

ABSTRACT

THE INFLUENCE OF CAFFEINE FEEDING ON TESTICULAR WEIGHT, DIAMETER AND THICKNESS OF TESTICULAR SEMINIFEROUS TUBULE EPITHELIUM IN WHITE RATS (*Wistar strain Rattus norvegicus*)

Elieser

Caffeine has advantageous as well as disadvantageous effects. One of these adverse effects is its teratogenic and mutagenic influence that may affect embryonal cells, including germinal epithelial cells in testicular seminiferous tubule. This study was aimed to prove that oral caffeine feeding may reduce testicular weight, diameter and thickness of testicular seminiferous tubule epithelium in white rats (*Wistar strain Rattus norvegicus*).

This was a laboratory experimental study using The Post Test Only Control Group Design and data were analyzed statistically using Anova with significance level of less than 0.05. Caffeine was given based on caffeine LD₅₀ for male rats, 355 mg/kgBW/per oral. The doses of caffeine given to treatment groups were 35.5 mg/kgBW/day per oral, 71 mg/kgBW/day per oral and 117 mg/kgBW/day per oral, compared to control group that received caffeine solvent, 0.9% NaCL as much as 5 ml/day per oral. Treatment was undergone for 45 days to 36 male white rats, divided into 4 groups in random.

All data were analyzed using Anova, and it was found that testicular weight had $p = 0.001$, seminiferous tubule diameter had $p = 0.000$, and the thickness of seminiferous tubule epithelium had $p = 0.000$. This indicated significant difference in all treatment groups in testicular weight, the diameter and thickness of seminiferous tubule epithelium, as the p value was less than 0.05. In conclusion, oral caffeine feeding can reduce testicular weight, the diameter and thickness of seminiferous tubule epithelium in white rats.

Keywords: *caffeine, testicular weight, diameter and thickness of seminiferous tubule epithelium*