Reviewer's report

Title: Early accelerated senescence of circulating endothelial progenitor cells in premature coronary artery disease patients in a developing country- a case control study

Version: 1 Date: 2 October 2013

Reviewer: Yasutaka Inuzuka

Reviewer's report:

It is interesting to readers of the Journal that the authors showed the association between a premature coronary artery disease (PCAD) and the decreased number of circulating endothelial progenitor cells (EPCs). They also have found that the telomere length of EPCs in PCAD patients was shorter and the telomerase activity was decreased.

However the following revisions are necessary for the acceptance of this article.

Major Compulsory Revisions:
1. Since metabolic syndrome and diabetes have been reported to be one of the major factors to accelerate vascular aging, the authors should include medical history of diabetes in the confounding variables taken for adjustment in the statistical analyses of the number of EPCs, telomere length and telomerase activity.

Minor Essential Revisions:
2. The manuscript must be extensively edited. There are many wrong spacing in the sentences and spelling mistake. For example, in Abstract, L12, “Result:-- and EPC TLwere” would be added a space as “TL were”. In Discussion, L19, “patents” must be “patients”.
3. In Background, L3, “vascular cellular senescence” should be “vascular cell senescence”.
4. Legends to Figures A and B are missing. They should be added for correct understanding.
5. References should be described according to Instruction to Authors, e.g. abbreviation of the Journals.

Discretionary Revisions:
6. The number of EPCs was reported to associate with the endothelial function. It is better to measure the flow-mediated brachial reactivity to validate the data.

7. Cellular senescence has several common features including morphological changes: cells flatten and enlarge, increased expression of cyclin-dependent kinase inhibitors such as p16, p21 and p53, decreased replicative capacity, shorter telomere and staining for #-galactosidase at pH of 6.0: known as
senescence-associated -galactosidase. The authors only reported the shortening of telomere length and the decrease of telomerase activity. In order to conclude the accelerated vascular senescence in PCAD patients, therefore, the authors should analyze at least another feature of cellular senescence 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:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests