Title: Endothelial progenitor cells dysfunction and impaired tissue reparation: The missed link in diabetes mellitus development

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Title page

Endothelial progenitor cells dysfunction and impaired tissue reparation: the missed link in diabetes mellitus development

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Running title: Endothelial progenitor cells dysfunction and diabetes mellitus

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Abstract

Diabetes mellitus (DM) is considered a leading cause of premature cardiovascular (CV) mortality and morbidity in general population and in individuals with known CV disease. Recent animal and clinical studies have shown that reduced number and weak function of endothelial progenitor cells (EPCs) may not only indicate to higher CV risk, but contribute to the impaired heart and vessels reparation in patients with DM. Moreover, EPCs having a protective impact on the vasculature may mediate the functioning of other organs and systems. Therefore, EPCs dysfunction is probably promising target for DM treatment strategy, while the role of restoring of EPCs number and functionality in CV risk diminish and reduce of DM-related complications is not fully clear. The aim of the review is summary of knowledge regarding EPCs dysfunction in DM patients.

Abbreviations

AGE - advanced glycation end products
BM-EPCs - bone marrow-derived endothelial progenitor cells
CAD – coronary artery disease