

Red wine's resveratrol may help battle obesity

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Resveratrol, a compound present in grapes and red wine, reduces the number of fat cells and may one day be used to treat or prevent obesity, according to a new study. The results will be presented at The Endocrine Society's 90th Annual Meeting in San Francisco.

Past research found that resveratrol protected laboratory mice that were fed a high-calorie diet from the health problems of obesity, by mimicking the effects of calorie restriction. Researchers at the University of Ulm in Germany wanted to know if resveratrol could mimic the effects of calorie restriction in human fat cells by changing their size or function.

The German team used a strain of human fat cell precursors, called preadipocytes. In the body, these cells develop into mature fat cells, according to the study's lead author, Pamela Fischer-Posovszky, PhD, a pediatric endocrinology research fellow in the university's Diabetes and Obesity Unit.

In the cell-based study, they found that resveratrol inhibited the pre-fat cells from increasing and prevented them from converting into mature fat cells. Also, resveratrol hindered fat storage. Most interesting, according to Fischer-Posovszky, was that resveratrol reduced production of certain cytokines (interleukins 6 and 8), substances that may be linked to the development of obesity-related disorders, such as diabetes and clogged coronary arteries. Also, resveratrol stimulated formation of a protein known to decrease the risk of heart attack. Obesity decreases this

substance, called adiponectin.

The new finding is consistent with the theory that the resveratrol in red wine explains the French paradox, the observation that French people eat a relatively high-fat diet but have a low death rate from heart disease.

"Resveratrol has anti-obesity properties by exerting its effects directly on the fat cells," Fischer-Posovszky said. "Thus, resveratrol might help to prevent development of obesity or might be suited to treating obesity."

Fischer-Posovszky cautioned that, while the health benefits of resveratrol seem promising, there is not sufficient knowledge about the effects of long-term treatment. One small study found that a single dose of up to 5 grams of resveratrol (much higher than the amount in a bottle of red wine) caused no serious ill effects in healthy volunteers, she pointed out. However, she said another study theorized that resveratrol may stimulate the growth of human breast cancer cells, possibly because resveratrol's chemical structure is similar to a phytoestrogen, an estrogen-like substance found in some plants.

Source: The Endocrine Society

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