

GREEN TEA DRINKING IMPROVES ERYTHROCYTES AND SALIVA OXIDATIVE STATUS OF ELDERLY MEN AND WOMEN

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Background: We have previously shown that green tea (GT) drinking combined with vitamin E supplementation reduced plasma protein carbonyls and increased erythrocytes catalase activity in exercising healthy elderly.

Objective: To investigate the anti-oxidative effects of GT drinking in an aging population.

Design: An interventional, crossover, controlled prospective trial with 35 healthy elderly subjects (age: 67.3 ± 4.8 y), supplemented with four daily placebo maltodextrin "tea-bags" for 12 weeks, followed by four 1.5g daily GT bags, for another 12 weeks. Data was obtained at baseline, at the end of the placebo period and at the end of the GT intervention period.

Results: GT did not alter erythrocytes catalase activity, however, it provided protection against AAPH-induced oxidative hemolysis which declined by 10.2% ($p < 0.001$). No changes were observed in saliva oral peroxidase enzymes, nonetheless, saliva total antioxidant capacity increased by 42% ($p < 0.01$). Plasma oxidative products, such as protein carbonyls, lipid peroxides and TBARS were stable throughout the intervention period.

Conclusions: Four daily GT cups are well tolerated in elderly free living subjects. Our novel results demonstrate that both erythrocytes resistances to oxidation and saliva antioxidant capacity are improved by GT drinking. The clinical implications of these oxidation modifications require further research.