

השפעת VINIA® - מוצר עשיר ברסברטרול ופוליפנולים, על ניהול הסכרת בחולי סכרת מסוג 2

Julio Wainstein, Oren Froy, Zohar Landau, Tali Ganz, Mona Boaz, Miriam Menaged, Yosefa Bar-Dayan, Daniela Jakubowicz

Diabetes Unit, Wolfson Medical Center Sackler Faculty of Medicine, Tel Aviv University, Israel Institute of Biochemistry, Food Science and Nutrition, The Robert H. Smith Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem, Israel.

Background: Disrupted clock genes (CG) mRNA expression in white blood cells (WBC) is associated with T2D. Resveratrol, a natural polyphenol, exerts potent modulatory effects on CG expression and recently has been linked with glycemic regulation. The effects of VINIA® (Red grape cells), a resveratrol polyphenol complex, on glycemic control and CG (Bmal1, Clock, Per2, Cry1 and Rev-erba), mRNA expression have never been explored in T2D.

Objective: To study the impact of VINIA® supplementation on HbA1c, plasma glucose, insulin, C-peptide and CG mRNA expression in WBC.

Methods: 33 T2D participants aged 63.7 ± 7.1 yrs, BMI 30.28 ± 4.58 kg/m² and HbA1c $7.76 \pm 0.78\%$ were randomized to 12 weeks to either S with VINIA® 1000 mg daily or placebo (PLA). All patients underwent at baseline at the end of study a meal test (520Kc, 29,4 g protein; 50.2 g CH; 44.7g fat).

Results: After 12 weeks, greater reduction of HbA1c was observed in VINIA® - $0.55 \pm 0.05\%$ (from 7.85 ± 1.01 to 7.30 ± 0.75 , $p=0.0353$) vs PLA- $0.16 \pm 0.15\%$ (from 7.67 ± 0.55 to 7.51 ± 0.52 , $p=0.2334$). The reduction of HbA1c was 71% greater with VINIA® vs PLA. Within a sub-group with higher HbA1c at baseline (7.5 to 10.1%) the reduction of HbA1c was -1.21% with VINIA® and -0.39% in PLA ($p<0.0247$). Compared to PLA, the AUC (0-240 min) for plasma C-peptide had more reduction by 27.2% with VINIA® vs PLA ($p=0.0409$). As a result the estimated insulin sensitivity calculated from fasting glucose and C-peptide was increased by 40.6% with VINIA vs PLA ($p<0.0137$). Postprandial mRNA expression of the clock genes showed NS changes in the transcription factors Bmal1 and Clock while the repressor genes Per2, Cry1 and Rev-erb α , were significantly depressed ($p=0.05$) with VINIA® vs PLA

