Reviewer's report

Title: Spirulina platensis versus silymarin in the treatment of chronic hepatitis C virus infection. A pilot randomized, comparative clinical trial.

Version: 2 Date: 10 September 2011

Reviewer: Cristian Baicus

Reviewer's report:

- the study appears to be a methodologically correct randomized controlled trial, with concealed allocation and double blind.
- the statistical analysis is adequate; however, the sample size calculation is wrong (see below), so I wonder if the rest of statistical analysis is correct.
- the assumption of 20% virological response was overoptimistic;
- as a comparator was chosen silymarine, supposing, probably, that it has effect in chronic hepatitis; however, there are not valid studies to demonstrate this (at least concerning the standard endpoint used in viral hepatitis – viral response)!
- I don’t think ASEX is a valid endpoint for the treatment of chronic hepatitis C.

Major Compulsory Revisions

1. Liver related mortality/morbidity (stated as primary endpoints), the real hard endpoints, could not have been assessed in a study on 60 patients, for 6 months because of the lack of statistical power. Even the large studies with interferon and ribavirin did not assess these very important endpoints and limited themselves to virologic response.

2. I think the sample size calculation was not correct and, given the assumptions of the authors, the sample size should have been much larger. The study had not, in reality, enough power to detect the differences concerning the virologic responses. The proof is that, although the authors claimed that the study was powered for a difference of 2%, they could not find statistical significance for a larger difference of 9.9% (13.3% vs. 3.4%, c-ETR).

3. The two scores (ASEX and CLDQ) are ordinal variables, so one should compare them by nonparametric tests, and resume them as median and Q1-Q3 or min-max, than mean and SD. (I know that in many journals are published articles where this kind of scales are treated as quantitative variables, with mean and SD, and compared by parametric tests; it’s up to the editors to decide this).

4. In Table 1, there are not the baseline ASEX and CLDQ scores.

6. Child-Pugh score is used for cirrhosis, and not for chronic hepatitis, for which it was not validated.

- Minor Essential Revisions

1. All tables were directly taken from the output of the statistical software, and not
edited (too many rows and columns, abbreviations without footnotes etc).

2. The p should be written in table 4, on the corresponding rows, rather than in text; on the contrary, it’s not necessary to give both SD and SE in Table 4, 5, 6 (see also comment 3, above). In fact, results of Tables 5 and 6 could be written in one phrase of text.

3. In Table 7 there is no need of rows with intercept, error, total, corrected total and columns 3, 4, 5, 6, 8.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests