Reviewer’s report

Title: An experimental study on providing a scientific evidence for seven-time alcohol-steaming of Rhei Rhizoma when clinically used

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Reviewer: Yongke Lu

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The goal of this study is unclear. It seems that it is to prove that Dongeuibogam is correct. If not, the sentences in line 86-89 “Dongeuibogam, the most famous book on Korean traditional medicine, is an encyclopedic guideline of medical knowledge and treatment techniques first compiled by Joon Heo in 1613. As stated in this book, RR should be alcohol-steamed seven times when used for elderly patients” as well as the phrase in line 213 “as recorded in Dongeuibogam” should be removed.

This manuscript did not state whether the efficacy of RR-7 is also decreased when its toxicity is decreased. It is necessary to make readers aware of its efficacy, especially when the sennoside A and B were decreased (It is not stated but I suppose that sennosides are bioactive constituents like emodin).

Why was rice wine used? It is suggested in Dongeuibogam? How about 14% ethanol in place of 14% rice wine? What does it mean by “The yields were 24.80%, 28.70%, 26.70% and 27.61%, respectively”? I don’t believe that 100g RR can produce 24.8 g frozen-dried powder? The authors gave the cell concentration (2.0 × 10⁵/mL), but the reader still don’t know how many cells in each well. Why the treatment was only for 4 h? HepG2 is human hepatoma cell, it is not suitable for drug toxicity. In contrast, do RRs have anticancer effect?

Rats were treated single or twice per day? Why 21 days for the rats while the cells were only 4 h? How did the authors identify the cholestasis in HE stained liver sections? The arrows should be superimposed. Quite frankly, from table 2, I didn’t see much difference between RR-P1 and RR-P7. RR-U seems to have influence on cholestasis as indicated by gamma-GT and bilirubin. RR-P7 did exhibit an increase in gamma-GT although insignificantly statistical analyses.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

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.