



ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Nephrology

ESPS manuscript NO: 21958

Title: Adult stem cells as a tool for kidney regeneration

Reviewer’s code: 02446027

Reviewer’s country: United States

Science editor: Shui Qiu

Date sent for review: 2015-08-11 17:55

Date reviewed: 2015-09-01 11:34

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		<input type="checkbox"/> No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input type="checkbox"/> No	

COMMENTS TO AUTHORS

The authors review a various therapeutic approaches of adult stem cells for kidney regeneration. The authors also review the potential roles of extracellular vesicles released from stem cells and the effects of adult somatic cells by which kidney stem cells will be formed in the future. In addition, the authors review preclinical and clinical applications of the important of adult stem cells in reducing the progression to end-stage renal disease and improving the quality of life of patients. The topic is of considerable interest since the prevalence of renal disease is increasing and it is a serious disease for which at present no appropriate therapeutic exists. Therefore, review on the treatment options for this disease, and focuses on adult stem cells MSCs in preclinical and clinical applications in treatment of this disorder is a beneficial. Overall the review is complete, and contains up-to-date with the latest and most important information about the various types of adult stem cells, which are involved in the early phase of clinical trials for treatment of this disorders. I believe that the manuscript is suitable for publication in the Journal. I recommend acceptance of the manuscript in its present form.



ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Nephrology

ESPS manuscript NO: 21958

Title: Adult stem cells as a tool for kidney regeneration

Reviewer's code: 02398400

Reviewer's country: United States

Science editor: Shui Qiu

Date sent for review: 2015-08-11 17:55

Date reviewed: 2015-08-19 03:47

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		<input type="checkbox"/> No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input type="checkbox"/> No	

COMMENTS TO AUTHORS

The review by Suzuki et al. provides an overview of the potential use of stem cells for treating end stage renal disease. The review is well written and follows a logical course of reasoning. The review is also comprehensive in that it provides a brief description of kidney organogenesis, discusses the potential existence of somatic stem cells in kidney, and describes different somatic stem cell-based treatments in translational models of kidney disease. A few minor comments are provided that would help improve the clarity of the work. 1. The authors state that clinical use of ESCs is limited due to ethical concerns and the "small number of stem cells". While the later may be true a more prominent concern is their propensity to form teratomas in vivo. 2. It would be interesting to indicate whether anyone attempted to isolate LRCs from the kidney and examine their phenotype. 3. When discussing transplantation studies of SP cells, CD133+ and other putative kidney stem cell populations, the authors may want to provide more details of how engraftment was analyzed as the term is widely misused to imply functional incorporation into a tissue. In many cases labeled cells injected into a tissue survive short term, and/or get trapped in the tissue via the circulation but never adopt a phenotype of tissue resident cells and/or contribute to tissue function.



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These distinctions are important in evaluating such studies. 4. In describing the Phase I clinical trial using BMSCs for the prevention of AKI after open heart surgery, the authors suggest the trial was a success because no patients required hemodialysis. The authors should indicate how the study was powered and if outcomes were significant as compared to controls or placebo. 5. The authors should revise the statement that liposuction is less invasive than harvesting bone marrow aspirates. This statement has been propagated throughout the literature without any clinical justification. Both procedures are invasive and may be painful. Also, while the yield of adherent cells from adipose is greater than bone marrow, the actual number of stem cells is much more difficult to quantify. 6. The section on iPS reprogramming was well written, but a critical barrier that remains is the poor efficiency of the process. Therefore, while the technique is relatively straightforward, efficiency remains a limiting factor. 7. Both ASCs and BMSCs release extracellular vesicles. Therefore the title of this section should be changed to reflect the fact that vesicle release is not a unique property of ASCs. 8. The review would be improved if the authors could include a few comments on which stem cells evaluated to date in translational models appear to yield the best outcomes. This would help inform the reader as to which area of stem cell research is more mature with respect to therapeutic interventions for kidney disease.



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ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Nephrology

ESPS manuscript NO: 21958

Title: Adult stem cells as a tool for kidney regeneration

Reviewer's code: 02446219

Reviewer's country: Iran

Science editor: Shui Qiu

Date sent for review: 2015-08-11 17:55

Date reviewed: 2015-08-21 03:04

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input checked="" type="checkbox"/> Grade C: Good		<input type="checkbox"/> Duplicate publication	
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade E: Poor	<input type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Minor revision
		BPG Search:	<input type="checkbox"/> Major revision
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

COMMENTS TO AUTHORS

The authors have summarized the role of Adult stem cells for treating renal diseases. Overall, The review is well written and at the same time comprehensive. The manuscript provides good classification of different angles of this issue. There are some comments that need to be considered are the following: 1-Titles should be uniform, some titles are full name and acronym together, but the others are only acronym. 2-In title "Umbilical cord blood " and "Amniotic fluid" phrase of stem cells should be added to the end of these two titles. 3-Mesenchymal stem cells release EVs, but in the manuscript BMSCs are the only cells which have this property, whereas the other mesenchymal stem cells also have such trait.