Review of: "Scintigraphic and histopathologic evaluation of the protective effect of L-carnitine on the development of radiation-induced kidney damage in infant rats"

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Potential competing interests: No potential competing interests to declare.

General comment :

- The manuscript seems to indicate that L-carnitine increases survival but does not improve kidney damage of infant rats exposed to RT. Nevertheless, these conclusions likely need to be carefully reconsidered by using appropriated statistic tests different from those used by the authors.
- The reading of the manuscript is sometimes hard to follow with some sentences that are rather difficult to understand. A careful re-reading of the text seems necessary.

Materials and Methods :

Animals.

First paragraph

- The method of solubilisation and the concentration of the L-carnitine solution injected into the rat must be specified.
- "*Group 3 (n = 10) received irradiation alone (radiotherapy) and was injected with saline (10 ml/kg) i.p. 30 minutes before irradiation*" should be replaced by "*Group 3 (n = 10) was injected with saline (10 ml/kg) i.p. 30 minutes before receiving irradiation alone (radiotherapy)*"

Second pargraph

- It is mentionned that "*The mice were placed in an air-conditioned room at 25 °C*" whereas in the first paragraph it is mentioned "a *mean temperature of 21 ± 2 °C*" : which temperature was really applied ?

Statistical analysis

- It is mentioned that "*histopathological data are presented as median (min-max)*" and that "*Differences in the scored parameters among the four groups were analyzed with ANOVA*". This representation of the results and their statistical analysis seems inapropriate. The results should rather be represented as the relative proportion of each score (0, 1, 2, 3) and a Ki2 test should be used for statistical comparison.
- It is mentioned "*The results are expressed as median (interquartile range).*" and "*The Kruskal–Wallis test was used to*

assess the statistical significance of comparisons ": which results are you refering to ?

- The statistical test that was used to analyse the survival curves must be precised.

Results

- All the results must be re-analyzed with appropriate statistical tests (see comment above).
- Table 3 , that corresponds to a sumary of the scintigraphy results, is not correctly inserted and should be referenced in the text.

Scintigraphy results

- It is mentioned that "*The DTPA Tmax value …measures glomerular function for the left kidney*" : A reference must be enclosed to support this statement.
- The following paragraph "*In the right kidney scintigraphy findings……. L-Carnitine+RT group compared to the RT group (p=0.009, p=0.076)* " must be clarified and a conclusion must be drawn.
- Representative DTPA images must be shown.

Histological results

- The following assertion "*The degree of glomerular damage and tubular degeneration decreased when L-Carnitine was administered before RT*." is not supported by the statistical analysis shown in Table II .

Survival

- The authors must explain what is the meaning of the "*censored*" lines in Figure 6.

Discussion.

- The Discussion section is rather confusing and needs to be fully reconsidered in light of appropriate statistical analyses of the experimental data.