Reviewer’s report

Title: Increased number of circulating endothelial progenitor cells in stroke patients with intracranial arterial stenosis

Version: 1  Date: 28 July 2013

Reviewer: Francesco Pelliccia

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Re: Increased number of circulating endothelial progenitor cells in stroke patients with intracranial arterial stenosis

The authors assessed if cEPCs counts were associated with atherosclerotic intracranial artery stenosis (IAS). To this end, they compared EPCs among 108 patients with stroke and IAS, 120 control patients with stroke but without IAS, and 72 healthy controls. They found that cEPCs numbers were significantly higher in patients with IAS, and that cEPCs numbers were associated with degrees of IAS.

Although much work has been conducted in the last decade for assessing the significance of EPCs in cardiovascular diseases, this work contributes further to the understanding of the role of EPCs.

The paper might be of interest to the general reader of the Journal. However, multiple limitations affects at present the manuscript, as follows:

- Patients included in the study must be better characterized. The authors provide only data on risk factors of patients. Conversely, more information on the index event and the therapeutic options must be provided. It is worth noting that most cardiovascular drugs affect the amount of cEPCs (i.e. statins).
- Apart from cEPCs, the authors have assessed only plasma fibrinogen levels. Can the authors provide information on inflammatory indexes?
- In the results section, the authors compare cEPCs in patients grouped according to age (>60 years or <60 years). The authors should compare also patients stratified according to other parameter (i.e., gender – male vs females-, diabetes – present or not present-, etc.)
- The authors present only data on CD34+/CD133+/KDR+. In order to allow comparison with previous works, the authors should also provide data on the levels of other subtypes of EPCs, such as CD34+/KDR+ and CD133+/KDR+
- The authors should add a section dedicated to the Limitations of the study. They should recognize that the methods used to assess EPCs still lack standardization and this might therefore have affected the results. Specifically, they can not rule out the possibility that the increase in CD34+ and CD133+ cells was caused by tissue ischemia, which can ‘per se’ contribute to raise VEGF levels and mobilize cells into peripheral blood. Furthermore, they should admit that pharmacologic agents (in particular statins) might have affected numbers of EPCs.
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.

Declaration of competing interests:

I declare that I have no competing interests