View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Okina

Remote Ischemic Conditioning Influences Mitochondrial Dynamics

Submitted by Guy Lenaers on Mon, 12/07/2015 - 11:50

Titre	Remote Ischemic Conditioning Influences Mitochondrial Dynamics
Type de publication	Article de revue
Auteur	Cellier, Laura [1], Tamareille, Sophie [2], Kalakech, Hussein [3], Guillou, Sophie [4], Lenaers, Guy [5], Prunier, Fabrice [6], Mirebeau-Prunier, Delphine [7]
Pays	Etats-Unis
Editeur	Lippincott, Williams & Wilkins
Ville	Hagerstown
Type	Article scientifique dans une revue à comité de lecture
Année	2015
Langue	Anglais
Date	28 oct.2015
Pagination	192-197
Titre de la revue	Shock
ISSN	1073-2322
Résumé en anglais	Remote ischemic preconditioning (RIPC) has emerged as an attractive strategy to protect the heart against ischemia-reperfusion (I/R) injury. The mechanisms by which remote ischemic conditioning (RIC) is protective are to date unknown, yet a well-accepted theory holds that the mitochondria play a central role. Mitochondria are dynamic organelles that undergo fusion and fission. Interventions that decrease mitochondrial fission or increase mitochondrial fusion have been associated with reduced I/R injury. However, whether RIPC influences mitochondrial dynamics or not has yet to be ascertained.We sought to determine the role played by mitochondrial dynamics in RIPC-induced cardioprotection. Male adult rats exposed in vivo to myocardial I/R were assigned to one of two groups, either undergoing 40 min of myocardial ischemia followed by 120 min of reperfusion (MI group) or four 5-min cycles of limb ischemia interspersed by 5 min of limb reperfusion, immediately prior to myocardial ischemia and 120 min of reperfusion (MI+RIPC group). After reperfusion, infarct size was assessed and myocardial tissue was analyzed by Western blot and electron microscopy. RIPC induced smaller infarct size (-28%), increased mitochondrial fusion protein OPA1, and preserved mitochondrial morphology. These findings suggest that mitochondrial dynamics play a role in the mechanisms of RIPC-induced cardioprotection.
URL de la notice	http://okina.univ-angers.fr/publications/ua14259 [8]
DOI	10.1097/SHK.0000000000000500 [9]
Lien vers le document	http://journals.lww.com/shockjournal/pages/articleviewer.aspx?year=9000&... [10]
Identifiant (ID) PubMed	26555744 [11]

Liens
[1] http://okina.univ-angers.fr/publications?f[author]=24179
[2] http://okina.univ-angers.fr/sophie.tamareille/publications
[3] http://okina.univ-angers.fr/publications?f[author]=10345
[4] http://okina.univ-angers.fr/publications?f[author]=10349
[5] http://okina.univ-angers.fr/guy.lenaers/publications
[6] http://okina.univ-angers.fr/f.prunier/publications
[7] http://okina.univ-angers.fr/delphine.prunier/publications
[8] http://okina.univ-angers.fr/publications/ua14259
[9] http://dx.doi.org/10.1097/SHK.0000000000000500
[10] http://journals.lww.com/shockjournal/pages/articleviewer.aspx?year=9000&issue=00000&article=98435&type=abstract
[11] http://www.ncbi.nlm.nih.gov/pubmed/26555744?dopt=Abstract

Publié sur *Okina* (http://okina.univ-angers.fr)