

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 64872

Title: Effects of radiation and chemotherapy on adipose stem cells: Implications for use in fat grafting in cancer patients

Reviewer's code: 00504362

Position: Editorial Board

Academic degree: PhD

Professional title: Professor

Reviewer's Country/Territory: Chile

Author's Country/Territory: United States

Manuscript submission date: 2021-02-25

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-02-27 19:59

Reviewer performed review: 2021-03-03 13:31

Review time: 3 Days and 17 Hours

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 Grade E: Do not publish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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

This is a very interesting and well-written review on a topic where the authors have important contributions. The title reflects the main subject of the manuscript and the abstract correctly summarize the content of the manuscript. The only concern this reviewer has is in regards to adding an extra section such as Future directions, highlighting the new directions in which current research on this topic is moving on.

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 64872

Title: Effects of radiation and chemotherapy on adipose stem cells: Implications for use in fat grafting in cancer patients

Reviewer's code: 05685573

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Italy

Author's Country/Territory: United States

Manuscript submission date: 2021-02-25

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2021-03-17 08:50

Reviewer performed review: 2021-03-23 11:37

Review time: 6 Days and 2 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" 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 type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

In "Availability and growth rate of ASCs in patients treated with radiation" There are no specifics data on the subjects considered in the study (unpublished):

- how many are they, their age, what kind of radiation treatment have they done?
- Please specify the methodology: which procedure was used to isolate the ASCs?
- From the attached figure only it is known that the ASCs are in percentage with respect to the SVF: How did they calculate the doubling time? How many in vitro steps have they performed?

Fig. 1 reports the differentiation in adipocytes, osteocytes and endothelial cells, anyway this is not mentioned in the text. In this case also, it would be necessary to add more methodological details.

In "Availability of ASCs in patients receiving chemotherapy"

We read that ASCs isolated from the breast would be a cellular source for cell-assisted lipotransfer. Wouldn't it still be better to isolate them from the subcutaneous or visceral adipose tissue of the same subject? Do they have data to support this procedure?

Fig. 1 Missing data: 1) The number of subjects 2) The standard deviation of each measurement Also, you can't put a "p" value associated with (+) and (-), it takes numbers. The percentages in the columns are misread, they must provide a higher resolution figure.

Fig. 3 The number of subjects taken into consideration is missing.

Fig. 4 Is it an already published figure? If so, the source should be cited, otherwise they must add details about:

- the ASCs.
- which rats were used
- where they injected the ASCs
- which anti-CD-31 antibodies
- what does it mean "human nuclear stain"
- X of magnification shown, etc.

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 64872

Title: Effects of radiation and chemotherapy on adipose stem cells: Implications for use in fat grafting in cancer patients

Reviewer's code: 05925555

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Italy

Author's Country/Territory: United States

Manuscript submission date: 2021-02-25

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2021-03-19 15:03

Reviewer performed review: 2021-03-28 09:03

Review time: 8 Days and 18 Hours

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	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

Dear authors, Has been a pleasure to read this manuscript on one of the most interesting tool for breast reconstruction. I have outlined the comments and suggestions as follows:

Introduction You stated "The use of ASCs is also thought to produce less donor-site morbidity than conventional vascularized tissue transfer used in tissue reconstruction". Talking about breast reconstruction, I wouldn't compare free flap transfer to fat transplantation procedure, since the indications for those procedures are different

Radiation effect on ASCs endothelial differentiation Your study asserted radiation therapy has deleterious effects on ASC differentiation capacity towards endothelial cells after comparing ASCs harvested from irradiated and no-irradiated breast tissue. However, it's important to highlight how the main donor sites for adipose tissue harvesting are: abdomen, flanks, thighs; usually not irradiated areas. I would placed stress on the effect of radiation therapy on the breast recipient site, which could affect more fat graft survival