

Improving Simulated Postprandial Glycemia and Hyperinsulinemia in Healthy Subjects With Agri-Food Waste Products

Caruso G¹, D'Avino M¹, Annunziata G², Ciarambino T³, Vitolo G¹, Buonomo G¹ and Tenore GC²

¹Department of Internal Medicine, Cardarelli Hospital-Naples, Italy

²Department of Pharmacy, University of Naples Federico II, Italy

³Department of Internal Medicine, Marcanise Hospital ASL Caserta, Samnium Medica Cooperative-Benevento, Italy

Background and aims: Control of glucose homeostasis is the goal of the prevention and management of diabetes and pre-diabetes. Antidiabetic agents are available, not all without side effects. Several studies suggest the use of nutraceutical antioxidants for glycemic control.

Materials and methods: 20 healthy pts, ages of 18 and 70, with BMI>26% normal glycemic profile were enrolled from the Samnium Cooperative of Benevento in 2019. We tested new nutraceuticals based on polyphenolic extract of nectarines (NecP), skins of tomato (TP) and olive leaves (EOL) on glycemic and insulinemic responses. They contained, respectively: 0.007 mg of abscisic acid (ABA) / g, 0.5 mg of carotenoids / g, and

150 mg of oleuropein / g. Enrolled subjects consumed a normal glucose solution (RG) or treatment drink (TB) obtained by mixing RG with the individual formulations (TB NecP, TB EOL, and TB TP), separately and on different days.

Results: All three formulations significantly lowered both peak plasma glucose ($p < 0.05$ for all) and peak plasma insulin ($p < 0.05$ for all) in 30 min.

Conclusions: the results obtained, albeit on a limited sample of subjects, may lead to the hypothesis of a formulation of a multicomponent nutraceutical with synergistic efficacy for glycemic control.