

Effects of Lead and Sucroses Long-Term Consumption on Biochemical and Behavioral Parameters in Aging Rats

Perottoni J¹, Fachinetto R², Oliveira CS³, Wagner C⁴, Rocha JBT^{3,5} and Barbosa NV^{3,5*}

¹Department of Health Sciences, Federal University of Santa Maria, Palmeira das Missões Campus, RS, Brazil

²Department of Physiology and Pharmacology, Health Sciences Center, Federal University of Santa Maria, Santa Maria, RS, Brazil

³Postgraduate Program in Biological Sciences: Toxicological Biochemistry, Federal University of Santa Maria, Santa Maria, RS, Brazil

⁴Federal University of Pampa, Campus Caçapava do Sul, Caçapava do Sul, RS, Brazil

⁵Department of Biochemistry and Molecular Biology, Center for Natural and Exact Sciences, Federal University of Santa Maria, Santa Maria, RS, Brazil

***Corresponding author:** Dr. Barbosa NV, Department of Biochemistry and Molecular Biology, Center for Natural and Exact Sciences, Federal University of Santa Maria, Santa Maria, RS, Brazil, Tel: 55-55 3220 8140; E-mail: nvbarbosa@yahoo.com.br

Received date: April 21, 2018; **Accepted date:** May 7, 2018; **Published date:** May 14, 2018

Copyright: © 2018 Perottoni J, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Lead is a well know neurotoxic metal whose exposure has been associated with hyperglycemia and insulin resistance. Sucrose is a worldwide consumed foodstuff and experimental data have indicated that its intake can

for 9-11 animals per group. *Different letters means difference among the groups in the same column ($p < 0.05$)

Table 1: Effect of sucrose and/or lead treatment on body weight, hematocrit, glucose and insulin levels in aging rats.

Biochemical and hematological parameters

Statistical analysis revealed a significant effect

24. Busserolles J, Rock E, Gueux E, Mazur A, Grolier P, et al. (2002) Short-term consumption of a high sucrose diet has a pro-oxidant effect in rats. *Brit J Nut* 87: 337-342
25. Cao D, Lu H, Lewis TL, Li L (2007) Intake of sucrose-sweetened water induces insulin resistance and exacerbates memory deficits and amyloidosis in a transgenic mouse model of Alzheimer disease. *J Biol Chem* 282: 36275-36282
26. Moreira PI (2013) High-sugar diets, type 2 diabetes and Alzheimer's disease. *Curr Opin Clin Nutr Metab Care* 16: 440-445
27. Choi J, Jang E, Park C, Kang J (2005) Enhanced susceptibility to 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine neurotoxicity in high-fat diet-induced obesity. *Free Radic Biol Med* 38: 806-816
28. Fachineto R, Burger ME, Wagner C, Wondracek DC, Brito VB, et al.