Reviewer's report

Title: Higher cerebral oxygen saturation may provide higher urinary output during continuous regional cerebral perfusion

Version: 1 Date: 24 June 2008

Reviewer: Klaus PhD. Valeske

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1. Introduction: The hypothesis is: Higher cerebral oxygen saturation is correlated with pump flow rate. Table 2 says: no difference in pump flow rate.

2. Page 6: You describe the administration of phenoxybenzamine. In the discussion you state, that higher urinary output depends on higher cerebral oxygen saturation and a large dose of chlorpromazin. What about phenoxybenzamin? Can chlorpromazin provide additional vasodilatation in patients treated with phenoxybenzamin?

3. Page 6: Standart hemodynamic monitoring...

4. Page 7: Table 2 says: Pump flow rate during RCP is 79+/-23 ml. If a mean bypass flow of 141+/-37 ml was required to reach a mean radial arterial pressure of between 30 and 50 mmHg, how did you reach a pressure of 37,9+/-9,6 ml with a reduced flow rate? What is the mean rSo2 in both groups? We know only about more than 75% in group A and less in group B, but no exact datas.

Page 11: In our opinion...

Page 11: You suppose that decreased cerebral vascular resistance requires higher blood flow rates although Your results show no difference in blood flow rates. What was the hematocrit during RCP? Was it different in between the groups?

Page 12: Also on page 12: Your pump flow rate shows no statistical difference.

Page 13: smooth muscle, liver,...

Page 13: Isn’t there a significant rise in group B compared to group A because here the rSo2 is lower than in group A?

Page 14: In my opinion the authors cannot show that a cerebral saturation of more than 75% or a pressure of between 10 and 15 mm Hg should be targeted as a sign of a better perfusion of the lower body, but this study shows flow during RCP should target on a high rSO2 controlled by NIRS.

5.

Level of interest: An article of importance in its field

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