Reviewer’s report

Title: No effect of epoprostenol on right ventricular diameter in patients with acute pulmonary embolism: a randomized controlled trial

Version: 1 Date: 6 January 2010

Reviewer: Anna R hemnes

Reviewer’s report:

In this manuscript, A.J. Kooter et al describe a randomized trial of 20 hour epoprostenol infusion in patients with acute pulmonary embolism and evidence of right ventricular dilation or pulmonary hypertension (RVSP>40mmHg) on echocardiography. They found no effect on RV dimensions or biochemical markers of RV strain.

Although the trial was negative, the manuscript is well written and supports others that show rapid improvement in RV function after PE with anticoagulation alone.

Major Compulsory Revisions

1. Abstract, methods section – the study was not double-blind as the treating physicians were informed of treatment status (page 5).
2. Were there any effects of epoprostenol infusion on hospital or ICU length of stay?
3. Table 1 should include PaO2 and FiO2 as hypoxic vasoconstriction may affect the outcome of this trial, if different between the two groups.
4. Did any patients have PA catheters in place during epoprostenol or placebo infusion? This data might be much more informative that simple echocardiographic data.
5. The discussion should comment on data supporting epoprostenol’s direct effect on right ventricular function and how that might alter interpretation of the results of this trial.
6. Is it possible that the inclusion criteria were too broad? I.e. the authors enrolled patients with mild PH (RVSP >40) and thus made it more difficult to demonstrate a treatment effect. Perhaps a focus on patients with RV dysfunction would be more likely to show a treatment effect.

Minor Essential Revisions

1. Please add the time frame for up titration of epoprostenol to the methods, i.e. increased by X ng/kg/min every 30 minutes until target reached.
2. Page 8, line 5, change “bij” to “by”
3. Page 12, line 6, change “fase” to “phase”
Discretionary Revisions
None

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

Speakers bureau: actelion, gilead
Grant funding: NIH, actelion
Consultancies: actelion, gilead
Patents: oral end tidal CO2 sensor in diagnosis of PE (probably not related)
all others, nothing to declare.