Reviewer's report

Title: Factors associated with excessive bleeding in cardiopulmonary bypass patients. A nested case-control study.

Version: Date: 15 November 2006

Reviewer: José A Páramo

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The authors analyze the association of the PAI-1 4G/5G polymorphisms, traditional and emergent cardiovascular risk factors with postoperative bleeding in patients undergoing cardiopulmonary bypass, and report that the presence of the PAI-1 5G allele was associated with excessive bleeding (EB). Whereas the hypothesis seems interesting, the series analyzed is too small to draw clear-cut conclusion. EB was observed in 13 out of 26 patients. It is hard to understand how the distribution of PAI-1 genotypes in this group (absolute numbers not shown) can be of significance taking into account the number of patients included.

The reason for bleeding associated with the PAI-1 genotype is also not clear, since no efforts have been made to show whether systemic hyperfibrinolysis was more evident in 5G/5G genotypes than in the remainder. It seems obvious that bleeding cannot be exclusively explained by the reduced PAI-1 levels and, on the other hand, no differences in t-PA between groups were observed. Discussion does not address correctly this point. Additional fibrinolytic tests such as D-dimer could be more informative regarding this point.

Taking into account the complexity of EB, as shown by changes in complement, coagulation, fibrinolysis and hemoderivatives, it is difficult to establish the relative contribution of each of these components (again a bias because of the small series analyzed).

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Results regarding leptin and EB seem interesting, but require valuable confirmation in larger series.

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Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

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

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.