

BUSTA A

LA CANDIDATA DESCRIVA I PRINCIPALI MARCATORI DELLO STRESS OSSIDATIVO

Objective: Endothelial dysfunction and oxidative stress are among the most relevant mechanisms underlying the atherosclerotic process in patients with type 2 diabetes mellitus (T2 DM). Extra virgin olive oil (EVOO) reduces postprandial glycemia with a mechanism counteracting oxidative stress-mediated incretin down-regulation in healthy subjects and in patients with impaired fasting glucose. The aim of this study was to evaluate if the intake of chocolate enriched by EVOO had positive effects on endothelial function and oxidative stress in patients with T2 DM.

F.to La Commissione

BUSTA B

LA CANDIDATA DESCRIVA LE METODICHE PER L'ANALISI DELLO STRESS OSSIDATIVO E RELATIVI PROBLEMI TECNICI

Methods: In this study we enrolled and randomly assigned 25 consecutive patients with T2 DM to receive 40 g of EVOO-enriched chocolate or 40 g of control chocolate spread. Participants were assessed at baseline and 2 h after chocolate intake. Endothelial function was assessed by arterial brachial flow-mediated dilation (FMD); oxidative stress was evaluated by the measurement of serum nicotinamide adenine dinucleotide phosphate (NADPH) oxidase-2 (Nox2) levels, nitric oxide availability, and serum hydrogen peroxide breakdown activity (HBA).

F.to La Commissione

BUSTA C

LA CANDIDATA DESCRIVA GLI APPROCCI FARMACOLOGICI PER LA MODULAZIONE DELLO STRESS OSSIDATIVO

Results: We observed a significant increase of FMD, nitric oxide (NO) availability, and HBA in the EVOO-enriched chocolate group ($P < 0.001$). Conversely, soluble Nox2-derived peptide (sNox2-dp) levels significantly decreased ($P < 0.001$). No significant change was observed in the control chocolate group. To assess the relation of EVOO-enriched chocolate to endothelial function and oxidative stress, a general linear model (GLM) analysis was performed; a significant difference for treatments was found with respect to FMD, NO availability, HBA, and sNox-dp.

Conclusions: Administration of 40 g of EVOO-enriched chocolate is associated with increased endothelial function and reduction of oxidative stress in patients with T2 DM. Future studies are needed to analyze the effect of chronic assumption of EVOO-enriched chocolate on vascular function, oxidative stress, and cardiovascular complications in patients with T2 DM.

F.to La Commissione