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Combination exercise regimen and resveratrol intake can be considered for cardiac rejuvenation therapy in the aging process**Jia-Ping Wu**

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The aging process is a time-dependent physiological program from birth to elderly. This process has many different molecular biology mechanisms to regulate different aging grade. Indeed, exercise regime or supplementary resveratrol intake can facilitate aging process reversed. However, their combination in the molecular biology interaction is our interesting in this study. We purchased natural aging mice and gene type senescence-accelerated SAMP8 mice. To examine different molecular biology interaction of survival and apoptosis signaling in natural and gene-type senescence-accelerated SAMP8 mice liver after exercise training, supplementary resveratrol intake, or their combination using western blotting. Histological pathophysiology of age-related liver disease was examined using hematoxylin-eosin and Masson's trichrome staining. Apoptosis cells were determined using TUNEL staining. Results showed SIRT-1/AMPK increased induced and Foxo1a/Foxo3a decreased was observed in natural aging after their combination. Up-regulation of survival and down-regulation of apoptosis was observed in western blotting analysis protein expression levels. In the genetic type of genetic senescence-accelerated mice SAMP8, genetic senescence-accelerated liver cross-section observed adipocytes and collagen. In 3-month-old and 6-month-old genetic type of genetic senescence-accelerated mice SAMP8, combination exercise training and resveratrol intake facilitate PI3K-AKT-ERK1-Bcl2 increased and bad-cytochrome c decreased. Combination exercise training and resveratrol intake in the 6-month-old genetic type of genetic senescence-accelerated mice SAMP8 has significant increases in p-PI3K/PI3K ratio ($p<0.01$), ERK1 ($P<0.05$), Bcl2 ($p<0.0001$) and cytochrome c ($p<0.05$) compared with 3-month-old SAMP8 mice liver. Exercise training anti-aging function only observed in nature aging but did not find in genetic senescence-accelerated mice SAMP8. Resveratrol intake complementary has good function in natural aging and gene-type SAMP8 mice. Fortunately, their combination has excellently good interaction function in PI3K-AKT-ERK1-Bcl2 increased and bad-cytochrome c decreased. We suggest resveratrol intake can help exercise training therapy age-related cardiac disease.

Biography

Jia-Ping Wu has completed his PhD degree from China Medical University and Postdoctoral studies from China Medical University and E-Da Hospital, I-Shou University, Kaohsiung, Taiwan. During his PhD study, he published 10 articles from 2012-2015 and completed 10 projects. He has been serving as an Editorial Board Member of repute.

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