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PEER-REVIEW REPORT

Name of journal: *World Journal of Clinical Oncology*

Manuscript NO: 67430

Title: Tumor irradiation may facilitate the detection of tumor-specific mutations in plasma

Reviewer's code: 02441753
Position: Peer Reviewer
Academic degree: MD, PhD
Professional title: Assistant Professor, Research Fellow
Reviewer's Country/Territory: Japan
Author's Country/Territory: Russia

Manuscript submission date: 2021-04-28
Reviewer chosen by: AI Technique
Reviewer accepted review: 2021-04-29 01:11
Reviewer performed review: 2021-05-08 13:33
Review time: 9 Days and 12 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[Y] Grade A: Priority publishing [ ] 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 [ ] Major revision [Y] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

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SPECIFIC COMMENTS TO AUTHORS

Authors conducted a prospective study to evaluate whether tumor irradiation might lead to the transient increase of ctDNA content. They included 9 patients who underwent radiation therapy and found that tumor irradiation facilitated the detection of tumor-specific DNA in the bloodstream. While this study showed fascinating results, authors should respond to comments described below. Major 1. It is widely known fact that radiation and chemotherapy can increase amount of ctDNA in blood and tumor specific DNA detection. While authors focused on rectal cancer which was not selected for similar study design, scientific novelty of this study was unclear. Authors should emphasize this point. Minor 1. Please clearly describe information of concurrent chemotherapy. It might affect somehow amount of ctDNA.

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PEER-REVIEW REPORT

Name of journal: *World Journal of Clinical Oncology*

Manuscript NO: 67430

Title: Tumor irradiation may facilitate the detection of tumor-specific mutations in plasma

Reviewer's code: 05873464

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: Russia

Manuscript submission date: 2021-04-28

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-04-30 07:43

Reviewer performed review: 2021-05-10 08:19

Review time: 10 Days

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [Y] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[Y] Grade A: Priority publishing [ ] 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 statements	Peer-Review: [Y] Anonymous [ ] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

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SPECIFIC COMMENTS TO AUTHORS

The manuscript describes that local tumor irradiation may facilitate the detection of tumor-specific DNA in the bloodstream and thus improve the performance of liquid biopsy. The research is interesting to some extent. But there exist the following weaknesses which need for major revision. 1. Please add the detailed captions of each figure. 2. In the discussion part, please add the detailed advantages and reasons for locally advanced RAS/RAF-mutated rectal cancer as the research object. 3. In the discussion part, the authors mentioned that "If this intervention was to increase the rate of EGFR T790M allele detection in the plasma, the proposed approach would have significant potential for clinical use". I hope that the author will pay attention to the side effects of local radiotherapy and put forward some strategies. 4. Please add the limitations of this article in the discussion section.

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RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: *World Journal of Clinical Oncology*

Manuscript NO: 67430

Title: Tumor irradiation may facilitate the detection of tumor-specific mutations in plasma

Reviewer's code: 05873464

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: Russia

Manuscript submission date: 2021-04-28

Reviewer chosen by: Man Liu

Reviewer accepted review: 2021-09-03 08:19

Reviewer performed review: 2021-09-03 08:59

Review time: 1 Hour

Scientific quality	[Y] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[Y] Grade A: Priority publishing [ ] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[Y] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

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Thank you for authors' reponses and revisions. After careful reading, the authors added some appropriate details and logic to this article in order to improve its quality. Therefore, this paper can be recommended for publication.