Reviewer's report

Title: Study on the antiviral activity of San Huang Yi Gan Capsule against hepatitis B virus with seropharmacological method

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Reviewer: Jia-Ming Chang

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Comment for “Study on the antiviral activity of San Huang Yi Gan Capsule against hepatitis B virus with seropharmacological method”

Authors try to test the antiviral activity of traditional herbal medicine using seropharmacological method. In this study, the biomarkers of HBV were assessed for the efficacy of SHYGC. Authors successfully prove the effect of SHYGC, a traditional medicine, on anti-HBV activity with HBsAg and HBV DNA pol. For complexity of traditional medicine, seropharmacology will provide information in efficacy test in pro-drugs, which most metabolites of traditional medicine are needed to become active by human cytochrome P450 system. However, this study still remains some questions to be addressed.

Major point:
1. For quantitation of HBV DNA, the quantitative PCR would be considered as clinical proved assay method. If authors want to study the different forms of HBV, the northern blot would be considered as mechanistic study.
2. The efficacy of positive control, Entecavir, did not show a good HBV viral DNA inhibition in this study. If this seropharmacology is applied to study unknown bioactive materials, the standard or control substance should be explained more in details for optimizing the assay method. Especially, authors point out serpharmacology could be connected the pharmacokinetic study for exploring active ingredient of traditional medicine or providing toxicological issue such as safety pharmacology.

Minor point:
1. Why did authors use the rabbits for seropharmacology study?
2. How to refresh the drug serum-conditioned medium in the efficacy test? For once or refresh it daily.

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