Dual effects of resveratrol on arterial damage induced by insulin resistance in aged mice

Submitted by Emmanuel Lemoine on Tue, 02/24/2015 - 15:27

Titre	Dual effects of resveratrol on arterial damage induced by insulin resistance in aged mice
Type de publication	Article de revue
Auteur	Baron, Stephanie [1], Bedarida, Tatiana [2], Cottart, Charles-Henry [3], Vibert, Françoise [4], Vessieres, Emilie [5], Ayer, Audrey [6], Henrion, Daniel [7], Hommeril, B. [8], Paul, J. L [9], Renault, G. [10], Saubamea, B. [11], Beaudeux, Jean-Louis [12], Procaccio, Vincent [13], Nivet-Antoine, Valerie [14]
Editeur	Oxford University Press (OUP)
Type	Article scientifique dans une revue à comité de lecture
Année	2014
Langue	Anglais
Date	2014
Numéro	3
Pagination	260 - 9
Volume	69
Titre de la revue	The journals of gerontology. Series A, Biological sciences and medical sciences
ISSN	1758-535X
Mots-clés	Aging/drug effects [15], Animals [16], Antioxidants/therapeutic use [17], Aorta/drug effects [18], Blood Glucose/analysis [19], Chemokine CCL5/blood [20], Chemokine CXCL1/blood [21], Dietary Proteins/administration & dosage [22], Disease Models, Animal [23], Insulin Resistance/physiology [24], Leptin/blood [25], Male [26], Mice [27], Mice, Inbred C57BL [28], Mice, Inbred Strains [29], nutritional status [30], Oxidative Stress/drug effects [31], Phenols/therapeutic use [32], Resistin/analysis [33], Ribonucleotide Reductases/antagonists & inhibitors [34], Serum Albumin/analysis [35], Stilbenes/therapeutic use [36], Superoxides/metabolism [37], Tumor Necrosis Factor-alpha/analysis [38], Vascular Capacitance/drug effects [39], Vascular Diseases/drug therapy [40], Vasodilation/drug effects [41]
Résumé en anglais	Aging leads to increased insulin resistance and arterial dysfunction, with oxidative stress playing an important role. This study explored the metabolic and arterial effects of a chronic treatment with resveratrol, an antioxidant polyphenol compound that has been shown to restore insulin sensitivity and decrease oxidative stress, in old mice with or without a high-protein diet renutrition care. High-protein diet tended to increase insulin resistance and atheromatous risk. Resveratrol improved insulin sensitivity in old mice fed standard diet by decreasing homeostasis model of assessment-insulin resistance and resistin levels. However, resveratrol did not improve insulin resistance status in old mice receiving the high-protein diet. In contrast, resveratrol exhibited deleterious effects by increasing inflammation state and superoxide production and diminishing aortic distensibility. In conclusion, we demonstrate that resveratrol has beneficial or deleterious effects on insulin sensitivity and arterial function, depending on nutritional status in our models.

URL de la notice	http://okina.univ-angers.fr/publications/ua8224 [42]
DOI	10.1093/gerona/glt081 [43]
Lien vers le document	http://dx.doi.org/10.1093/gerona/glt081 [43]
Titre abrégé	J Gerontol A Biol Sci Med Sci

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