Impact of organic and conventional carrots on intestinal and peripheral immunity.

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Source
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Abstract

BACKGROUND:
Studies on health effects of organic (ORG) products are still limited and often contradictory. We have investigated the impact of ORG and conventional (CV) carrots from two consecutive harvest years on mouse peripheral and intestinal immunity.

RESULTS:
Danish carrots (Bolero variety) were grown in three ORG (O1, O2 and O3) and one CV cropping system (D-CV). Italian carrots (Maestro and Excelso varieties) were grown in one ORG and one CV field for each variety. Immune phenotypes of blood, spleen and intestinal lymphocytes, and cytokine serum levels were analyzed in mice fed the different carrots for 30 days. Principal component analysis (PCA) was performed in mice fed the Danish carrots. The consumption of the ‘more organic’ O2 and O3 carrots induced some changes in lymphocyte populations, including an increase in regulatory T cells. In Italian carrots more differences between ORG and CV were observed in the first as compared to the second year. No relevant differences were observed in cytokine secretion. PCA showed a clear separation among mice fed the O1, O2, O3 and D-CV carrots.

CONCLUSIONS:
Although a great variability was observed between the two years, an immune stimulation was found after the ORG carrot consumption.

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