

ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

ESPS manuscript NO: 20216

Title: Space radiation and cardiovascular disease risk

Reviewer's code: 00742221

Reviewer's country: Italy

Science editor: Fang-Fang Ji

Date sent for review: 2015-06-03 08:47

Date reviewed: 2015-07-20 16:59

| CLASSIFICATION | LANGUAGE EVALUATION | SCIENTIFIC MISCONDUCT | CONCLUSION |
|--|--|--|--|
| <input type="checkbox"/> Grade A: Excellent | <input checked="" type="checkbox"/> Grade A: Priority publishing | Google Search: | <input checked="" type="checkbox"/> Accept |
| <input checked="" 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 checked="" type="checkbox"/> Plagiarism | <input type="checkbox"/> Minor revision |
| <input type="checkbox"/> Grade E: Poor | | [Y] No | <input type="checkbox"/> Major revision |
| | | BPG Search: | |
| | | <input type="checkbox"/> The same title | |
| | | <input type="checkbox"/> Duplicate publication | |
| | | <input type="checkbox"/> Plagiarism | |
| | | [Y] No | |

COMMENTS TO AUTHORS

Very interesting review I congratulate with the very well written manuscript

ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

ESPS manuscript NO: 20216

Title: Space radiation and cardiovascular disease risk

Reviewer's code: 00289591

Reviewer's country: United States

Science editor: Fang-Fang Ji

Date sent for review: 2015-06-03 08:47

Date reviewed: 2015-06-24 13:21

| CLASSIFICATION | LANGUAGE EVALUATION | SCIENTIFIC MISCONDUCT | CONCLUSION |
|--|--|--|--|
| <input type="checkbox"/> Grade A: Excellent | <input checked="" type="checkbox"/> Grade A: Priority publishing | Google Search: | <input checked="" type="checkbox"/> Accept |
| <input checked="" 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 checked="" type="checkbox"/> Plagiarism | <input type="checkbox"/> Minor revision |
| <input type="checkbox"/> Grade E: Poor | | [Y] No | <input type="checkbox"/> Major revision |
| | | BPG Search: | |
| | | <input type="checkbox"/> The same title | |
| | | <input type="checkbox"/> Duplicate publication | |
| | | <input type="checkbox"/> Plagiarism | |
| | | [Y] No | |

COMMENTS TO AUTHORS

This review article on space radiation on cardiovascular disease risk is timely since most of the available review articles are generally focused on cardiovascular damages after therapeutic radiation exposures using low LET radiation. It is a well written manuscript. Excerpts on ionizing radiation included in the introduction is appropriate for the readers of cardiovascular field with limited awareness of radiation responses, particularly galactic cosmic radiation. Recently more attention is focused on the functional impairment of heart after space radiation to estimate cardiovascular risk in space missions. However, studies on the mechanisms involved using in vitro and in vivo models in causing those functional impairment is very limited. Having the currently available limited data on animal and cell culture models, the authors have described systematically the possible occurrence of abnormalities in response to various ions of space radiations, starting with heart followed by vascular changes and extended to microvasculature. However, care should be taken when the epidemiological data from atomic bomb survivors is compared to support the cardiovascular disease risk in space, considering the dose rate between the atomic bomb event and estimated space radiation exposure. More discussion on countermeasure agents other than



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vitamin E analog gamma-tocotrienol would have further strengthened the manuscript. Citation of a recent article (Kennedy, 2014) on the development of countermeasures on the biological effects of space radiation, however, will be useful to the readers.