Reviewer’s report

Title: Recent Efforts to Elucidate the Scientific Validity of Animal-Based Drug Tests by the Pharmaceutical Industry, Pro-Testing Lobby Groups, and Animal Welfare/Three Rs Organisations.

Version: 0 Date: 11 Aug 2018

Reviewer: David B. Morton

Reviewer's report:

The authors should emphasise the limits of the paper i.e. confined to the safety testing of drugs for use in humans. I acknowledge that while this is obvious to the authors and others in the field, it may not be to the general readership of BMC ME and so it may be helpful to make this distinction more clear. For example, it may not apply to many other areas of animal testing e.g. vaccine safety and development, other medicinal uses in surgery and medicine e.g. anaesthesia, analgesia, anthelmintics, antimicrobials, drugs to be used in veterinary medicine. The authors are concentrating on toxicity and safety not efficacy (see eg. page 4 lines 1-8, page 5 line 33), which is clearly important as that is when animals are most likely to suffer pain, distress and lasting harm.

The authors are not emphasising the ethical issues that are at stake, far more emphasis is being placed on the important technical issues that are raised, and yet this is a journal about ethics? Furthermore, they are impugning not only poor predictability of research animals in human drug safety/toxicity testing, but also inadequate declarations of interest and bias of the researchers, lack of scientific integrity due to poor scientific rigour, inadequate acknowledgement of prior studies, and data manipulation, and other important ethical issues. There is no discussion of the ethical issues that are raised by the use of animals in drug testing, which are numerous and would be worth making those points in the paper, albeit briefly.

As the debate hinges around statistics, I wondered about some input from a disinterested professional statistician input: eg the best predictors of human toxicity (and efficacy) being LRs and not PVs?

Sub-Editing points:

Page 13, Line 59: reads ".. as is the case in drug development — this excuse is cannot be valid." Should it not read "…this excuse cannot be valid. Or this excuse is not valid"?
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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