Reviewer’s report

Title: Protective effect of genistein on radiation-induced intestinal injury in tumor bearing mice

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Reviewer: Paban Agrawala

Reviewer’s report:

The study is well designed to address the issue authors have in their mind and the manuscript is of interest for researchers in the field. The selection of end-points were well justified. However, the issue is there was no repeat experimental observation reported in the study and the analysis is based on a single study for each time point and parameter with only 5 mice per group. Nevertheless the results obtained are straight forward and the manuscript can be accepted with some modifications.

Major Compulsory Revisions

Abstract: Method section second line- creates a misunderstanding regarding genistein administration, it appears that genistein was administered daily, but text shows it was administered only once before irradiation. Sentence needs to be reframed.

Introduction: Last paragraph second sentence needs to be reframed.

Results: Anti-apoptotic effect of genistein in the jejunal crypts:
First paragraph last two sentences are some what contradictory. Do the authors mean genistein had no significant anti-apoptotic action against 10 Gy (which is more likely)? But this is contradicted by the previous sentence since it does not mention the radiation dose.

Discussion: Paragraph-Last but one: suitable references may be included.

Fig 1A: The treatment scheme to be corrected so as to depict the 3.5 and 7 d time points.

Fig 5b: really does not replicate the histogram representation above (Fig 5A) as it shows genistein to be much more radiosensitizing, authors may consider giving another representative image.

Discussion part may be made based more on the observations of the current study rather than based more on other published work.

Discretionary Revisions: The study though bring the beneficial effects of genistein pretreatment in protecting against radiation-induced intestinal injury without compromising the tumor control aspect within the study time period, it does not describe/ justify or comment on the quality of life, fate of the tumor and over all survival of the animals over a prolonged time. Even there is no follow up study of the intestinal health at a later time point (say on Day 6) and observation
of the tumor volume, animal health and survival over a longer period of time. Inclusion of those observations would improve the importance of the work done.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

'I declare that I have no competing interests'