In search for endothelial mechanisms of TPO-induced neuroprotection

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Name of Fellow
Institution
Funder

European Commission Horizon 2020

Contact information of fellow
Country

EC

Title of project/programme

In search for endothelial mechanisms of TPO-induced neuroprotection

Source of funding information

European Commission Horizon 2020

Total sum awarded (Euro)

€ 146,462

Start date of award

01/04/15

Total duration of award in years

2.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Vascular cognitive impairment (VCI)

Research Abstract

Ageing is recognized as one of the greatest social and economical challenges of the 21century for European societies. With, Vascular Cognitive Impairment (VCI) being one of the leading causes of age-related cognitive impairment and one of the major causes of disability in the elderly. Although, the concept of VCI was introduced in 1993, current treatment is limited to

management of vascular risks and symptomatic pharmacotherapy targeting vascular dementia. The overall objective of this project is to fill the significant gap in early detection, prevention and treatment of VCI. This will be achieved by explaining microvascular mechanism of protective effects of thrombopoietin (TPO) in a novel unique mixed-risk animal model of VCI- specific to hypertension plus carotid-artery hypoperfusion (HH-VCI).
Given increased number of progenitor endothelial cells after TPO treatment, it is hypothesizes that protective effect of TPO is mediated by endothelium. Furthermore, protective effect of TPO is expected to be caused by activation of neoangiogenesis, anti-inflammatory and vasoprotective mechanisms driven by TPO action on endothelial. This hypothesis will be tested in two stages first, in-vitro and second, in-vivo. In-vitro models, will be used to investigate endothelial response to TPO in terms of its modulation of inflammatory response angiogenic potential and vasoprotective mechanisms. In-vivo models of TPOR KO mice and HH-VCI mice will be used to validate and confirm mechanisms identified in in vitro stage of experiments.

Types:
Fellowships

Member States:
European Commission

Diseases:
Alzheimer's disease & other dementias

Years:
2016

Database Categories:
N/A

Database Tags:
N/A