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Flavonoid effects on antihypertensive pharmacological therapy: Modulation on lipid profile, inflammation and association of ACE (I/D) polymorphism in treatment response

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Introduction: In previous works, we demonstrated that dietary flavonoids have additional benefits on blood pressure, lipid profile, inflammation and electrocardiography parameters when they are added to antihypertensive pharmacological therapy.

Aim: Aim of this study is to analyze the possible role of Angiotensin Converting Enzyme (ACE) polymorphism (I/D) in response to the addition of dietary flavonoids (DF) to pharmacological antihypertensive therapy (AHT) in hypertensive young people.

Method: 37 male and 42 female patients with hypertension grade I (n=27) or II (n=52) received 425.8 ± 13.9 mg gallic acid equivalents (GAE) from dietary flavonoids were added to AHT based on captopril (50 mg/day) or telmisartan (40 mg/day) during six months. Clinical registrations (SBP/DBP, BMI) were made during 15-days periods; lipid profile, hs-CRP and Leptin were measured in plasma at zero, one, three and six months; the ACE (I/D) polymorphism was determined by standard methods.

Results: Patients with AHT+DF compared to AHT showed differences in SBP (p<0.004), DBP (p<0.017), weight (p<0.022), BMI (p<0.028) and triglycerides (p<0.004); hs-PCR levels showed differences by ACE (I/D) polymorphism I/D vs. D/D (p<0.009). The genotypes D/D and I/I were associated to highest frequency of hypercholesterolemia and low HDL-C levels, respectively.

Conclusion: The response of FRD added to AHT has beneficial effects on BMI, BP, lipids and inflammation parameters and may be associated to ACE (I/D) polymorphisms.

Biography

Marina M de Jesus Romero-Prado completed her PhD from Autonomous University of Madrid (UAM), Spain. She is a Molecular Biologist, Geneticist and works at Experimental and Clinical Therapeutics Institute at University of Guadalajara. She has published her discoveries in "Expression regulation of growth hormone gene and molecular and cellular research about biological potential of mesenchymal stem cells". Her incursion as Leader in clinical protocols has served to bind the basic and applied research in complementary and translational medicine.

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