuscript submission date: 2022-12-19

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-19 08:16

Reviewer performed review: 2022-12-21 14:01

Review time: 2 Days and 5 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Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish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

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

SPECIFIC COMMENTS TO AUTHORS

This review focuses on the properties, application potential, and clinical transformation value of dental follicle stem cells (DFSCs) in oral and neurological diseases. This is an interesting review while some major defects caused my concerns. Unless the authors could solve these concerns, I would not suggest this manuscript to be considered publication in World Journal of Stem Cells.   Major concerns: 1、The authors should supplement more details about the specific mechanism of DFSCs treatment for each disease. For example, lps-preconditioned DFSCs-derived small extracellular vesicles can treat periodontitis via reactive oxygen species/mitogen-activated protein kinase signaling-mediated antioxidant effect. (doi: 10.2147/IJN.S350869) 2、In the Periodontitis and periodontal defects part and Dental pulp necrosis Part, the description of the scaffold takes up a long space. I cannot judge whether the DFSCs will not have these functions without the scaffold. The authors should separate the examples of whether or not scaffolds are used into two paragraphs. 3、The authors list "Tooth root and whole tooth regeneration" in the category of ORAL DISEASES，which is less suitable in my view. They should reconsider a different classification. For example, the Application in oral cavity can be classified as periodontal regeneration, pulp regeneration, root regeneration and whole tooth regeneration.   4、In the IMMUNOREGULATION OF DFSCS part, the authors think "Both in oral and neurological diseases, the immunomodulatory capacity is one of the most crucial functions of MSCs to facilitate the repair or regeneration of damaged tissues.". However, none of the examples cited later is in oral and neurological disease, nor does it illustrate the relationship between immunomodulatory capacity and repair or regeneration of damaged tissues in oral and

neurological diseases. The author needs to consider the review content of this paragraph more carefully. 5、The authors may also need to think about the length of the manuscript, for example the introduction of stem cells and mesenchymal stem cells in the first four paragraphs should be more concise in my view. 6、The part of CRYOPRESERVATION OF DFSCS is not reflected in the abstract. 7、The picture is few and unattractive, so two or three summary pictures or tables should be added appropriately. Minor concerns: 8、The author should pay attention to the citation format of the references in the article, such as the superscript of reference [22] in the last paragraph of the Introduction part. 9、There is lack of references in the part about DFSCs in the treatment of PD between reference [79] and [81, 82]. 10、All abbreviations need to have a full name, such as BCOR, PBMCs, ADSCs, UCMSCs and so on. Overall, I therefore consider the review, not suitable for publication in its present form. However, a revised version which takes up the suggestions and implements them as far as possible could be reconsidered for publication.

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Reviewer's code: 05480683

Position: Peer Reviewer

Academic degree: PhD

Professional title: Academic Fellow, Academic Research, Adjunct Professor

Reviewer's Country/Territory: Italy

Author's Country/Territory: China

Manuscript submission date: 2022-12-19

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-25 16:26

Reviewer performed review: 2022-12-25 17:13

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) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No

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

SPECIFIC COMMENTS TO AUTHORS

Journal World Journal of Stem Cells Manuscript Manuscript ID: 82196 Type Article Review Title Clinical application prospects and transformation value of dental follicle stem cells in oral and neurological diseases Authors Chao Yang, Xin-Ya Du, Wen Luo This is an interesting and well written review manuscript focused on the possible clinical application of stem cells of different origin in the management of both oral and neurological diseases. The work is interesting, well written and well organized. The topic is very important, and I believe it matches well with the journal aims and scope of World Journal of Stem Cells. Please see below several comments for improving the manuscript.   Major comments 1. I suggest introducing more recent and up to date references, including reviews, in the field of stem cells and regenerative medicine. I can suggest PMID: 36034728, PMID: 35813047, PMID: 36238449, PMID: 35721599, PMID: 35607403 2. oral and neurological diseases are I general quite distant research topics. I suggest the authors make an effort in formulating a more detailed rational behind the selection of these two research topics, both in the abstract and at the end of the introduction (as review aim). The common denominator is well explained in throughout the review and in the conclusion section, but, for a better reading and review understanding, it should be emphasized in the abstract and introduction 3. Besides the already mentioned the oral diseases, I suggest including cancers of the oral cavity, authors can check PMID: 35846142   Minor observations 1. Citations should be separated from the last word of the sentence. Please check the entire mansucript 2. In the introduction, a supporting reference should be included for every stem cell type being mentioned 3. Introduction, this important reference on the molecular mechanisms of

osteogenic differentiation of mesenchymal stem cells should be included PMID: 33898434 4. The sub-head titles ORAL DISEASES and NEUROLOGICAL DISEASES should be improved with some terms referring to the use of stem cells for managing these diseases (as detailed in the paragraphs), otherwise in the current form it seems an introductive description of oral/neurological diseases 5. Bacterial infections have been reported to play a key role in the development of dental pulp necrosis (PMID: 34597722). Please emphasize this information 6. In case, when clinical trials are mentioned, the clinicaltrials.gov ID should be included 7. General comment, when the studies mentioned have been conducted with animal models, its should be underlined, as the biological/clinical information is more robust in this such of studies than in vitro studies. 8. "IMMUNOREGULATION OF DFSCS" acronyms should be avoided in the subhead titles 9. "CONCLUSION AND PERSPECTIVE" better "CONCLUSION AND FUTURE PERSPECTIVE"