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The beneficial effect of antioxidant therapy with vitamins C and E in chronic diseases

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Statement of the Problem: Numerous pathological conditions have an important contribution of Oxidative Stress (OS), usually associated with a chronic inflammation process. However, most of the clinical trials published failed to reveal benefit of antioxidant intervention either by dietary antioxidants or by antioxidant supplementation. The purpose of this study is to describe the positive results obtained in the last years regarding the effect of daily supplementations of vitamin E and C (vitamin E 800mg plus vitamin C 500mg) for 6 months in different chronic diseases such as in chronic cardiopathy in chagasic patients, in children with Down Syndrome, in workers exposed to coal extraction and combustion, as well as in workers of incineration of Solid Residues of Health Services (SRHS). In all these subjects the previous severe systemic OS detected at baseline levels was significantly attenuated after the antioxidant intervention.

Methodology & Theoretical Orientation: Daily supplementations of vitamin E and C (vitamin E 800mg plus vitamin C 500mg) for 6 months in subjects (n=40) displaying different chronic diseases such as in chronic cardiopathy in chagasic patients, in children with Down Syndrome, in workers exposed to coal extraction and combustion, as well as in workers of incineration of solid residues of health services were compared with healthy subjects.

Findings: In all these subjects the previous severe systemic OS detected at baseline levels was significantly attenuated after the antioxidant intervention. Moreover, even after an interruption of 6 months of the antioxidant intervention, a significant and persistent effect (approximately half the values considering baseline values compared to 6 months after the supplementation) were also detected, indicating the persistent benefit of such antioxidant intervention.

Conclusions and significance: The combined use of vitamins E and C in an antioxidant intervention significantly attenuated the OS associated with chronic diseases, which surprisingly is not in line with the results of the majority of other related clinical trials.