Potentially important new mechanisms found anti-aging effects of resveratrol

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A well-conducted experimental study in mice has provided potentially important new insights into the association of the intake of resveratrol and like compounds with health benefits. Resveratrol is a constituent of red wine and other vegetable products, and is being evaluated in high-doses as a pharmaceutical. The biologic mechanisms demonstrated in this study could provide key new approaches for the prevention or treatment of a number of chronic diseases in humans, especially those related to vascular and metabolic diseases and to the risk of mortality.

More than two decades ago, particularly through publicity related to the so-called "French Paradox," the public became aware of the potential reduction in the risk of coronary heart disease from the moderate consumption of red wine, and the media focused on a single constituent in red wine, resveratrol, as being the "key" factor. We now know that resveratrol is only one of hundreds of phenolic compounds in wine, many of which have been shown to have beneficial effects on vascular function, and that alcohol itself (present in wine, beer or spirits) also provides considerable protection against heart disease. Still, there has remained considerable attention paid to resveratrol, and extensive scientific research on resveratrol and related substances have shown that, in high doses, they may increase longevity of life and reduce metabolic diseases of aging.

In general, Forum reviewers thought that this was a very well-done study. Their concerns related to the dose used in these experiments; while the levels of resveratrol and like compounds might be accessible with

pharmaceutical doses, the suggestion that similar levels could be connected with wine consumption is misleading. Further, in humans, resveratrol in the diet will interact with many other chemicals to achieve an effect, as whole plant extracts consist of many active and inactive micronutrients that may play a role in health and disease. To ascribe a specific effect on health from one chemical found in wine or other plant products could be misleading.

Still, the reviewers believed that this paper was an important contribution to our knowledge about the mechanisms by which resveratrol and other chemicals may play a role in cardiovascular and other diseases. Such knowledge could help develop approaches for the prevention and treatment of human disease and for increasing the longevity of a healthy life.

More information: Park S-J, Ahmad F, Philp A, Baar K, Williams T, Luo H, Ke H, Rehmann H, Taussig R, Brown AL, Kim MK, Beaven MA, Burgin AB, Manganiello V, Chung JH. Resveratrol ameliorates aging-related metabolic phenotypes by inhibiting cAMP phosphodiesterases. *Cell* 2012;148:421-433. DOI 10.1016/j.cell.2012.01.017

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