Resveratrol Decreases TXNIP mRNA and Protein Nuclear Expressions With an Arterial Function Improvement in Old Mice

Submitted by Daniel Henrion on Mon, 11/14/2016 - 21:06

Titre
Resveratrol Decreases TXNIP mRNA and Protein Nuclear Expressions With an Arterial Function Improvement in Old Mice

Type de publication
Article de revue

Auteur
Bedarida, Tatiana [1], Baron, Stephanie [2], Vibert, Françoise [3], Ayer, Audrey [4], Henrion, Daniel [5], Thioulouse, Elizabeth [6], Marchiol, Carmen [7], Beaudeux, Jean-Louis [8], Cottart, Charles-Henry [9], Nivet-Antoine, Valerie [10]

Pays
Etats-Unis

Editeur
Oxford University Press (OUP)

Ville
Oxford

Type
Article scientifique dans une revue à comité de lecture

Année
2016

Langue
Anglais

Date
03 Juin 2015

Numéro
6

Pagination
720-9

Volume
71

Titre de la revue
The Journals of Gerontology Series A: Biological Sciences and Medical Sciences

ISSN
1079-5006

Mots-clés

Résumé en anglais
Aging leads to a high prevalence of glucose intolerance and cardiovascular diseases, with oxidative stress playing a potential role. Resveratrol has shown promising effects on glucose tolerance and tends to improve endothelial function in elderly patients. Thioredoxin-interacting protein (TXNIP) was recently proposed as a potential link connecting glucose metabolism to oxidative stress. Here, we investigated the resveratrol-induced improvement of arterial aging phenotype in old mice and the expression of aortic TXNIP. Using an in vivo model of old mice with or without 3-month resveratrol treatment, we investigated the effects of resveratrol on age-related impairments from a cardiovascular Doppler analysis, to a molecular level, by studying inflammation and oxidative stress factors. We found a dual effect of resveratrol, with a decrease of age-related glucose intolerance and oxidative stress imbalance leading to reduced matrix remodeling that forestalls arterial aging phenotype in terms of intima-media thickness and arterial distensibility. These results provide the first evidence that aortic TXNIP mRNA and protein nuclear expressions are increased in the arterial aging and decreased by resveratrol treatment. In conclusion, we demonstrated that resveratrol helped to restore several aging impaired processes in old mice, with a decrease of aortic TXNIP mRNA and protein nuclear expressions.
URL de la notice  http://okina.univ-angers.fr/publications/ua15170 [16]
DOI  10.1093/gerona/glv071 [17]
Lien vers le document  http://biomedgerontology.oxfordjournals.org/content/71/6/720 [18]
Titre abrégé  GERONA

Liens

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