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ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells
ESPS manuscript NO: 15855
Title: Amniotic fluid mesenchymal stromal cells in bone regeneration
Reviewer's code: 00546187
Reviewer's country: Afghanistan
Science editor: Xue-Mei Gong
Date sent for review: 2014-12-14 11:20
Date reviewed: 2014-12-25 09:49

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
[ ] Grade A: Excellent	[ ] Grade A: Priority publishing	PubMed Search:	[ ] Accept
[ ] Grade B: Very good	[Y] Grade B: Minor language polishing	[ ] The same title	[ ] High priority for publication
[Y] Grade C: Good	[ ] Grade C: A great deal of language polishing	[ ] Duplicate publication	[ ] Rejection
[ ] Grade D: Fair	[ ] Grade D: Rejected	[ ] Plagiarism	[Y] Minor revision
[ ] Grade E: Poor		[Y] No	[ ] Major revision
		BPG Search:	
		[ ] The same title	
		[ ] Duplicate publication	
		[ ] Plagiarism	
		[Y] No	

COMMENTS TO AUTHORS

This is a review of the features of amniotic fluid mesenchymal stromal cells and their feasible application in bone regenerative medicine. So, in this work, the authors summarized the biological properties of MSCs isolated from amniotic fluid and their potential in the osteogenic differentiation process. It's an important work to understand the development tendency of MSCs isolated from amniotic fluid. However, the reviewer thinks there are some little problems need to be corrected. 1.As an overview, this work should present the newest research works in the filed of mesenchymal stromal cells. So, please replace some old references, such as reference 10, reference 44, and reference 46. 2.In the part of "introduction", please add some other application of amniotic fluid stem cells for other clinical applications, such as lung injury and neovascularization.

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ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells
ESPS manuscript NO: 15855
Title: Amniotic fluid mesenchymal stromal cells in bone regeneration
Reviewer's code: 02446073
Reviewer's country: Afghanistan
Science editor: Xue-Mei Gong
Date sent for review: 2014-12-14 11:20
Date reviewed: 2014-12-21 02:09

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
[ ] Grade A: Excellent	[ ] Grade A: Priority publishing	PubMed Search:	[ ] Accept
[ ] Grade B: Very good	[Y] Grade B: Minor language polishing	[ ] The same title	[ ] High priority for publication
[Y] Grade C: Good	[ ] Grade C: A great deal of language polishing	[ ] Duplicate publication	[ ] Rejection
[ ] Grade D: Fair	[ ] Grade D: Rejected	[ ] Plagiarism	[Y] Minor revision
[ ] Grade E: Poor		[Y] No	[ ] Major revision
		BPG Search:	
		[ ] The same title	
		[ ] Duplicate publication	
		[ ] Plagiarism	
		[Y] No	

COMMENTS TO AUTHORS

In this review article, the authors summarized the features of amniotic fluid mesenchmal stromal cells (AF-MSCs), and particularly, their osteogenic differentiation potentials and possible clinical application in bone regeneration. Overall, this review article is well written and has provided the up-to-date knowledge in this field. However, the "uniqueness" and advantages of AF-MSCs in comparison to other tissue-derived MSCs in term of their properties and potential clinical application are not well described. In addition, the text should be proof-read for spelling, grammar and English usage. For example, in "Abstract", line 4, "clinical" should be "clinically"; line 6, "not raises" should be "does not raise"; and so on.

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ESPS PEER-REVIEW REPORT

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Reviewer's country: China
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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
[ ] Grade A: Excellent	[ ] Grade A: Priority publishing	PubMed Search:	[ ] Accept
[ ] Grade B: Very good	[Y] Grade B: Minor language polishing	[ ] The same title	[ ] High priority for publication
[Y] Grade C: Good	[ ] Grade C: A great deal of language polishing	[ ] Duplicate publication	[ ] Rejection
[ ] Grade D: Fair	[ ] Grade D: Rejected	[ ] Plagiarism	[ ] Minor revision
[ ] Grade E: Poor		[Y] No	[Y] Major revision
		BPG Search:	
		[ ] The same title	
		[ ] Duplicate publication	
		[ ] Plagiarism	
		[Y] No	

COMMENTS TO AUTHORS

In this paper, the authors gave an overview of the features of amniotic fluid mesenchymal stromal cells and their potential in the osteogenic differentiation process. It is an interesting topic for researchers in the related areas; however, the paper needs significant improvement before acceptance for publication. The detailed comments are as follows: 1. The paper is mainly related to the osteogenic differentiation of amniotic fluid mesenchymal stromal cells (AF-MSC), while the title of this is about AF-MSC in bone regeneration. The authors should distinguish between osteogenesis and bone regeneration. 2. Recently, the mechanisms of osteogenesis are continuously revealed. The summary sentence of "Osteoblastic differentiation begins when the bone morphogenetic proteins (BMPs) bind their receptors activating the transcription factors Runx2 and Osterix, and subsequent downstream osteoblast specific genes, through the activating of Wnt/LRP5 cascade, crucial in bone mass modeling" is not extensive enough. Particularly, the main signaling pathways involved in osteogenesis should be reviewed. 3. The authors listed amount researches about the osteogenic differentiation in vitro and in vivo. However, mesenchymal stem cells exist in many tissues and most of them have the ability of differentiating into osteoblasts. It is suggested to pay more attention on

comparing the ability or the effectiveness of osteogensis between AF-MSC and other MSC. Further, the possible reasons should also be discussed. 4. Some extensive and in-depth discussion is necessary for an excellent review. In the part of "Tissue engineering approaches for in vivo bone regeneration", the possible mechanisms for various scaffolds supporting osteogenesis should be involved in this paper. In fact, properties of scaffold such as various chemical groups and roughness both have significant effects on osteogenesis of MSC.

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ESPS PEER-REVIEW REPORT

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
[ ] Grade A: Excellent	[ ] Grade A: Priority publishing	PubMed Search:	[ ] Accept
[ ] Grade B: Very good	[Y] Grade B: Minor language polishing	[ ] The same title	[ ] High priority for publication
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		[ ] The same title	
		[ ] Duplicate publication	
		[ ] Plagiarism	
		[Y] No	

COMMENTS TO AUTHORS

The paper entitled "Amniotic fluid mesenchymal stromal cells in bone regeneration" presents a brief overview on osteogenic potential of fibroblast-like amniotic fluid cells with the differentiation potential. In general the manuscript is well written, however, some statements mentioned in the manuscript are rather obscure. On p 6 Authors stated that "they (AF MSC) represent an intermediate stage between embryonic and adult cells with advantages compared to both." It is absolutely unclear what particular stage is mentioned. Indeed, there are some stages of embryo development and there are also some stages of stem cells differentiation in adults, whether this sentence relates to the stages of organism development or cell differentiation process. It is undebatable that pluripotent cells have enormous differentiation potential, however, it is also obvious that any particular treatment will need corresponding cell type. Modern technologies of adult cell reprogramming have overcome both ethical issues of embryonic stem cells isolation and medical problem of tissue compatibility, therefore Authors have to consider this rapidly growing scientific direction and compare AF MSC not with embryonic but rather with iPS cells.