

## 16. SWACSM Abstract

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### Acute Effect of Dietary Supplementation with Grape Seed Extract Attenuates Blood Pressure increase during Cold Pressor Test in Prehypertensive Men

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#### ABSTRACT

It is well documented that prehypertension or hypertension is associated with sympathetic overdrive and loss of parasympathetically mediated cardiac variability. Previous studies demonstrated that increased NO bioavailability reduced central sympathetic output. Despite the fact that grape seed extract (GSE) treatment increases the production of NO and improves endothelial function in prehypertensive males, no studies have assessed the effects of GSE on autonomic balance and autonomic function. **PURPOSE:** the aim of the study was to investigate the acute effect of dietary GSE supplementation on heart rate variability (HRV) and cold pressor test (CPT). **METHODS:** Six males were recruited in this study. Each subject received GSE or placebo supplementation with a one-week wash-out period. In a double-blinded, cross-over design, heart rate (HR), stroke volume (SV), cardiac output (CO), systolic blood pressure (SBP), diastolic blood pressure (DBP), mean atrial pressure (MAP), very low frequency (VLF), low frequency (LF), high frequency (HF), LF/HF ratio, and CPT were compared before and 2 hours after GSE or placebo supplementation. **RESULTS:** Our study indicated that dietary supplementation with GSE was likely to decrease resting MAP and MAP responses to CPT at rest compared to the placebo. There were no effects on the HR, SV, CO, SBP, DBP, VLF, LF, HF, LF/HF ratios, and RMSSD after both placebo and GSE supplementation. **CONCLUSION:** This current study suggests that the GSE supplements can be used as a non-pharmacological treatment to reduce blood pressure in prehypertensive males. The chronic effects of GSE supplementation on HRV and CPT needs to be revealed in the future.