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## **Supplementation with pumpkin seed oil improves plasma lipid profile and cardiovascular outcomes of female non-ovariectomized and ovariectomized Sprague-Dawley rats.**

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### **Abstract**

Pumpkin (*Cucurbita* species) seed oil (PSO) is a rich source of phytoestrogens and the aim of this study was to examine the effect of PSO supplementation on the total cholesterol (TC), low density lipoprotein cholesterol (LDL-C), triglycerides, high density lipoprotein cholesterol (HDL-C), systolic and diastolic blood pressure in non-ovariectomized and ovariectomized Sprague-Dawley rats. Female rats weighing 220-300 g were divided into non-ovariectomized rats for supplementation with corn oil (control CO; n = 6) or PSO (control PSO; n = 5) and ovariectomized rats for supplementation with corn oil (OVX/CO; n = 6) or PSO (OVX/PSO; n = 5) for 5 days per week for 12 weeks (corn oil 40 mg/kg or PSO 40 mg/kg given orally). Systolic and diastolic blood pressures were measured weekly. Blood was collected at the end of the period for plasma lipid assays. Control PSO had lower TC, LDL-C, triglycerides and higher HDL-C than the control CO. The OVX/CO had higher TC, LDL-C, triglycerides and lower HDL-C than the control CO and these changes were prevented in the OVX/PSO rats. PSO supplementation also resulted in lower systolic and diastolic blood pressures in both non-ovariectomized and ovariectomized rats. It is concluded that PSO supplementation can prevent changes in plasma lipids and blood pressure associated with inadequate oestrogen availability.

PMID: 18567058 [PubMed - indexed for MEDLINE]

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