Reviewer’s report

Title: The Effect of rhizoma coptidis and coptis chinensis aqueous extract on Radiation-Induced Skin Injury in a Rat Model

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Reviewer: sanath kumar

Reviewer’s report:

Abstract:
“Radiation-induced skin injury is a main complication for radiation therapy”- the statement very generic, and not always clinically applicable. Results should be modified to include MDA and SOD levels after RCE treatment.

Background:
Any published data on the effect of RCE in clinical patients?

Methods:
What was the dose of RCE given to each animal? How was it administered?
Most problematic issue for me is the technique of radiation. Describe the radiation technique set-up in detail. Not sure which site of the body was radiated to 45Gy (whole body or specific site).

Skin score: Since the radiation dose was administered in single large fraction, I would recommend using the score proposed in “Radiation-induced skin injury in the animal model of scleroderma: implications for post-radiotherapy fibrosis”. The authors need to cite the reference.

How often was the skin scoring done?

Results:
Figure 1: There is 1 point or less difference in the skin scores between the RT and treated groups. What would be the clinical relevance? I am not impressed by this marginal effect of the drug.

HE: Why was this end point chosen at 2 days after radiation? Is there any evidence of finding significant difference 2 days after radiation?

Discussion:
“Although RCE could decrease the square of skin breakdown, no significant difference has been found between R group and R+T group, which may be affected by samples and intervention”- no idea what the authors mean by this statement.
“49 days after irradiation, the rats in R+T group show more new capillaries and fibroblasts, which play an important role in the skin repair. We consider that RCE could ameliorate radiation-induced skin injury obviously”- The authors conclusion is premature and not supported by the data provided. At day 49, the skin damage score is in the RCE treated group is more than 3! The only way to know if the drug works is to follow up the damage scores longer, say 3 months. This is one the biggest flaws in this study.

Conclusion:
Authors are not sure whether they are looking at acute or chronic skin injury. The conclusion is premature and the data does not support any of their conclusions. They need to carefully define their end-points, and measure skin damage scores for a longer period of time.

Level of interest: An article of limited interest

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
none