

Effects of carrot consumption on body weight of mice

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Nutrition is an important non-genetic factor that affects growth and body composition⁽¹⁾. Nutritional status of mothers prior to conception and during conception may influence physical characteristics of an offspring in later life⁽²⁾. Studies suggest *in utero* and post weaning dietary exposure of an individual may modulate disease risk in adulthood^(3,4). The aim of this study was to determine the effects of carrot supplementation of maternal (*in utero*) and post weaning diets on weight of mice at 5 weeks.

Female C57Bl6/J mice were randomised to a control diet (RM3) or carrot enriched powder diet (RM3 supplemented with 20 % powdered freeze dried carrot) from mating throughout pregnancy and lactation. The carrot powder provided the same energy (calories) as the standard diet, but also contained specific secondary metabolites: 3.1 g beta-carotene and 39.7 g polyacetylenes per kg. After weaning at 5 weeks offspring were randomised to carrot and control diets, weighed weekly and killed at an age of 15 weeks.

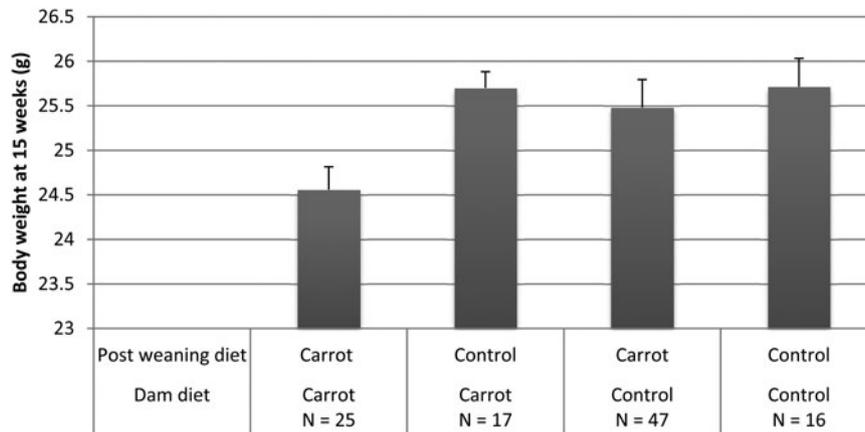


Fig. 1. Mean body weight of mice fed carrot-supplemented or control diets during different periods., Results presented as LSM, Error bars = SEM. Effect of post-weaning diet P = 0.014, of dam diet P = 0.9 and interaction P = 0.1.

Results suggest that a consumption of both pre- and post-weaning carrot powder diet significantly reduced body weight of adult mice compared to consuming a carrot powder diet only in the pre- or post-weaning period. This indicates that carrot consumption throughout gestation and post weaning may have stronger influence on health or disease in adulthood than exposures during weaning or post-weaning alone.

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