

P424**Effect of acute consumption of Passiflora setacea juice on the phagocytic capacity and production of free radicals by monocytes in overweight individuals**

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Passiflora setacea (PS) is a wild species of passion fruit from Brazilian Savanna, which recently was found to be rich in polyphenols. Recent studies have shown that PS pulp also presents anti-stress effects and improves night time sleep. There are some associations between a diet rich in phenolic compounds (PC) and reduction in mortality from cardiovascular disease (CVD). Despite these associations are still under study, it can be suggested that these effects occur because PC decreases overproduction of reactive oxygen and nitrogen by activated monocytes and macrophages. Therefore, the aim of the present study was to investigate the antioxidant and anti-inflammatory effects of PS juice consumption by overweight volunteers.

Seven middle-aged, moderately overweight men were included in a randomized, controlled, double-blinded, cross-sectional study to compare the effect of 250mL PS juice and placebo with a 4-week-washout-period. Fasting blood samplings were performed before (t0h) and 3h after the consumption (t3h) and the human peripheral blood mononuclear cells (PBMC) were isolated to assess nitric oxide (NO) and hydrogen peroxide (H₂O₂) analysis and phagocytic capacity of monocytes.

In preliminary results, PS juice consumption affected H₂O₂ production compared with placebo. H₂O₂ production increased by 18.9% with placebo drink and 10.6% with PS juice (p=0.08) - Welch's t test. Our data showed no phagocytosis or NO production modifications.

Hydrogen peroxide is an oxygen free radical that in individuals with high Body Mass Index, may contribute as risk factor for acute myocardial infarction when in high concentrations. They are molecules that in a long-term, can facilitate cholesterol oxidation and deposition of atheromatous plaques in blood vessels. So modulation of H₂O₂ by PS juice ingestion may be a promising strategy to prevent CVD. However, larger n would be necessary to prove that the passiflora negatively modulates the production of free radicals.

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P425**Effect of acute consumption Passiflora setacea juice on the monocyte adhesion to endothelial cells: a validation ex vivo study**

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The pulp of Passiflora setacea (PS), a wild species of Brazilian Savanna, has been recently shown to have higher levels of phenolic compounds, when compared to its commercial species. The leading cause of CVD is atherosclerosis and a diet rich in phenolic compounds may have some effects on monocyte adhesion. Therefore, the aim of the present study was to investigate effect of consumption of PS juice by healthy volunteers on the endothelial cell function, particularly on monocyte adhesion on TNF- α -activated endothelial cells.

Three middle-aged volunteers were included in a cross-sectional study to analyse the effect of 250mL PS juice consumption. A pull of fasting serum samplings were performed before (t0h) and 3h after the consumption (t3h). Primary human umbilical vein endothelial cells (HUVEC) were cultivated in an endothelial growth medium (EGM) with 25% of volunteers human serum (HS) for 7h with a 4-hour-stimulation of 1 ng/mL of TNF- α . Monocytes (THP-1) were added and incubated for 15min with HUVEC. The number of THP1 per HUVEC was counted in microscopic fields.

In preliminary results, the treatment with TNF- α significantly increased cell adhesion compared with unstimulated control cells (a 3.93-fold increase) (Fig. 2). Pre-exposure of HUVEC to human serum 3 hours after the consumption of PS juice significantly reduced monocyte adherence to TNF- α -activated endothelial cells from - 59 to - 43% (P<0,05). The decrease of monocytes adhesion to endothelial cells may indicate an anti-inflammatory and atheroprotective effects of PS juice consumption in healthy volunteers.

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