Reviewer's report

Title: Artificial liver support for acute liver failure: improvement of hepatic encephalopathy treated by on-line hemodiafiltration: a case series study

Version: 1 Date: 27 December 2009

Reviewer: Nathan Davies

Reviewer's report:

Major Compulsory Revisions

Figure 2, I'm not sure if this is significant as stated, though the line deviates significantly from zero, the regression coefficients are weak. A more cautious interpretation throughout the manuscript is warranted.

Minor Essential Revisions

In the abstract, the numbers used should be qualified as mean +/- std dev on first usage.

CT should be listed as computerized tomography

Results 1st paragraph, figure 2 shows the consciousness level of the patients, not their clinical course.

Figure 3 could have an improved legend as it the figure is not currently clear to interpret on first examination.

In results it is misrepresentative to suggest transplant listed pts are not non-survivors, it would be better to list all transplant patients with non-survivors and then state how many received organs.

Discretionary Revisions

Authors should be aware of the paper by Hassanein et al (HEPATOLOGY 2007;46:1853-1862.), in this study a multicentred clinical trial was conducted to remove toxins up to 50KDa by dialysis therapy in liver disease patients. In this study there was an improvement in HE grade, but no statistical benefit in survival.

There are also a number of publications in the literature that describe the role of inflammation as a component factor in the grade of HE. The authors should consider this issue in light of their study.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

University College London has applied for patent protection for the development of a liver support system that could be applied to patients with similar conditions to those described in this manuscript.