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Effects of bisphenol A on streptozotocin treated female mice

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Bisphenol A (BPA) alters blood glucose homeostasis and is a likely risk factor for diabetes. In this study, we examined the effects of a single BPA dose in adult female mice treated with streptozotocin (STZ) for 13 days under *ad libitum* conditions. Four groups were used. On day one, groups I and III received sesame oil, and groups II and IV BPA. On the fifth day, and for seven consecutive days, groups I and II received citrate buffer and groups III and IV, STZ. Body weight and biochemical analyses were performed, using histology and hepatic enzymes to evaluate liver injury. Liver mRNA expression for several signaling pathways was studied using real-time PCR. BPA had no adverse effects on weight and biochemical parameters. It did produce a small increase in tail blood glucose levels in STZ mice, as well as liver cytotoxicity and histological changes in other organs. BPA moderately increases the severity of lesions induced by STZ. Both chemicals induced the expression of the peroxisome proliferator-activated receptors (PPAR), although there was no clear effect when the two were combined. The results showed moderate changes in the liver of adult mice treated with STZ and BPA.

Keywords: Blood glucose homeostasis, Diabetes, Endocrine-disrupting compunds, Gene expression, Lipid metabolism, STZ