Reviewer's report

Title: 'Sepsis-related anemia' is absent at hospital presentation; a retrospective cohort analysis.

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Reviewer: Jean-Louis Vincent

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The authors studied the early changes in hemoglobin concentration (Hb) in septic patients. The admission Hb levels were relatively similar in septic and non-septic patients, but the subsequent Hb levels decreased in the septic patients more than in the other patients.

General comments

1. The data are presumably correct, although the differences are present since admission, with a p value of 0.07 (Table 4), indicating that there are only 7% chances that the differences are due to chance !.

The interpretation should be improved. The authors incriminate in part the fall in Hb levels to IV fluid infusion but the fluid infusion can only reveal the anemia in the presence of relative hemoconcentration. Even massive fluid infusion in healthy volunteers does not result in a decrease in Hb levels, as the fluid administered is rapidly eliminated by the kidneys. If the authors wish to incriminate an altered elimination of fluids in septic patients, they must show a greater incidence of renal failure in these patients. The authors underline that absolute hemoconcentration was uncommon, but relative hemoconcentration can only be revealed by fluid infusion. Hence it is iatrogenic in the sense that it is revealed by therapy, but not iatrogenic in the sense of a treatment-related complication. The word "iatrogenic" would be best avoided in this context.

The implications of these findings are therefore more important than initially thought: they imply that initial Hb levels do not accurately reflect the degree of anemia.

2. The entire statistical analysis should be revisited, because many p values are hard to believe – as an example, LDH 241 vs 226, p < 0.01 ??

Other comments

1. -organ failure is poorly defined; it is suboptimal to describe organ failure by a therapeutic measure (e.g. respiratory failure by the need for mechanical ventilation, etc)

2. -p values cannot be 0.00 – please carefully check the results –

3. -the paper needs some language editing – articles are missing in many places.
Level of interest: An article of limited interest

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

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests: none