

Effects of subacute dibutyl phthalate treatment on liver enzymes in female Wistar rats

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Introduction

- Dibutyl phthalate (DBP) is an organic compound often used as a plasticizer.
- It can be found in cosmetic products and food packaging.
- Humans are exposed via water and food.
- DBP is considered a chemical with endocrine disruptive activity and reproductive toxicity in rats.

Methods/Design

- Twenty-four female Wistar rats were divided in 4 groups (6 per group) and treated subacutely (28 days) with 0, 100, 500 and 5000 mg DBP/kg diet.
- Activities of ALT, AST and ALP in plasma were determined by Autolyser Dialab.
- Statistical analysis of obtained data was performed using STATISTICA® version 13.0 (StatSoft, Inc).
- Data from control and treated rats were compared using One-way analysis of variance (ANOVA) for multiple comparisons, followed by Tukey post-hoc tests.

Results

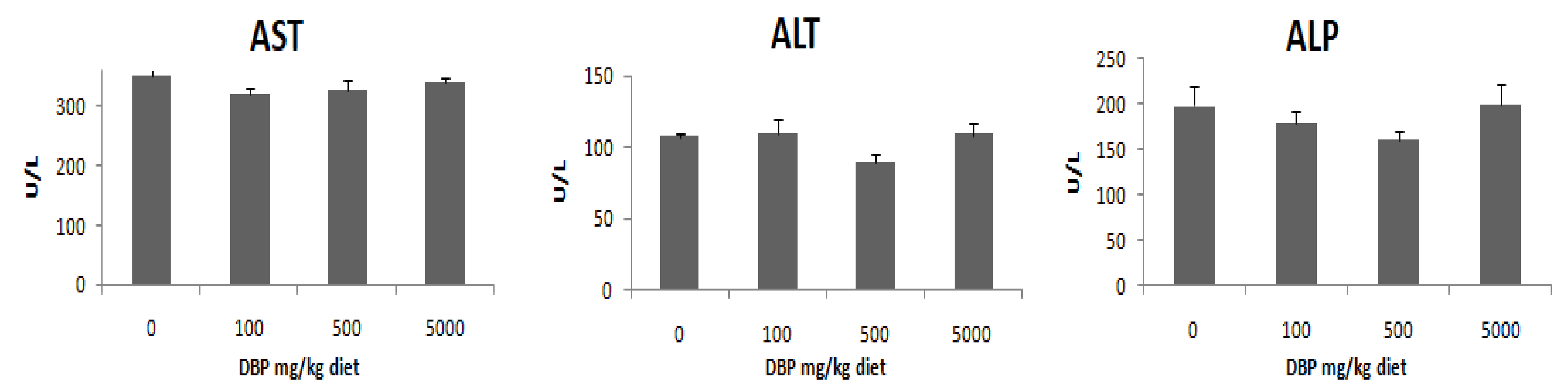


Figure 1. Mean values of aspartate transaminase (AST), alanine transaminase (ALT) and alkaline phosphatase (ALP) in blood samples of rats that were treated with 0, 100, 500 and 5000 mg/kg DBP in diet. Values in charts are means \pm SEM; n = 6.

- DBP subacute treatment did not affect plasma levels of aspartate transaminase (AST), alanine transaminase (ALT) or alkaline phosphatase (ALP).

Conclusions

- Statistical analysis of AST, ALT and ALP activities revealed no significant difference between control and DBP-treated rats (Fig. 1).
- Results indicate that DBP subacute treatment does not affect the activity of liver enzymes.