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Red wine consumption increases antioxidant status and decreases oxidative stress in the circulation of both young and old humans

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Abstract

Background

Red wine contains a naturally rich source of antioxidants, which may protect the body from oxidative stress, a determinant of age-related disease. The current study set out to determine the in vivo effects of moderate red wine consumption on antioxidant status and oxidative stress in the circulation.

Methods

20 young (18–30 yrs) and 20 older (≥ 50 yrs) volunteers were recruited. Each age group was randomly divided into treatment subjects who consumed 400 mL/day of red wine for two weeks, or control subjects who abstained from alcohol for two weeks, after which they crossed over into the other group. Blood samples were collected before and after red wine consumption and were used for analysis of whole blood glutathione (GSH), plasma malondialdehyde (MDA) and serum total antioxidant status.

Results

Results from this study show consumption of red wine induced significant increases in plasma total antioxidant status ($P < 0.03$), and significant decreases in plasma MDA ($P < 0.001$) and GSH ($P < 0.004$) in young and old subjects. The results show that the consumption of 400 mL/day of red wine for two weeks, significantly increases antioxidant status and decreases oxidative stress in the circulation

Conclusion

It may be implied from this data that red wine provides general oxidative protection and to lipid systems in circulation via the increase in antioxidant status.

