Reviewer’s report

Title: Copeptin concentration in cord blood as a marker of perinatal stress

Version: 1 Date: 21 December 2010

Reviewer: Daniele Trevisanuto

Reviewer’s report:

In this study, Schlapbach et Coll measured umbilical cord copeptin concentrations in a large sample (n. 243) of neonates. Copeptin concentrations were evaluated dividing the study population in 3 main groups of patients based on their disease: sepsis, chorionamnionitis and asphyxia.

The results show that copeptin concentrations were higher in asphyxiated infants, in neonates born by vaginal route and in those with acidosis. In contrast, infection did not influence copeptin concentrations.

The article is original because it measures, for the first time, the copeptin concentrations in asphyxiated and septic neonates.

I have the following criticism and suggestions:

1. Abstract
Adequate.

2. Background
In this section, the authors seems to be concentrated on the sepsis (Paragraph 3), and not on the asphyxia aspects. It seems that the objective of “original manuscript” was evaluation of copeptin concentrations in neonates with infection (sepsis and chorionamnionitis). I suggest to add a paragraph on the asphyxia in neonates and the rationale for measurements of copeptin in course of this clinical situation.

3. Methods
Page 6. Chorionamnionitis group. Was histological evaluation of the placenta done in all study population?.

Asphyxia Group. The definition of asphyxia is arbitrary and is not in agreement with that used in Ref. 19 (Azzopardi et al. NEJM 2009).

STATISTICAL ANALYSIS
Adequate.

4. Results
Table I. Characteristics of patients groups: There is a large percentage of SGA infants in the asphyxiated group (28%). As stress hormone cortisol is elevated in SGA infants, could this condition have influenced copeptin concentrations in the asphyxiated neonates?
How many patients were enclosed in the chorionamnionitis group on clinical diagnosis and how many on histological diagnosis?

I was surprised from the high number of patients with arterial hypotension. Which was your definition of hypotension? How many hypotensive infants received inotrops?

5. Discussion & Conclusions
They are well balanced and adequately supported by the data.

6. References

7. Table
Are the data expressed as median (range or IQ range)? Please, specify it.

8. Figures
Adequate.

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

**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' below.