Reviewer’s report

Title: Repeated epinephrine doses during prolonged cardiopulmonary resuscitation have limited effects on myocardial blood flow. A randomized porcine study

Version: 2  
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Reviewer: Lars Wiklund

Reviewer’s report:

Wagner and co-workers have produced an experimental study where repeated administrations of different adrenaline doses have been given to pigs and the effects in terms of coronary blood flow and electrical activity have been measured. It is one of the latest contributions to a very long chain of studies during the last few decades that have studied the effects of this vasopressor, and similar compounds, on cardiac effects during CPR. On the whole it is a good study. The very short period without any treatment, only 1 min, before commencement of external chest compressions is, however, a shortcoming. The argument that this short downtime was chosen to mimic the conditions in a catheterization lab makes the study less interesting. On the whole, however, the discussion and interpretation of data, which contain new elements, sound. Heparin was used during the study. This is common practice in the catheterization lab.

I would like to offer the following major comments (compulsatory):

“The animals were randomized..as previously described(26, 27)”. Please describe this procedure also in this work.

The randomization results in groups called EPI 0.02 and 0.03 mg/kg/dose. In contrast to this, in the Tables the groups are presented as “Adr 0.02 mg/kg” and “Adr 0.03 mg/kg”. The authors have to decide about a common nomenclature.

The coronary perfusion pressure was presented as a maximum pressure during diastole, often it is the mean pressure during the same period.

In statistics: “The ANOVA-test was used to compare multiple median comparisons”. How do you compare comparisons? Also: Was the data collected normally distributed? You use parametric testing.

In Figs a * signifies “p<0.05”. Compared to what? Needs a definition.

Minor essential revisions:

The discussion is on the whole good but rambling. If it could be somewhat more structured it would be easier to read.

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.

Declaration of competing interests:

I have no competing interests