Reviewer's report

**Title:** PAI-1 and t-PA/PAI-1 complex potential markers of fibrinolytic postoperative bleeding after cardiac surgery employing cardiopulmonary bypass

**Version:** 1  **Date:** 25 April 2012

**Reviewer:** Simon Body

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The authors dichotomized 88 men undergoing cardiac surgery in a low (<500mL) and moderate (>500mL) 24 hour chest tube drainage groups to examine association between chest tube drainage and PAI-1, tPA-PAI-1 complex and D-dimer concentrations finding significant relationships.

There are several issues with the paper that concern me:

1. The greatest issue I had was a methodological issue of the definition of the two groups. I don’t think chest tube drainage beyond the first 8 hours has much to do with bleeding and would rather see a 6 or 8 hour value be used. I get the impression based on the very low transfusion requirements that the real interest of this paper lies in the nine bleeding patients who were excluded.

2. Why did you dichotomize the groups at all? All the dependent and independent variables of your hypothesis are continuous, even if they are marginally non-normal and so I don’t see a need to dichotomize.

3. I don’t think bleeding can be reliably categorized into surgical vs. non-surgical. I suspect most surgical bleeders would not bleed if their coagulation had been normal soon after bypass. What would the results have shown if the nine bleeding patients were included?

4. How did you decide on the sample size for analysis?

5. Why did you not perform multivariable analysis upon the outcomes?

6. You may not like this comment and it is more personal than scientific, but this paper did not excite me. How does this study advance the science or help patients? What comes next after this study? Where is the powerful message?

Minor points:

I found the Introduction to be lengthy, expanding beyond the usual framing of the problem into discussion of the mechanisms of the fibrinolytic pathway and discussion of prior animal work that I don’t think directly addressed the hypothesis.

I don’t think the anesthetic technique, cardioplegia or oxygenator has anything to do with the study and it can be eliminated.
Table I: Please define what you mean by the blood “requirements”. Were these the number of patients who were transfused or the number of units transfused?

**Level of interest:** An article of limited interest

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

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

**Declaration of competing interests:**

No competing interests