Effects of Perchlorate on Lipid Accumulation in Daphnia Magna

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Obesogens are chemicals that contribute to obesity and are sourced from anthropogenic inputs. To date, there are limited studies on the effects of perchlorate on lipid synthesis in invertebrates. This study aimed to investigate whether perchlorate, a putative obesogen in some vertebrate species, alters lipid accumulation and metabolism in *Daphnia magna*. I exposed neonatal daphnia to different levels of perchlorate (10 and 100 mg/L) over a 1 week period. Following exposure, I stained the daphnia with Nile Red, a lipophilic stain, to qualitatively assess lipid accumulation in *D. magna* using fluorescence microscopy. The lipid accumulation was also quantified using a microplate reader fluorescence-based assay. The results showed that there is no correlation between perchlorate and lipid accumulation in juvenile *Daphnia magna*. Data generated from this study will be used to increase our understanding of the molecular and physiological effects of perchlorate on aquatic invertebrates. There is currently no regulation of perchlorate levels in drinking water. and this study will potentially inform future policy on perchlorate.