Reviewer’s report

Title: Early risk assessment of circulating endothelial progenitor cells and plasma stromal cell-derived factor-1 for nondisabling ischemic cerebrovascular events

Version: 0 Date: 06 Dec 2018

Reviewer: Gema Esquiva

Reviewer's report:

The paper by Zhao and colleagues provides evidences that the circulating endothelial progenitor cells (EPCs) and serum stromal cell-derived factor-1 (SDF-1) are associated with Non-Disabling Ischemic Cerebrovascular Events (NICE).

EPCs have been reported to mobilize after ischemic cerebrovascular event and have a potential to incorporate into the damaged tissue, to form new vessels and to secrete trophic factors simulating vessel remodeling.

These authors report that for transient ischemic attack and minor stroke patients, peripheral blood EPCs and serum SDF-1 concentration can be used to prognose high risk NICE, a low concentration of these being favourable to develop high-risk NICE.

Overall, the manuscript is well written and easy to follow. The study is well designed, and the experiments are convincing. The data presented is robust and the main findings are interesting. The figures are clear.

A few changes in how the methods and the discussion are presented and/or interpreted will help improve the paper.

Minor comments

Material and Methods: in "MTT" analysis please include a brief explanation of this method.

Results and discussion: two topics that could be discussed further regarding EPCs: EPCs are defined as cells that express both stem cell markers and endothelial cell markers, although these cells continue to be controversial because no single marker has been identified for their unique identification. However, the most widely accepted phenotypic definition is the coexpression of the cell-surface markers CD34 and VEGF receptor 2 (Esquiva et al. 2018)

Had the authors try VEGF receptor 2 marker or another EPCs markers (CD133, vWF, CD31…) to confirm these circulating vascular cells are EPCs?
In addition, EPC subtypes have demonstrated different proliferative and angiogenic capabilities. I think could be of interest to study the possible implications of the different subtypes of EPCs in these non-disabling ischemic cerebrovascular events.

Pag 5 Line 23: EPCs are

Pag 5 line 47: Minor (upper case after dot)

Pag 8 line 29: add comma before ´respectively´

Pag 9 line 27: That's (upper case)

Pag 15 line 37: Transwell

Pag 15 line 38: The cell migration (upper case after dot)

Bibliography, Ref 9: a page is lost

Figure 2C: scale is not clear.

Figure 3A y 3C: missed scale

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
I am able to assess the statistics
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