

The balance of pro-oxidants - antioxidants no change in blood plasma following a carbohydrate meal

Introduction

Free oxygen radicals are reactive molecules with multiple mechanisms of action in biomolecules (DNA, fats, proteins). Their increased concentration leads to oxidative stress, which in turn is involved in degenerative diseases pathogenicity process (cancer, atherosclerosis, Alzheimer's Parkinson, Alzheimer) and retirement. The human body, for the correct operation, has biological systems to inactivate the toxic molecules and also to repair the damage caused. Antioxidants such systems from both endogenous mechanisms (glutathione, catalase, ubiquinone) and through the antioxidants obtained by the food (polyphenols, vitamin E, C, selenium).

The present study investigated the effect of a carbohydrate meal and eating habits in the balance of pro-oxidants antioxidant serum. For this purpose, a blood sample taken from 31 healthy volunteers who do not receive medication, aged 20-45 years, before and after a carbohydrate meal (pasta). The antioxidant-balance of pro-oxidants (FAB) in the blood serum was determined with a relative method based on oxidation of tetramethylbenzidine (TMB).¹

The statistical analysis by multiple linear regression FAB price before the meal showed that increased weekly consumption of fruits, meat and coffee / tea is associated with displacement of FAB favor of antioxidants and increased weekly consumption of starchy foods and alcohol in favor of pro-oxidants ($R^2 = 32,4$).

The consumption of the carbohydrate meal caused no significant displacement of the equilibrium of pro-oxidants - antioxidants while measuring the total antioxidant activity of the same blood samples with ABTS reagent showed increasing.² These results indicate that following a carbohydrate meal occurs raising the pro-oxidants (as a

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result of carbohydrate metabolism) and antioxidants (possibly as a response of the body) with the result that their balance shifted.

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Conflict of interest

The author declares no conflict of interest.

References

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